exhibit SEED
sustainable practices for creating exhibits

Envisioning Sustainability

Project Team Activity

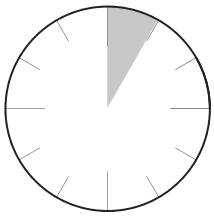
Objective: This is a tool to get your team thinking about what sustainability is and to discuss how considering economic, environmental, and social aspects to sustainability can be incorporated into exhibit projects.

TIME REQUIRED

1 hour and 15 minutes

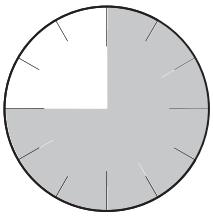
ADVANCE PREP
10 minutes

SETUP
5 min.



INTRO
5 min.

ACTIVITY
45 min.



WRAP-UP
10 min.

SITE REQUIREMENTS

- Standard size meeting room or classroom
- Chairs and table(s), enough space for all participants to have a writing surface
- Adequate wall space for hanging three large posters

PROGRAM FORMAT

SEGMENT	FORMAT	TIME
Introduction	Large group discussion	5 min
Activity Part 1	Group activity	15 min
Activity Part 2	Group activity	15 min
Activity Part 3	Group activity	15 min
Wrap-up	Large group discussion	10 min

Preparation

SUPPLIES

SUPPLIES	AMOUNT
PINK* Post-it notes (2” x 2” size, or flags)	3 per person
BLUE* Post-it notes (2” x 2” size, or flags)	3 per person
GREEN* Post-it notes (2” x 2” size, or flags)	3 per person
YELLOW* Post-it notes (2” x 2” size, or flags)	8 per person
Pens	1 per person
Chart pack or butcher paper (dry-erase boards can be substituted)	3 sheets, poster size
Markers, different colors that are easy to read	4 markers
Tape or pins to affix posters to walls	6 push pins or 2” pieces of tape

**Any color can be substituted as long as you have four different colors.*

ADVANCE PREPARATION

- Make posters for the Activity Parts 1, 2, and 3, using the attached diagrams as templates (see *Poster Templates*, pp. 7–9 of this guide).
- Gather supplies for activities (i.e. Post-it notes and pens)

SETUP

- Set up tables with post-it notes and pens.
  - ☐ Post-it notes (3 pink, 3 blue, 3 green, and 8 yellow for each person)
  - ☐ Pens (1 per person)
- Hang posters around the room

Information for Facilitator

BACKGROUND

These notes are intended for the facilitator. We recommend conducting the activities without giving participants too much prior information, in order to draw out existing beliefs and assumptions.

More in-depth information and other resources can be found at www.exhibitSEED.org.

Many people think about creating sustainable exhibits in terms of something being "green" or recyclable. Leading exhibit planners and designers are finding more holistic ways to think about "sustainability," or the "ability to sustain, or endure." One of the more popular frameworks is called the "Three Pillar" approach. This means that the three pillars of sustainability—economy, environment, and society—must all be considered and in balance for something to be truly sustainable. The concept of "sustainability" may mean different things to your group, depending on cultural context and experience of participants.

Because economic, environmental, and societal factors are so interrelated, this often means making compromises to choose the most sustainable path. There is rarely one clear "best" answer and the tools presented on www.exhibitseed.org are designed to help facilitate discussions and considerations for making more sustainable choices.

The goal of this project is to apply those sustainability considerations to the process of creating exhibits. The tips and resources were created and tested from a science museum perspective, but we hope the recommendations have value for all museums and exhibitors.

This activity is intended to help participants make their own meaning of what sustainability is conceptually, as well as invite them to explore considerations that can be made in the daily work of exhibit professionals that, with careful consideration, can become more sustainable over time.

Activity

FACILITATOR-LED INTRODUCTION

Envisioning Sustainability

5 minutes

Welcome everyone to the training and review the big picture agenda of the afternoon's workshop.

ACTIVITY PART 1

Sustainability Words

15 minutes

1. Have participants take a few minutes to prepare the following Post-it note tags.
   a. List the first three words that come to mind when you think about **"Sustainability."** Then write each word on **PINK** flags.
   (Sample Responses: recycling, green, healthy)
   b. List the first three words that come to mind when you think about **"Non-sustainability."** Then write each word on **BLUE** flags.
   (Sample Responses: waste, litter, greenhouse gases)

2. Have participants post their Post-it notes on corresponding poster for Activity Part 1, wherever they think the notes fit best.

3. As a group, take a few minutes to walk through the diagram and words posted in each sphere and in the overlapping regions, and discuss any questions, surprises, or other thoughts that emerge.

   Sample Responses *(Answers will vary)*:
   - *Most of the words ended up in the "environmental" sphere.*
   - *A lot of the same words showed up more than once.*
   - *Writing down "Non-sustainability" was more difficult than writing down "Sustainability" words.*

ACTIVITY PART 2

Sustainable Actions

15 minutes

1. Have participants take a few minutes to prepare the following Post-it note tags.
   a. List the first three **sustainable actions or behaviors** that come to mind. Then write each word on **YELLOW** flags.
   (Sample Responses: recycling, walking, biking)

ACTIVITY PART 2 (CONTINUED)

Sustainable Actions

b. List the first three **unsustainable actions or behaviors** that come to mind. Then write each word on **GREEN** flags.
(Sample Responses: shopping, polluting, driving)

2. Have participants post their Post-it notes on the corresponding poster for Activity Part 2, wherever they think the notes fit best.

3. As a group, take a few minutes to walk through the diagram and words posted in each circle and discuss any questions, surprises, or other thoughts that emerge.

Sample Responses *(Answers will vary)*:

- *A lot of responses ended up in the waste sphere.*
- *Not very many items ended up in the "Well-being" sphere.*
- *Some responses are difficult to fit into these categories.*

ACTIVITY PART 3

Sustainability and Job Tasks

15 minutes

1. Have participants take a few minutes to prepare the following Post-it note tags.
   a. List five exhibit-related tasks or duties that you are responsible for. Then write the word on a Post-it note.
2. Have participants post the notes on the corresponding poster for Activity Part 3, wherever they see appropriate.
3. As a group, take a few minutes to walk through the diagram and words posted in each circle and discuss any questions, surprises, or other thoughts that emerge.

Sample Responses *(Answers will vary)*:

- *Some job-related tasks have a higher environmental impact than others.*
- *Likewise, some job-related tasks have a higher social, or economic impact.*
- *It's difficult to know where to put things on this diagram.*
- *I don't have all of the information I would need to know to do this activity accurately.*

Wrap-up

WRAP-UP

10 minutes

Ask for participant observations. Please note, there is no correct answer. Let participants guide the discussion.

1. **What's one thing that stands out to you as a result of these activities?**

   Sample responses *(Answers may vary)*:
   - *Sustainability is a broader concept than I've considered it being before.*
   - *We all tend to think about sustainability as about the environment*
   - *It's difficult to put your finger on exactly what sustainability is. It might mean different things to different people.*

2. **What's one thing that you think about differently now than you did when you came here today?**

   Sample responses *(Answers may vary)*:
   - *I realize that I need to think about the social aspects of sustainability more.*
   - *We can all make more sustainable choices.*

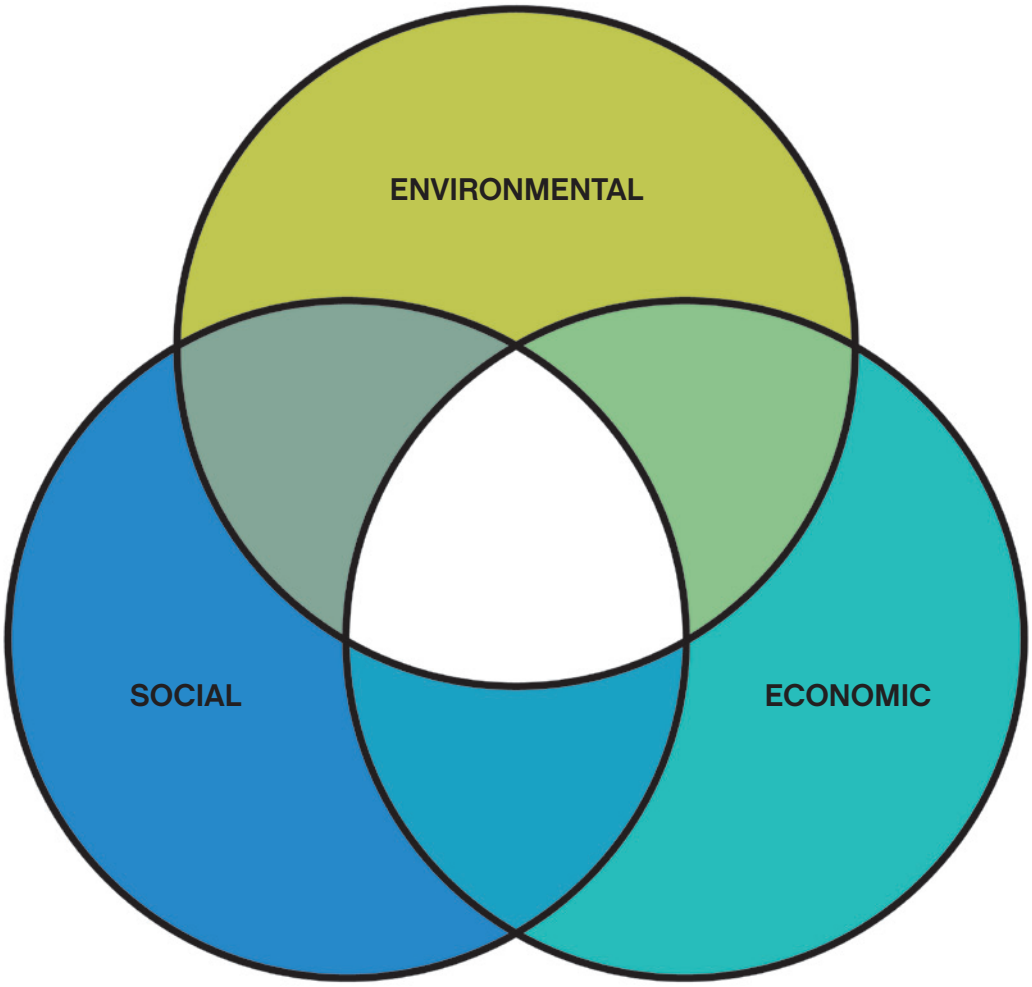
3. **What's one job-related task that you can think about or do differently as result of today's workshop?**

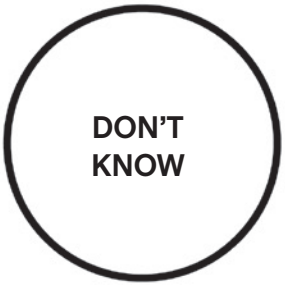
   Sample responses *(Answers may vary)*:
   - *With every single task- no matter how big or small, we can consider social, environmental, and economic impacts of our choices.*

OPTIONAL EXTENSIONS

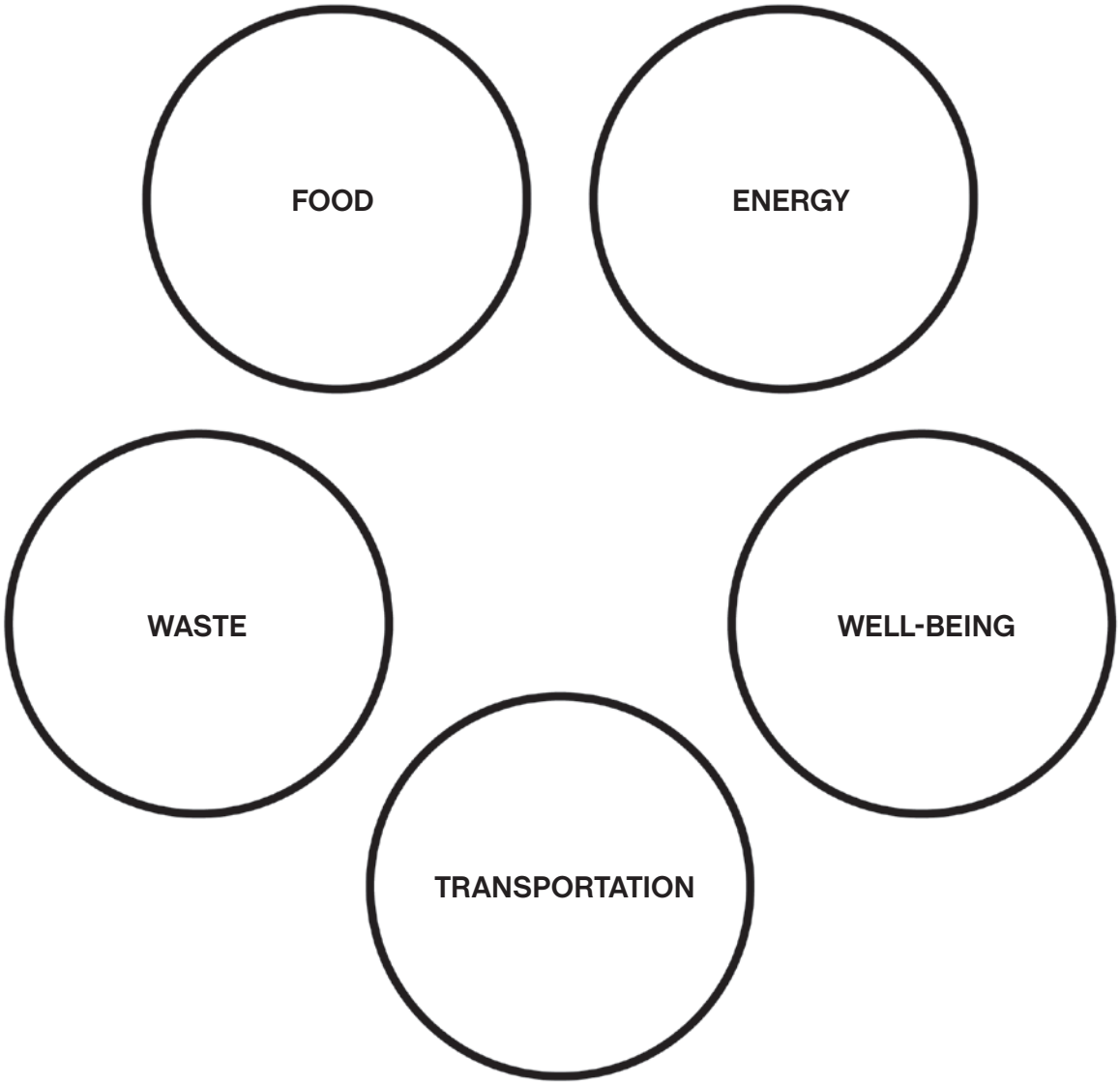
- To take this exercise a step further, consider having participants think of one thing that they want to take away from today's workshop, and write it on a post-it. Compile the entire group's post-it notes and put them on one poster to hang up in the office or a hallway at work.

POSTER: ACTIVITY PART 1

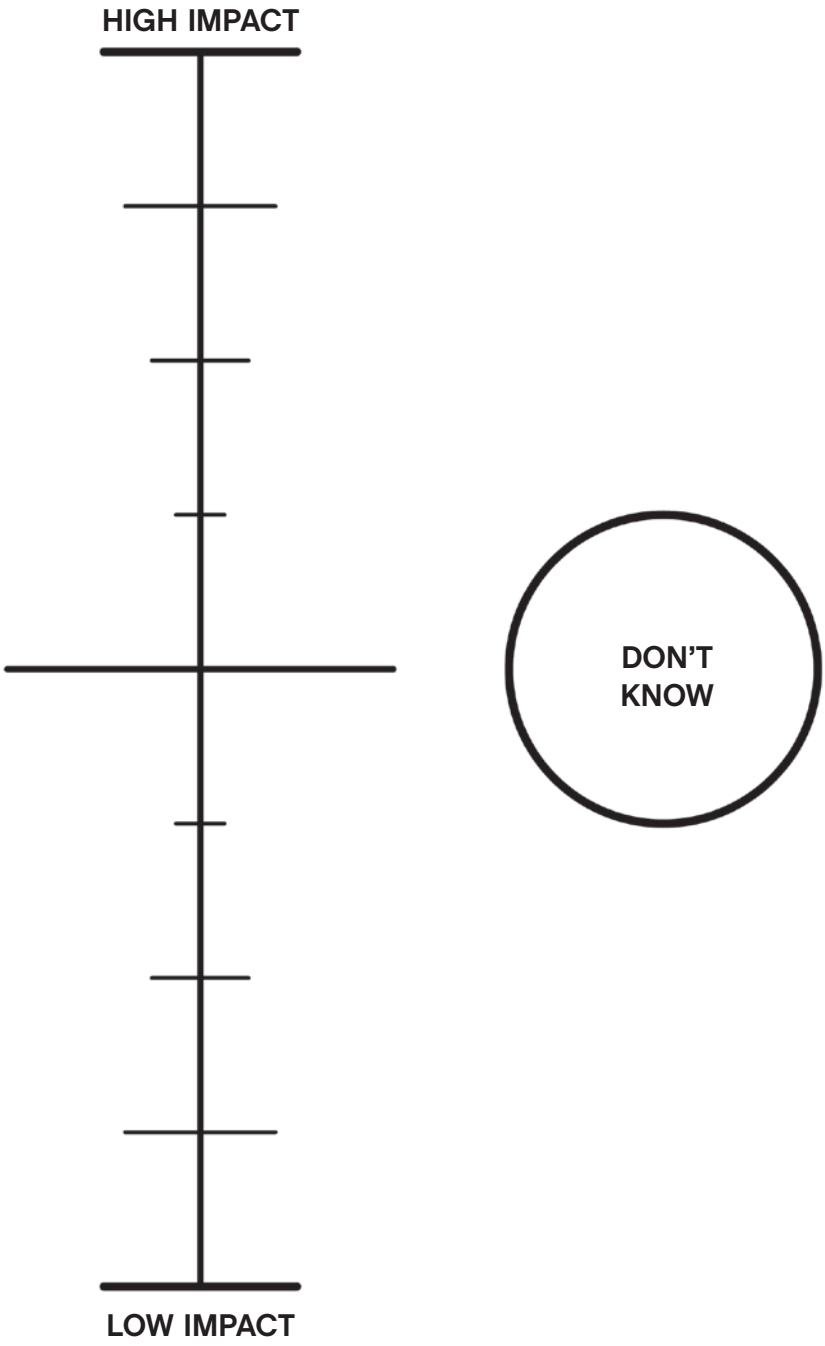




POSTER: ACTIVITY PART 2



POSTER: ACTIVITY PART 3



Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets the goal for the exhibit: Platinum, Gold, Silver, or Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting the goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their checklist results online for the benefit of the entire museum industry. For more information or to post your checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**

SCORING:

SCORE: ☐

- ☐ 4 points if **AT LEAST 90%** of the materials are recycled, reused, or renewable.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%**

WAYS TO IMPROVE SCORE: _____

_____

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Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
List all materials that were not sourced locally:	**Source:**	**Estimated % of total exhibit (by volume):**

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%**

WAYS TO IMPROVE SCORE: _____

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Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be repurposed after exhibit retires (ex: standard table top).
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low maintenance.
- Use water responsibly in exhibit.

List all materials that can be repurposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
List any materials that cannot be recycled or repurposed:	**Destination:**	**Estimated % of total exhibit (by volume):**

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%**
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

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Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use automatic shut-off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE: _____

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place.
- ☐ 2 points if **SOME** energy-conserving efforts are in place.
- ☐ 1 point if exhibit **USES** energy-efficient electronics.
- ☐ 0 points if **NO ATTEMPT to conserve energy.**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic. _____

WAYS TO IMPROVE SCORE: _____

_____

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_____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints and finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
List any materials that do emit volatile organic compounds:	**Applied to estimated % of total exhibit:**

SCORING:

- ☐ 4 points if **ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%**

SCORE:

WAYS TO IMPROVE SCORE: _____

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Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website: ____

☐ 1 Bonus point for creating big visual impact with minimal materials: ____

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: ____

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: ____

_____

WAYS TO IMPROVE SCORE: _____

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POINTS AWARDED:

- ☐ **Reduce new material consumption**
- ☐ **Use local resources**
- ☐ **Reduce waste**
- ☐ **Reduce energy consumption**
- ☐ **Reduce toxic emissions**
- ☐ **Innovation**
- ☐ **TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

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Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to plan exhibits with environmental considerations in mind. It awards points for 5 key strategies for reducing the environmental impact of exhibit production:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

Step 1: Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.
Step 2: Designer and fabricator review checklist to find the best strategies for meeting goal.
Step 3: After production, the exhibit fabricator fills out the materials, component and processes sections of the Green Exhibit Checklist. These sections are a summary of all materials used and their sources.
Step 4: Exhibit team conducts walk-through of exhibit, using the filled out sections to inform scoring with the Green Exhibit Checklist.

Ratings are awarded for the total score as follows:

- Platinum: 20-24 points
- Gold: 15-19
- Silver: 11-14
- Bronze: 8-10

We encourage teams to post their Checklist results online for the benefit of the entire museum industry.
For more information or to post your Checklist evaluation see www.exhibitseed.org.

Exhibition Title: Earth Lab

Producing Facility: _____ Host Site: _____

Your Name: _____ Role/Title: _____

Target Certification: Platinum Gold Silver Bronze
(circle one)

Date: _____

Reduce new material consumption.

Intent: Reduce demand for virgin materials thereby reducing industrial practices that pollute environment & exploit natural resources.

Strategies:

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated percentage of total exhibit (by volume):
Ex: Bamboo plywood table tops	*20%*
All of the HDPE and acrylic used in the 4 exhibit components was leftover material from other projects	75%
Much of the aluminum used was leftover from other projects	
	Total %:

List any materials virgin materials (no recycled content, newly purchased, not renewable):	Estimated percentage of total exhibit (by volume):
Ex: manufactured legs	*15%*
electronic components, circuitry, plywood, casters	25%
	Total %:

Scoring:

Score: 3

- ☐ 4 points if at least 90% of the materials meet any one of these criteria.
- ☐ 3 points for at least 75%
- ☐ 2 points for at least 50%
- ☐ 1 point for at least 10%
- ☐ 0 points if less than 10% of the materials meet these criteria.

Ways to improve score:

using fsc certified sheet goods

Use regional resources.

Intent: Reduce negative effects on environment from transportation of goods and contribute positively to the local economy.

Strategies:

- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated percentage of total exhibit (by volume):
Ex: lumber from NW	*Mr. Plywood, Stark St., PDX*	*15%*
Sheet goods	Emerson Hardwood	25%
Steel, aluminum	The Steel Yard	20%
Sheet metal fabrication	Hanset Corp	25%
Printing, substrates	Infinity Images	15%
		Total %:

List all materials that were not sourced locally:	Source:	Applied to est. % of total:
Ex: Graphic laminate	*Wilsonart, Houston TX*	*10% of total*
Casters, pipe collars (for legs), circuit boards		15%
		Total %:

Scoring:

Score: 3

- ☐ 4 points if at least 90% of the materials were sourced locally.
- ☐ 3 points for at least 75%
- ☐ 2 points for at least 50%
- ☐ 1 point for at least 10%
- ☐ 0 points if less than 10% of the materials meet these criteria.

Ways to improve score:

Reduce waste.

Intent: Reduce amount of waste and consider end-life of exhibit.

Strategies:

- Design components to be re-purposed after exhibit retires (ex: keep tabletop, switch interactive).
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated percentage of total exhibit (by volume):
Ex: metal legs	*Can be reused for new exhibit*	*15%*
Majority of electronics are standard components	can be repurposed, recycled	10%
stainless steel leg assemblies and table tops	can be repurposed, recycled	20%
plywood and hdpe	can be recycled	20%
Aluminum, steel components	can be repurposed, recycled	20%
tanks and vessels	can be repurposed	20%
		Total %:

List any materials that cannot be recycled/repurposed:	Destination:	Applied to est. % of total:
Ex: second-surface mounted graphics to plex	*Landfill*	*Graphics – 10% of total*
second surface graphic panels		10%
		Total %:

Scoring:

Score: 4

- ☐ 4 points if at least 90% of the materials can be repurposed or recycled.
- ☐ 3 points for at least 75%
- ☐ 2 points for at least 50%
- ☐ 1 point for at least 10%
- ☐ 0 points if less than 10% of the materials meet these criteria.

- ☐ -1 Deduct point for wasteful use of consumables or water.

Ways to improve score:

Consider using more direct print to ply (w/o plex), one component uses water

Reduce energy consumption.

Intent: Reduce energy consumption by exhibit components.

Strategies:

- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components	Auto-shut off? Yes or No	Energy Efficient model? Yes or No
Ex: 22" monitor	*Yes – motion sensor*	*Yes – Energy Star rated*
monitor	N	Y
computer	N	Y
circuit boards	Y	
LEDs and fiber optics		Y

Scoring:

Score: 3

- ☐ 4 points if the exhibit is net-zero energy consumption
- ☐ 3 points if significant energy-conserving efforts are in place
- ☐ 2 points if some energy-conserving efforts are in place
- ☐ 1 point if exhibit uses energy-efficient electronics
- ☐ 0 points if no attempt to conserve energy

- ☐ - 1 Deduct one point if more than 75% of the exhibit components are electronic

Ways to improve score:

always incorporate auto shut off on powered exhibits

Reduce toxic emissions.

Intent: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

Strategies:

- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated percentage of total exhibit:
Ex: Water-based wood glue, applied to all interior wood structure	*5%*
all materials, sealants, adhesives, paints, and finishes are zero or low-VOC	95%
	Total %:

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
Ex: vinyl banners	*Approx. 5%*
not sure about inks used in printing process	5%
	Total %:

Scoring:

Score: 3

- ☐ 4 points if all materials are low-VOC.
- ☐ 3 points for at least 75%
- ☐ 2 points for at least 50%
- ☐ 1 point for at least 10%
- ☐ 0 points if less than 10% of the materials meet these criteria.

Ways to improve score:

soy or other natural based inks for printing

Innovation

Intent: To encourage exhibit teams to strive for new and creative solutions.

Strategies:

- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy and share with ExhibitSEED community.
- Use innovative strategy for increasing environmental sustainability

Scoring:

	Score:
☐ 1 Bonus point for posting assessment on ExhibitSEED website	1
☐ 1 Bonus point for creating big visual impact with minimal materials: _____	0
☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: By design, the majority of the materials/components can be readily reused in a variety of ways or recycled	1
☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: _____	1

Ways to improve score:

further reduce or eliminate use of plex for graphics

Points Awarded:

3	Reduce new material consumption
3	Use local resources
4	Reduce waste
3	Reduce energy consumption
3	Reduce toxic emissions
3	Innovation
19	TOTAL points

Certification:

(circle one)

PLATINUM: 20+ total points

GOLD: 15-19 points

SILVER: 11-14 points

BRONZE: 8-10 points

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

11 **TOTAL points**

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

CARNEGIE SCIENCE CENTER
One of the four Carnegie Museums of Pittsburgh

Facsimile

Name	Department/Company	Fax Number
To: DONNA CLAIBORNE	EXHIBIT PROJECT MANAGER FRANKLIN INSTITUTE	215-448-1188

From: BRYAN S. ABRAHAM
Title: EXHIBIT DESIGNER II
Phone: 412-237-1528
Fax: 412-237-3375
E-mail: abrahamb@carnegiesciencecenter.org
Subject: EXHIBIT SEED CHECKLIST Date: 5/31/13

Including this cover sheet, I am faxing 8 pages. If there is a problem, call 412.237.3326.

DONNA—

I HAVE PRINTED & ATTACHED MY CHECKLIST.

THANKS

Bryan Abraham

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: SportsWorks (phase I) Air Power (phase II) Space Place (phase III)

Date: SportsWorks (phase I- June 2000) Air Power (phase II- June 2009) Space Place Place

Producing Facility: Boss Displays (original fabrication) Carnegie Science Center (re-hab & re-

Host Site: Carnegie Science Center

Your Name: Bryan S. Abraham

Role/Title: Exhibit Designer

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
Phase I (original fabrication)	0% - 0 pts
Phase II (CSC rehab) Plywood 60% Aluminum 10% Laminate 20% Hard	100% - 4 pts
Phase III (CSC redesign) Plywood 60% Aluminum 10% Hardware 5% C	80% - 3 pts
Averaged score	Total %:60% - 2 pts

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
Phase I Plywood 60% Aluminum 10% Laminate 20% Hardware 5% Con	100% - 0 pts
Phase II - Reused 100% of original materials	0% - +4 pts
Phase III - Relaminated cabinet - Reused 80% of original materials	20% - +3 pts
Averaged score	Total %:60% - +2pts

SCORING:

- ☒ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 4 pts total

WAYS TO IMPROVE SCORE: _____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:

- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Phase I - Fabricated Locally	Boss Display	50% - 2 pts
Phase II - Reused as is	N/A	100% - 4 pts
Phase III - Hardware 5% & Labor 100%	CSC Fabrication	50% - 2 pts
Averaged score		Total %: 83% - 3 pts

List all materials that were not sourced locally:	Source:	Applied to est. % of total:
Phase I - Unknown	Boss Display	0% - 0 pts
Phase II - Reused as is	N/A	N/A
Phase III -	CSC Fabrication	0% - +4 pts
Averaged score		Total %: 50% - +2 pts

SCORING:

SCORE: 5 pts

- [x] 4 points if **AT LEAST 90%** of the materials were sourced locally.
- [ ] 3 points for **AT LEAST 75%**
- [ ] 2 points for **AT LEAST 50%**
- [ ] 1 point for **AT LEAST 10%**
- [ ] 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:

- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Phase I		100% - 4 pts
Phase II		100% - 4 pts
Phase III (Storage of base cabine for future repu	s, Aluminium Truss, Nor	15% - 1 pts
Averaged score		Total %: 72% - 2 pts

List any materials that cannot be recycled or repurposed:	Destination:	Applied to est. % of total:
Phase III End of Life	Dumptster	85 %
Averaged score		Total %: 15 % - 1 pts

SCORING: **SCORE:** 3 See Below

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ■ -1 Deduct point for wasteful use of consumables or water. -1 (2 pts total)

WAYS TO IMPROVE SCORE: Recycle consumables (in this case rockets & parachutes)

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
LED Lighted Happ Buttons (x2)	Yes	Yes
Compressed Air Controls	Yes	upplied from House Air (

SCORING:

SCORE: 1

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ■ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE:

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:

- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Phase I - Original Fabrication Methods & Material Unknown - Based on	0% - 0 pts
Phase II - Total reuse of cabinet	N/A
Phase III - Redesign Low VOC Contat Cement	20% - +1 pts
	Total %:0

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
Phase I - Original Fabrication Methods & Material Unknown - Based on	20% - -1 pts
	Total %:20% - -1 pts

SCORING:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ■ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 0 pts

WAYS TO IMPROVE SCORE:

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

- ■ 1 Bonus point for posting assessment on ExhibitSEED website — +1
- ■ 1 Bonus point for creating big visual impact with minimal materials: — +1
  This exhibit is one of the three focal points of the Space Place Exhibito
- ☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: —
- ■ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: — +1
  We laminate overtop of exisiting laminate to allow us to repurpose old c

WAYS TO IMPROVE SCORE:

POINTS AWARDED:

4	Reduce new material consumption
5	Use local resources
2	Reduce waste
1	Reduce energy consumption
0	Reduce toxic emissions
3	Innovation
15	TOTAL points

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: Take Me to the River

Date: opening June 2013

Producing Facility: Chicago Architecture Foundation

Host Site: Chicago Architecture Foundation

Your Name: Kelly Floyd

Role/Title: Exhibitions and Interpretive Manager

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
Reuse of MDF from prior exhibition to make reading shelf	5%
All multimedia equipment has been repurposed	10
	Total %: 15%

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
Ultraboard panels	20%
Vinyl wallpaper, floor graphic and window graphic	60%
Mounted books, beakers and hardware	5%
	Total % 85%

SCORING:

SCORE: 1

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☒ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE:

Most of our shows in the lecture hall gallery are vinyl wallpaper, we could begin to use soy based inks or other materials.

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Vinyl came from local printer	Printer in Chicago	90%
all other materials were repurposed		
Paint from local hardware store		
		Total %: 90%
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
Unaware where MDF for		
shelf originally came from		10%
		Total %: 4

SCORING:

SCORE: 4

- [x] 4 points if **AT LEAST 90%** of the materials were sourced locally.
- [ ] 3 points for **AT LEAST 75%**
- [ ] 2 points for **AT LEAST 50%**
- [ ] 1 point for **AT LEAST 10%**
- [ ] 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE:

We only use local vendors, contractors and hardware stores.

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
· Monitors and mounts	Reuse	10%
· pedestal and vitrine	Reuse	10%
· shelf materials	Reuse	10%
· Beakers and mount	Reuse	5%
		Total %: 35%
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
· Vinyl wall paper / Ultraboard panels	Dumpster	65%
·		
		Total %: 65%

SCORING: **SCORE:** 1

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☒ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE:

We should move towards less vinyl and more reusable printing processes

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
Two (2) monitors and media players	No	No
Projector	No	No

SCORING:

SCORE: 0

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☒ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE:

Can put on timers or motion sensors

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %: 0

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
Vinyl adhesive	80%
Paint	20%
	Total %: 100%

SCORING:

SCORE: 0

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☒ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE:

This is something I need to explore, and choose other options when specing materials.

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

- [x] 1 Bonus point for posting assessment on ExhibitSEED website — 1
- [ ] 1 Bonus point for creating big visual impact with minimal materials: _____
- [ ] 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: _____
- [ ] 1 Bonus point for any new design approach or construction method that increases environmental sustainability: _____

WAYS TO IMPROVE SCORE: We need to reevaluate our material usage and procurement process to be sure we are specing the best sustainable options.

POINTS AWARDED:

1	**Reduce new material consumption**
4	**Use local resources**
1	**Reduce waste**
0	**Reduce energy consumption**
0	**Reduce toxic emissions**
1	**Innovation**
7	**TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: WaterPlay: Water Mover Wheel

Date: 04/2013

Producing Facility: Chartiers Manufacturing

Host Site: Children's Museum Pittsburgh

Your Name: Lisa Carvajal

Role/Title: Exhibits Design Manager

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %: 0
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
Aluminum	80%
Steel	15%
Stainless Steel	5%
	Total %: 100

SCORING:

SCORE: 0

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ■ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: U se recyc le d a ma ria l

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Aluminum		80%
Steel		15%
Stainless Steel		5%
		Total %: 100
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %: 0

SCORING:

SCORE: 4

- ☑ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Aluminum	recycle	80%
Steel	recycle	15%
Stainless Steel	recycle	5%
		Total %: 100
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %: 0

SCORING:

SCORE: 4

- [x] 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- [ ] 3 points for **AT LEAST 75%**
- [ ] 2 points for **AT LEAST 50%**
- [ ] 1 point for **AT LEAST 10%**
- [ ] 0 points if **LESS THAN 10%** of the materials meet these criteria.
- [ ] -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
none		

SCORING:

SCORE: 4

- [x] 4 points if the exhibit is **NET-ZERO energy consumption.**
- [ ] 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- [ ] 2 points if **SOME** energy-conserving efforts are in place
- [ ] 1 point if exhibit **USES** energy-efficient electronics
- [ ] 0 points if **NO ATTEMPT to conserve energy**
- [ ] -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Powder coating (clear coat)	90%
Latex paint (low VOC)	2.5%
	Total %: 92.5
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
PolyArmor	5%
steel primer	2.5%
	Total %: 7.5

SCORING:

- ☐ 4 points **if ALL** materials are low-VOC.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 3

WAYS TO IMPROVE SCORE: Use all low or zero VOC paint and finishes.

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

- ■ 1 Bonus point for posting assessment on ExhibitSEED website — 1
- ■ 1 Bonus point for creating big visual impact with minimal materials: — 1
  The water mover wheel has a surface 'texture' prior to finish.
- ■ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: — 1
  Recycle the entire water mover wheel or outdoor installation.
- ■ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: — 1
  Water mover wheel is entirely visitor powered.

WAYS TO IMPROVE SCORE: _____

POINTS AWARDED:

0	**Reduce new material consumption**
4	**Use local resources**
4	**Reduce waste**
4	**Reduce energy consumption**
3	**Reduce toxic emissions**
4	**Innovation**
19	**TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

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The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: Roadtrip Challenge kiosk

Date: Built July 2011

Producing Facility: Creative Discovery Museum

Host Site: Creative Discovery Museum

Your Name: Shannon Johnson

Role/Title: Exhibit Development Manager

Ratings are awarded for the total score:

- ○ PLATINUM (20–24 points)
- ○ GOLD (15–19)
- ○ SILVER (11–14)
- ☒ BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %: 0

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
3/4" plywood	35%
Foam	25%
Hardener/paint	10%
All-in-one 18" computer/hardware	10%
32" tv screen	10%
Graphics/objects 10%	Total %: 90

SCORING:

SCORE: 0

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ■ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: We could have used FSC-certified or rapidly renewable wood frame; we could have used found/recycled objects on the car

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Paint	Sherwin Williams	5%
Graphics	Printree Graphics	5%
		Total %: 10
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
Plywood	Home Depot	35%
Hardware (TV and computer)	Online purchases	20%
Foam and hardener	Home Depot/online purchase	30%
Objects	Online purchase	5%
		Total %: 90

SCORING:

SCORE: 1

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Used local sourced wood; buy supplies locally instead of online

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
TV	Use in another exhibit	10%
Computer	Use in another exhibit	10%
		Total %: 20
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
Car kiosk	Trash	80%
		Total %: 80

SCORING: **SCORE:** 1

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: Kiosk needs to look like a car but could be made in a way that the base cabinet could be reused.

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
All-in-One computer	Only at night	Yes
32" TV screen	Only at night	No

SCORING:

SCORE: 1

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ■ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: Use all energy-efficient electronics

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Hardener	10%
Paint	5%
Formaldehyde-free plywood	35%
	Total %: 50

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
	Total %: 0

SCORING:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ■ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 2

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☑ 1 Bonus point for creating big visual impact with minimal materials: 1
Style of kiosk and big TV screen showing activity

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

WAYS TO IMPROVE SCORE: Use more sustainable construction method; post on ExhibitSEED website

POINTS AWARDED:

0	**Reduce new material consumption**
1	**Use local resources**
1	**Reduce waste**
1	**Reduce energy consumption**
2	**Reduce toxic emissions**
1	**Innovation**
6	**TOTAL points**

CERTIFICATION:

- ○ **PLATINUM** (20+ points)
- ○ **GOLD** (15–19 points)
- ○ **SILVER** (11–14 points)
- ☒ **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: We Want the Vote

Date: 3/15/13

Producing Facility: Durham Museum

Host Site: Durham Museum

Your Name: Adam Van Osdel

Role/Title: Exhibit Coordinator

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
Walls	60%
Interactive Bases	70%
Case Work	
	Total %: 0

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
Signage	30%
Vevelture	50%
Paint	
Interactives Components.	
	Total %: 0

SCORING:

SCORE: 20%

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☒ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Signage Color Changes

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Local objects		~~0%~~ 5%
		Total %: 0

List all materials that were not sourced locally:	Source:	Applied to est. % of total:
Signage		
Building supplies		95%
Electronics.		
Plastics		
Object loans		Total %: 0

SCORING:

SCORE: ~~40%~~ 5%

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☒ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Research local Bio suppliers + purchase + broker goods through industrial supply

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Pedl mats		
Cases		
walls		
Frames		
Interactive Compant		Total %: 0
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
Signage		
Lights		
electricity		
		Total %: 0

SCORING:

SCORE: 75%

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☒ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: look into sending more to Recycling

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
Lights	No	No
Interactives	No	No
Video Projector	No	No

SCORING:

SCORE: 0

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☒ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: LED Lights + Auto shut off.

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Velvetine	
LOW VOC Paints	60
Mat board	
	Total %: 0

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
PVC Signage	40
	Total %: 0

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☒ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Signage Supplier + other options

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☒ 1 Bonus point for creating big visual impact with minimal materials: 1

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

WAYS TO IMPROVE SCORE: Add a pre + post Mortem assessment of material usage.

POINTS AWARDED:

0 **Reduce new material consumption**

0 **Use local resources**

0 **Reduce waste**

0 **Reduce energy consumption**

0 **Reduce toxic emissions**

0 **Innovation**

0 **TOTAL points**

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org.*

Exhibition Title: Fernbank Nature Quest Gutter Game Reach-In Component

Date: 5-5-13

Producing Facility: In-house

Host Site: FM

Your Name: James T. Hays

Role/Title: VP Exh, Reach-in designer, co-builder

Ratings are awarded for the total score:

- ○ PLATINUM (20–24 points)
- ○ GOLD (15–19)
- ○ SILVER (11–14)
- ○ BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
wood broom handle (originally in scrap pile)	70%
climbing rope (rapelling) sample, 30'	25%
~~rope~~ wood screws	1%
PMI E-Z Bend Sport Static, made in USA	Total %: 0
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
rope, obtained from roll in woodshop	~~5~~ %
	Total %: 0

SCORING:

SCORE: 4

- ☑ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: complete an MSDS-type form for all equipment purchases (broom handle wood)

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
wood (discarded broom handle)	Home Depot	70%
rope	Home Depot	4%
wood screws	Home Depot	
		Total %: 0
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
climbing rope	REI	25%
		Total %: 0

SCORING:

SCORE: 2

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☑ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Find local vendor for climbing rope -OR- to provide color for rope, use local artisans to stain rope w/ hickory, tannins, vegetable matter?

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:

- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
wood broom handle	use as picture frame	70 %
climbing rope	use in cave area	25 %
wood screws	replace in shop	1 %
rope	use in cave area	4 %
		Total %: 0

List any materials that cannot be recycled or repurposed:	Destination:	Applied to est. % of total:
		Total %: 0

SCORING:

SCORE: 4

- ☑ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: N/A

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
None, N/A		

SCORING:

SCORE: 4

- ☑ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:

- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
non-coated rope	4%
	Total %: 0

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
shop wood may emit volatile off gassing?	70%
PMI E-Z Bend Sport Static Nylon rope may emit volatile off-gassing?	20%
wood screws	1%
	Total %: 0

SCORING:

SCORE: 0

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

☑ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: 1

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

WAYS TO IMPROVE SCORE:

Dye rope ?

POINTS AWARDED:

4 Reduce new material consumption
2 Use local resources
4 Reduce waste
4 Reduce energy consumption
0 Reduce toxic emissions
1 Innovation
15 TOTAL points

CERTIFICATION:

- ○ **PLATINUM** (20+ points)
- ✓ **GOLD** (15–19 points)
- ○ **SILVER** (11–14 points)
- ○ **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

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The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	25
	15
	10
	35
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	10
	5
	Total %:

SCORING:

SCORE: 3

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		25%
		25%
		45%
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		2.5
		1.5
		1
		Total %:

SCORING:

SCORE: _____

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		10%
		25%
		5%
		50%
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		5%
		5%
		Total %:

SCORING: **SCORE:**

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	75%
	10%
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	5%
	10%
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials: 1

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: 1

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

WAYS TO IMPROVE SCORE:

POINTS AWARDED:

- ■ **Reduce new material consumption**
- ■ **Use local resources**
- ■ **Reduce waste**
- ■ **Reduce energy consumption**
- ■ **Reduce toxic emissions**
- ■ **Innovation**
- ■ **TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: INDIAN ROCKS BEACH HISTORY EXHIBIT

Date: 5/13/13

Producing Facility: ALLEN LLOYD

Host Site: INDIAN ROCKS BEACH HISTORICAL MUSEUM

Your Name: MARY ANNA MURPHY

Role/Title: CO-DESIGNER

Ratings are awarded for the total score:

- ○ PLATINUM (20–24 points)
- ○ GOLD (15–19)
- ○ SILVER (11–14)
- ● BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
MDF GRAPHICS PANELS - RECYCLED FROM ANOTHER MUSEUM	10%
EXHIBIT WALL CASE (SMALL)	.05
PLEX VITRINE	.1
BOLLARDS	5%
BAMBOO POSTS	~~Total %:~~ 0 5%
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
MDF - CABINET MATERIAL	30%
WALLPAPER	20%
SCULPTED TIKI STATUE	10%
	Total %: 0 60%

SCORING:

SCORE: 1

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☑ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: USE SOY-BASED INKS FOR ALL PRINTED MATERIALS - USE MORE MDF FROM OTHER EXHIBITS

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
SCULPTED TIKI STATUE-	LOCAL SCULPTOR	5%
BAMBOO POSTS	LOCALLY GROWN	5%
BOLLARDS	CUT FROM USED BOLLARDS	5%
		15%
		Total %: 0
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
MDF - CABINET MATERIAL	HOME DEPOT	30%
PLEXIGLAS VITRINES & MOUNTS	LOCAL VENDOR WT	10
MISC. HARDWARE		5
WALLPAPER / GRAPHICS		20%
		Total %: 0 65

SCORING:

SCORE: 1

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☑ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: FIND LOCAL MFGR FOR MDF

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
MOUNTS & MOUNT BLOCKS	RECOVER/REUSE	10
MDF WALLS & EXHIBIT CASES	MOVE, REPAINT	30
BAMBOO POSTS	RECONFIGURE	5
BOLLARDS	USE IN LANDSCAPING	5%
		Total %: 50%
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
WALLPAPER/GRAPHICS	GARBAGE	20%
SCULPTED TIKI STATUE	LANDFILL OR SOMEONE'S YARD	10%
		Total %: 30%

SCORING:

SCORE: 2

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☑ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: SELECT MATERIALS OTHER THAN MDF - NO WATER - USED SCRAP MDF TO MAKE MOUNT BLOCKS

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
NONE USED		

SCORING:

SCORE: 4

- [x] 4 points if the exhibit is **NET-ZERO energy consumption.**
- [ ] 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- [ ] 2 points if **SOME** energy-conserving efforts are in place
- [ ] 1 point if exhibit **USES** energy-efficient electronics
- [ ] 0 points if **NO ATTEMPT to conserve energy**
- [ ] -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
SHERWIN-WILLIAMS PAINTS	70 %
	Total %: 0

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
SINTRA SIGNBOARDS	30%
	Total %: 0

SCORING:

SCORE: 2

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☑ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: USE SOY INKS ON GRAPHICS PANELS
REPLACE SINTRA SIGNBOARDS WITH ANOTHER MATERIAL

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☑ 1 Bonus point for posting assessment on ExhibitSEED website — 1

☑ 1 Bonus point for creating big visual impact with minimal materials: — 1

☑ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: — 1

☑ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: — 1

WAYS TO IMPROVE SCORE: FIND ANOTHER LOW VOC MATERIAL TO REPLACE MDF - FIND A PRINTER W/ SOY BASED INKS - DESIGN WITH INTENT TO REUSE / REPURPOSE

POINTS AWARDED:

0 1 **Reduce new material consumption**

0 1 **Use local resources**

0 2 **Reduce waste**

0 4 **Reduce energy consumption**

0 2 **Reduce toxic emissions**

0 4 **Innovation**

0 14 **TOTAL points**

CERTIFICATION:

○ **PLATINUM** (20+ points)

○ **GOLD** (15–19 points)

★ **SILVER** (11–14 points)

○ **BRONZE** (8–10 points)

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The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

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Exhibition Title: _____

Date: March 24

Producing Facility: Monterey Bay Nat'l Marine Sanctuary

Host Site: Santa Cruz CA.

Your Name: Danielle Dorrian

Role/Title: emerging museum SCCMOD exhibit chair

Ratings are awarded for the total score:

- ☐ PLATINUM (20–24 points)
- ☐ GOLD (15–19)
- ☐ SILVER (11–14)
- ☐ BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
for countertops - richlite.com - recycled paper built from sustainable wood & materials w/ high recycle content	100%
	Total %:

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
	Total %:

SCORING:

SCORE: 4

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:

- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Bike racks for staff commuting		—
~~THA Thomas arch. com Portland~~	~~Portland, Ore~~	
Bogard Const. (local)	Santa Cruz	
- all local staff		
		Total %: 50

List all materials that were not sourced locally:	Source:	Applied to est. % of total:
THA Thomas arch. com	Portland, Ore	
		Total %: 50

SCORING:

SCORE: 2

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Use local architects

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
• 95% of construction waste recycled		95%
- cistern collects & stores rainwater to water plants		
- drought resistant Plants		
- no bottled water sold		Total %:

List any materials that cannot be recycled or repurposed:	Destination:	Applied to est. % of total:
		Total %:

SCORING: **SCORE:** 4

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

8-11% of electricity - Solar panels on the roof to generate electricity
- insulated windows keep heat in the building
- fan towers allow natural ventilation
everything shuts off automatically

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE: 3

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☒ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE:

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Low VOC Paints, sealants and adhesives were used throughout the building	
	Total %:

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
	Total %:

SCORING:

SCORE: 3

- ☐ 4 points **if ALL** materials are low-VOC.
- ☒ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points 16

CERTIFICATION:

☐ **PLATINUM** (20+ points)

☒ **GOLD** (15–19 points)

☐ **SILVER** (11–14 points)

☐ **BRONZE** (8–10 points)

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The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

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Exhibition Title: A Sticky Situation

Date: 5/1/13

Producing Facility: Morehead Planetarium and Science Center

Host Site: Morehead Planetarium and Science Center

Your Name: Jay Heinz

Role/Title: Exhibitions Manager

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
Furniture (reused from previous exhibit)	85
Electronics (")	2
Interactives (")	1
Rubber chips (from recycled tires)	1
Coal products	Total %: 90
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
Acrylic	5
Some interactives	4
post its, pencils	1
	Total %: 10

SCORING:

SCORE: 4

- [x] 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- [ ] 3 points for **AT LEAST 75%**
- [ ] 2 points for **AT LEAST 50%**
- [ ] 1 point for **AT LEAST 10%**
- [ ] 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Direct print plywood
asked for old halloween candy
asked for used toy dump trucks

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Printing	within 250	10
Install	within 250	
		Total %: 0
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
wood	unknown	80
electronics	unknown	5
interactives	unknown	5
		Total %: 0

SCORING:

SCORE: 0

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: use locally sourced wood or other building materials

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Most of the tables	reuse	85
Acrylic	reuse by Art Dept	5
Electronics	reuse	2
Interactive elements	reuse Art Dept/aftersc	1
		Total %:93
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
interactive elements	trash	2
media players	trash	3
graphics	trash	2
		Total %:7

SCORING:

SCORE: 4

- ■ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
Media Players	no	no
Monitor	no	no
Speaker	No	no
Projector	no	no
Lights	no	yes

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ■ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: Motion sensor activated interactives energy efficient models

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %: 0
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
carpet (unknown - old carpet)	
acrylic	
paint	
wood	
	Total %: 100

SCORING:

SCORE: 0

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ■ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Do Anything

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: 1

Sending components to art deptment or afterschool to be reused

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

WAYS TO IMPROVE SCORE:

POINTS AWARDED:

4	**Reduce new material consumption**
1	**Use local resources**
4	**Reduce waste**
1	**Reduce energy consumption**
0	**Reduce toxic emissions**
1	**Innovation**
0	**TOTAL points**

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

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- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

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Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org.*

Exhibition Title: Stress and Relaxation

Date: May 6, 2013

Producing Facility: MOSI, Tampa

Host Site: MOSI, Tampa

Your Name: Dave Conley and Mike Knapp

Role/Title: VP Exhibits and Exhibit Designer/Developer

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
None	
	Total %: 0

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
Wood	20
Aluminum	20
Vinyl flooring	20
Vinyl wall covering	20
Laminates	20
	Total %: 100

SCORING:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ■ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 0

WAYS TO IMPROVE SCORE: Use real bamboo flooring, use low VOC paint on wooden walls rather vinyl wall covering, use door from recycle yard, use finished plywood rather than laminates.

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Laminates	local supplier	20
Wood	local supplier	20
Vinyl wall covering	local supplier	20
Aluminum	local supplier	20
		Total %: 80
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
Vinyl flooring	special order	20
		Total %: 20

SCORING:

SCORE: 2

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ■ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: Use suppliers that bring in large quantities for environmental efficiencies, rather than special order, or use materials manufactured locally.

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:

- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Aluminum framework	reuse	20
Equipment - projector, player, speakers	reuse	5
Projection screen	reuse	1
Door	reuse or recycle	2
		Total %: 28
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
Vinyl flooring	trash	20
vinyl wall covering	trash	20
		Total %: 40

SCORING:

SCORE: 1

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: Try to determine ways to reuse or recycle materials destined for trash

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
Projector	no	no
Video player	no	yes
Audio Amp	no	yes
Speakers	yes when no audio	yes
lighting - LED	no	yes

SCORING:

SCORE: 2

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ■ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: Use energy efficient components. Have motion sensors to turn exhibit area off when no one is near by.

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Aluminum	20
Electronic equipment	5
Wood	20
	Total %: 45
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
Vinyl floor adhesive and freshly new flooring itself	20
Laminate adhesives	20
Wood stains	20
	Total %: 60

SCORING:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ■ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 1

WAYS TO IMPROVE SCORE: Use low VOC adhesives

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

- [x] 1 Bonus point for posting assessment on ExhibitSEED website — 1
- [x] 1 Bonus point for creating big visual impact with minimal materials: Good sized room for amount of exhibitry — 1
- [ ] 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: _____
- [ ] 1 Bonus point for any new design approach or construction method that increases environmental sustainability: _____

WAYS TO IMPROVE SCORE: Design with end-of-life plan in mind. Design with Green in mind.

POINTS AWARDED:

0	**Reduce new material consumption**
2	**Use local resources**
1	**Reduce waste**
2	**Reduce energy consumption**
1	**Reduce toxic emissions**
2	**Innovation**
8	**TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org.*

Exhibition Title: MATHBUILDERS

Date: 3/13/13

Producing Facility: EXHIBITSHOP

Host Site: PALOUSE DISCOVERY SCIENCE CENTER

Your Name: DANA S. DAWES

Role/Title: EXHIBIT MANAGER

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:

- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
Tire Veneer-20%, high-pressure laminate-15%	
Plywood (salvage)-30%, aluminum tubing (recycled) 20%	
Paper for captions-5%	
Misc. hardware (salvage) 5%	
	Total %: 95

List any virgin materials (no recycled content, newly purchased, not renewable):	Estimated % of total exhibit (by volume):
PVC (Sintra) for some exhibit manipulatives	3%
Other exhibit manipulatives	2%
	Total %:

SCORING:

SCORE: 4

- ☒ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
HPL (salvage)	local contractors (scrap)	15
Plywood (do.)	ExhibitShop (scrap)	30
Salvage hardware	(do.)	5
		Total %: 50
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
Tire veneer	EcoSurfaces	20
Aluminum frame	8020	20
Paper, manipulatives	various	10
		Total %:

SCORING:

SCORE: 2

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ■ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:

- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Modular exhibit, nearly all components can be reused.	re-theme exhibits	90
		Total %: 90
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
Some exhibit manipulatives	landfill	10
		Total %: 10

SCORING:

SCORE: 4

- [x] 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- [ ] 3 points for **AT LEAST 75%**
- [ ] 2 points for **AT LEAST 50%**
- [ ] 1 point for **AT LEAST 10%**
- [ ] 0 points if **LESS THAN 10%** of the materials meet these criteria.
- [ ] -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
none, unpowered exhibition		

SCORING:

SCORE: 4

- [x] 4 points if the exhibit is **NET-ZERO energy consumption.**
- [ ] 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- [ ] 2 points if **SOME** energy-conserving efforts are in place
- [ ] 1 point if exhibit **USES** energy-efficient electronics
- [ ] 0 points if **NO ATTEMPT to conserve energy**
- [ ] -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Water-borne contact cement	5
Other components	85
	Total %:

List any materials that do emit volatile organic compounds:	Applied to est. % of total:
Manipulatives: pvc, other plastices	5
solvent-based finishes	5
	Total %:

SCORING:

SCORE: 3

- ☐ 4 points **if ALL** materials are low-VOC.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE:

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☑ 1 Bonus point for creating big visual impact with minimal materials: 1

COMPACT, PORTABLE EXHIBITS

☑ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired: 1

MODULAR EXHIBIT FRAMEWORK

☑ 1 Bonus point for any new design approach or construction method that increases environmental sustainability: 1

SELF-CRATING, EASILY TRANSPORTED

WAYS TO IMPROVE SCORE:

POINTS AWARDED:

- 4 **Reduce new material consumption**
- 2 **Use local resources**
- 4 **Reduce waste**
- 4 **Reduce energy consumption**
- 3 **Reduce toxic emissions**
- 3 **Innovation**
- 20 **TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

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The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

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Exhibition Title: Electromagnetic Spectrum

Date: April 30th, 2013

Producing Facility: Sci-Quest Hands-On Science Center

Host Site:

Your Name: Robin Soprano; Angela Giles

Role/Title: Technology Director; Education Director

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
TVs, 5 desktop computers & monitors reused from other exhibits	15
Extruded Aluminum structures and Sheet Metal "curvicles"	62
Wood - plywood & 2x4s	10
Reused Power and arduiono for signage	1
	Total %: 88
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
Infrared Camera, Microwave Emitter, UV Film, Geiger Counter	2
Plexiglass and Acrylic	3
Granite	5
LED lighting	2
	Total %: 12

SCORING:

SCORE: 3

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
Extruded Alum & Sheet Metal	local	62
Wood	Home Depot	10
Plexiglass & Acrylic		3
Granite	local countertop store	5
		Total %: 80
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
LED lighting	online sources	2
Infrared Camera/UV Film/Geiger Counter	online sources	3
TVs amd Computer monitors		15
		Total %: 20

SCORING:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 3

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
Extruded Aluminum/Sheet Metal	Other Exhibits	62
Electronics	Other Exhibits	20
Microwave, IR, Geiger Counter	Education for demos	2
lighting	other exhibits	2
		Total %: 86
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
UV film	landfill	1
Line-X coated end pieces	landfill	2
Granite		5
Plexiglass & Acrylic		3
		Total %: 11

SCORING:

SCORE: 3

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ■ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
LED LIghting	No	Yes
TV/Monitors/Desktop computers	No	Yes

SCORING:

SCORE: 2

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ■ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
Line-X Covering	2
Ink on graphics?	1
	Total %: 3
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %: 0

SCORING:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

SCORE: 0

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

- [x] 1 Bonus point for posting assessment on ExhibitSEED website — 1
- [x] 1 Bonus point for creating big visual impact with minimal materials: — 1
- [ ] 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:
- [x] 1 Bonus point for any new design approach or construction method that increases environmental sustainability: — 1
  using AD20 extruded aluminum for exhibit structure

WAYS TO IMPROVE SCORE:

POINTS AWARDED:

3	**Reduce new material consumption**
3	**Use local resources**
3	**Reduce waste**
2	**Reduce energy consumption**
0	**Reduce toxic emissions**
3	**Innovation**
14	**TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

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Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
	Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:

SCORING:

SCORE:

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
	Total %:
List any materials that do emit volatile organic compounds:	**Applied to est. % of total:**
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

Reduce new material consumption

Use local resources

Reduce waste

Reduce energy consumption

Reduce toxic emissions

Innovation

TOTAL points

CERTIFICATION:

PLATINUM (20+ points)

GOLD (15–19 points)

SILVER (11–14 points)

BRONZE (8–10 points)

Green Exhibit Checklist

The Green Exhibit Checklist (GEC) is a tool to evaluate the environmental sustainability of exhibits. The goal of the Checklist is to inspire exhibit teams to reduce the environmental impacts of exhibit production.

The Green Exhibit Checklist can be a useful tool in early planning to help set project goals. Then, once the exhibit is on the floor, the Checklist is used to assess the final outcome.

The GEC awards points in 5 KEY STRATEGIES:

- **Reduce new material consumption**
- **Use local resources**
- **Reduce waste**
- **Reduce energy consumption**
- **Reduce products with toxic emissions**

A sixth category awards points for Innovation in the design and construction of the exhibit. This encourages exhibit teams to strive for new and creative solutions to reduce environmental impacts.

Step 1 Team sets goal for the exhibit: Platinum, Gold, Silver, and Bronze.

Step 2 Designer and fabricator review checklist to find the best strategies for meeting goal.

Step 3 After production, the fabricator fills out the GEC with the relevant material information.

Step 4 Exhibit team conducts walk-through, using the material information to award points.

We encourage teams to post their Checklist results online for the benefit of the entire museum industry. For more information or to post your Checklist evaluation see *www.exhibitseed.org*.

Exhibition Title: _____

_____

Date: _____

Producing Facility: _____

Host Site: _____

Your Name: _____

Role/Title: _____

Ratings are awarded for the total score:

- PLATINUM (20–24 points)
- GOLD (15–19)
- SILVER (11–14)
- BRONZE (8–10)

Reduce new material consumption.

INTENT: Reduce demand for virgin materials thereby reducing industrial practices that pollute the environment and exploit natural resources.

STRATEGIES:
- Use recycled materials (regrind HDPE, aluminum, etc.).
- Reuse building materials (from previous exhibits or deconstruction of houses, etc.).
- Use wood from responsibly-managed forests.
- Use rapidly renewable materials (bamboo, wheat board, etc.).
- Construct exhibits using fewer materials.the environment and exploit natural resources.

List all materials that were recycled, reused, FSC-certified wood, or rapidly renewable:	Estimated % of total exhibit (by volume):
example: Bamboo plywood table tops	*20%*
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Estimated % of total exhibit (by volume):**
example: Manufactured legs	*15%*
	Total %:

SCORING:

SCORE: _____

- ☐ 4 points if **AT LEAST 90%** of the materials meet any one of these criteria.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

_____

_____

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_____

Use regional resources.

INTENT: Reduce negative effects on environment from the transportation of goods while contributing positively to the local economy.

STRATEGIES:
- Specify local raw materials, within 500 miles (ex: lumber in Pac NW).
- Source products manufactured locally, within 500 miles.
- Hire local contractors for labor, within 250 miles (ex: local welder).
- Batch orders of goods to reduce packaging material.

List all materials that were sourced locally:	Source:	Estimated % of total exhibit (by volume):
example: Lumber from NW	*Mr. Plywood, Stark St., PDX*	*15%*
		Total %:
List all materials that were not sourced locally:	**Source:**	**Applied to est. % of total:**
example: Graphic laminate	*Wilsonart, Houston TX*	*10% of total*
		Total %:

SCORING:

SCORE:

- ☐ 4 points if **AT LEAST 90%** of the materials were sourced locally.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Reduce waste.

INTENT: Reduce amount of waste and consider end-life of exhibit.

STRATEGIES:
- Design components to be re-purposed after exhibit retires (ex: standard table top)
- Choose materials that can be recycled at end of exhibit (glass, cardboard are best).
- Choose construction methods that allow components to be taken apart (no glue).
- Eliminate need for consumables that end up in trash.
- Design for durability and low-maintenance.
- Use water responsibly in exhibit.

List all materials that can be re-purposed or recycled:	Reuse or recycling plan:	Estimated % of total exhibit (by volume):
example: Metal legs	*Reuse for new exhibit*	*15%*
		Total %:
List any materials that cannot be recycled or repurposed:	**Destination:**	**Applied to est. % of total:**
example: second-surface mounted graphics to plex	*Landfill*	*Graphics – 10% of total*
		Total %:

SCORING:

SCORE: _____

- ☐ 4 points if **AT LEAST 90%** of the materials can be repurposed or recycled.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.
- ☐ -1 Deduct point for wasteful use of consumables or water.

WAYS TO IMPROVE SCORE: _____

Reduce energy consumption.

INTENT: Reduce energy consumption by exhibit components.

STRATEGIES:
- Choose energy-efficient electronics and parts.
- Reduce number of energy-consuming interfaces.
- Use alternative energy sources (human-powered, solar, wind).
- Use auto-shut off on electronic components.

List all electronic components:	Auto shut-off? Yes or No:	Energy efficient model? Yes or No:
example: 22" monitor	*Yes – motion sensor*	*Yes – Energy Star rated*

SCORING: **SCORE:**

- ☐ 4 points if the exhibit is **NET-ZERO energy consumption.**
- ☐ 3 points if **SIGNIFICANT** energy-conserving efforts are in place
- ☐ 2 points if **SOME** energy-conserving efforts are in place
- ☐ 1 point if exhibit **USES** energy-efficient electronics
- ☐ 0 points if **NO ATTEMPT to conserve energy**
- ☐ -1 Deduct one point if more than 75% of the exhibit components are electronic

WAYS TO IMPROVE SCORE: _____

Reduce toxic emissions.

INTENT: Reduce quantity of materials that emit VOC's, either in processing or after installation, because of their threat to the environment and indoor air quality.

STRATEGIES:
- Choose zero/low VOC paints & finishes.
- Avoid PVC, styrene.
- Use soy inks on graphic panels.
- Use products that are formaldehyde-free.
- Avoid carpet with toxic materials.

List all materials, sealants, adhesives, paints, and finishes that are zero or low-VOC:	Applied to estimated % of total exhibit:
example: Water--based wood glue, applied to all interior wood structure	*5%*
	Total %:
List any virgin materials (no recycled content, newly purchased, not renewable):	**Applied to est. % of total:**
example: Vinyl banners	*Approx. 5%*
	Total %:

SCORING:

SCORE:

- ☐ 4 points **if ALL** materials are low-VOC.
- ☐ 3 points for **AT LEAST 75%**
- ☐ 2 points for **AT LEAST 50%**
- ☐ 1 point for **AT LEAST 10%**
- ☐ 0 points if **LESS THAN 10%** of the materials meet these criteria.

WAYS TO IMPROVE SCORE: _____

Innovation.

INTENT: To encourage exhibit teams to strive for new and creative solutions.

STRATEGIES:
- Post checklist assessment on ExhibitSEED website for peer review.
- Incorporate a new design or production strategy that reduces environmental impact.
- Plan ahead for the exhibit's end-life.

SCORING: **SCORE:**

☐ 1 Bonus point for posting assessment on ExhibitSEED website

☐ 1 Bonus point for creating big visual impact with minimal materials:

_____

☐ 1 Bonus point for innovative end-of-life plan for once the exhibit is retired:

_____

☐ 1 Bonus point for any new design approach or construction method that increases environmental sustainability:

_____

WAYS TO IMPROVE SCORE: _____

_____

_____

_____

_____

POINTS AWARDED:

- ☐ **Reduce new material consumption**
- ☐ **Use local resources**
- ☐ **Reduce waste**
- ☐ **Reduce energy consumption**
- ☐ **Reduce toxic emissions**
- ☐ **Innovation**
- ☐ **TOTAL points**

CERTIFICATION:

- **PLATINUM** (20+ points)
- **GOLD** (15–19 points)
- **SILVER** (11–14 points)
- **BRONZE** (8–10 points)

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Sustainable Decision-making Activity

OVERVIEW:

This exercise will introduce the Decision-making Tool and allow participants to practice using it. The attendees will break into smaller groups of 5-6 people. Each group will be given a scenario describing a hypothetical exhibit decision. The group will be prompted to consider all three sustainability aspects (environmental, social, economic) of the situation before suggesting an appropriate decision.

Scenario 1: You are developing a new exhibition about natural disasters. One of the components is a shake table combined with stories from people who have lived through earthquakes. The designer is advocating for no electronics in order to reduce the carbon footprint and daily energy costs. She suggests a hand crank for the shake table and printed graphics for the stories. However, the content developer would like to include video clips and audio on each unit to enhance the experience and is concerned about the visitor engagement of a hand-powered shake table. Use the Decision Making Tool to discuss all of the social, environmental, and economic considerations of the decision.

Scenario 2: You are planning two advisor meetings for the upcoming year. Four of your advisors are from out of town and two are local. The first meeting is to review exhibit messages and to brainstorm exhibit ideas, and the second meeting will be to review prototypes. Use the Decision Making Tool to discuss all of the social, environmental, and economic considerations of planning the meetings – should they be virtual or on-site?

Scenario 3: Due to budget concerns, you have to cut $20,000 out of your exhibit scope. The most expensive unit is $20,000 and features a multi-player interactive. It relies on 3 computers, 3 monitors, and a large projection screen. The activity simulates dynamic urban planning, a main message of the exhibit. There are also 2 smaller units, each $10,000 that explore creating public transit options and developing open space. These are mechanical interactives that require no technology. Use the Decision Making Tool to discuss the social, environmental, and economic considerations of how to trim the budget.

Scenario 4: You are creating a new children's exhibition on fine art. One of your team members has suggested using community volunteers to help with the fabrication of the exhibits. They offered the option of either working with local artists or connecting with a high school art class. There will be several murals to create, but there will also be basic tasks such as assembling tables and organizing supplies. Use the Decision Making Tool to discuss the social, environmental, and economic considerations of the decision.

Scenario 5: You are developing a permanent exhibition on moon exploration that will be in place for at least 8 years. A local electronics supplier has offered to donate a free incandescent projector for your exhibition. However, your team is concerned about the cost of maintenance and replacement bulbs and the power consumption of the projector. An LED projector is available which uses less power and requires much less maintenance, but costs more and the image is not as bright. The LED projector would cost $5000, but would save $1000 per year in bulb replacement costs. Use the Decision Making Tool to discuss all of the social, environmental, and economic considerations of the decision.

DECISION-MAKING SCENARIO PROBE QUESTIONS

Scenario 1:

- How might the possibility of purchasing renewable energy credits or carbon offsets affect your team's decision?
- What about content considerations? Would it make a difference if the exhibit were about electricity, for example?
- How might this decision affect accessibility for visitors (i.e. for people with low vision, different learning styles, etc.)?

Scenario 2:

- What could be done at the outset of a project to provide more in-person advisory expertise but with fewer economic and environmental impacts?
- Are there possible "social pillar" considerations of online meetings vs. in-person meetings (negative or positive)?
- What considerations might a "hybrid" meeting (virtual/in-person) bring up?

Scenario 3:

- What considerations do different perspectives bring to the table (i.e. from the content perspective, the design perspective, client perspective)?
- What are some different values that might emerge based on job duties?
- Could some of the content be delivered through programming? Are there additional social impacts involved?

Scenario 4:

- What if working with volunteers or interns is an institutional priority?
- How might working with volunteers affect the project's environmental impact (for good or bad)?
- Will managing the volunteers require additional staff support? Is this positive or negative?

Scenario 5:

- Regular projectors require staff to turn it on and off manually every day. LED projectors are cool enough to be put on a timer. Does that affect your thinking?
- What social factors should you consider? For instance, the impact on maintenance staff or on visitor experience?
- What if your development department is pressuring you to accept the donation to build a relationship with this supplier?
- What about content considerations? Would it make a difference if the exhibit were about electricity, for example?

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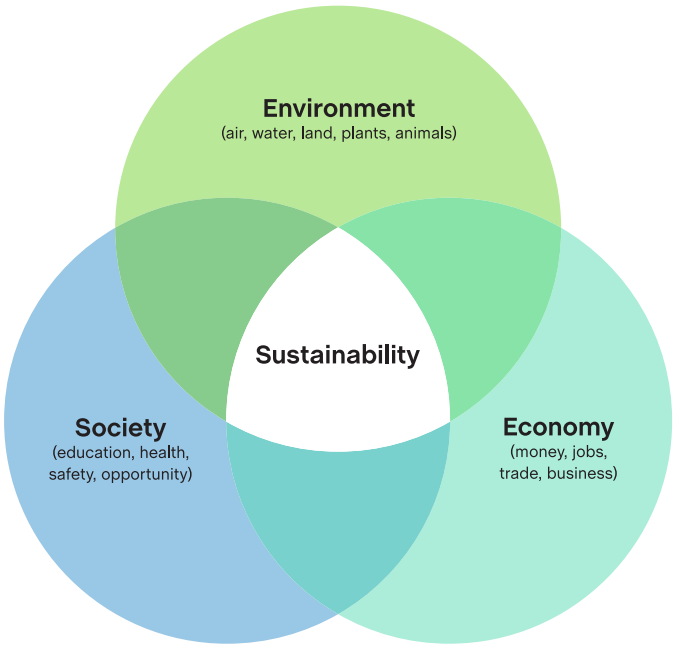
Sustainable Decision-making Tool

Team or Project: _____
(ex: *Renewable Energy* exhibit)

Use this template to facilitate a discussion with your team. The goal of this tool is to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability. Before you begin, it may be helpful to review a shared definition of the three pillars of sustainability.



STEP 1

Define the question: work with your team to make sure that everyone agrees on the same question, or problem statement, and record it here:

Question or Task: _____

_____

_____

(ex: *Should we use computer electronics even though they use more energy than mechanical interactives?)*

STEP 2

Invite each member of the team to fill out the following table.
List all of the social, environmental, and economic considerations (large or small, good or bad) that come to mind regarding the question at hand. If more space is needed, attach an additional page.

3 PILLARS	CONSIDERATIONS
SOCIAL	
Considerations that affect the health, opportunity, and well-being of all people involved in the exhibit—from fabricators to visitors and community members.	*ex: Exhibits without immediate light or audio response may be less intuitive for visitors.*
ENVIRONMENTAL	
Considerations that affect the health and well-being of the natural environment—including impacts on land, air, and water quality, natural resources, and wildlife.	*ex: Using electricity may result in more carbon emissions over the life of the exhibit.*
ECONOMIC	
Considerations that affect the health and well-being of the project as well as the economy—from supporting local jobs and businesses to meeting the project's budget goals.	*ex: Engineering mechanical solutions may cost more than developing a computer interface.*

STEP 3

Discuss each realm of consideration as a team.
For each category (social, environmental, economic), go around the table and have each team member share the considerations that they wrote down. Invite discussion around which considerations are the most important and record them here.

SOCIAL

ENVIRONMENTAL

ECONOMIC

STEP 4

Identify any areas where more information is needed to make a well-informed decision and record them here. *(ex: Research possible new fabrication material)*

STEP 5

End the meeting by identifying next steps toward making final decisions and record them here.

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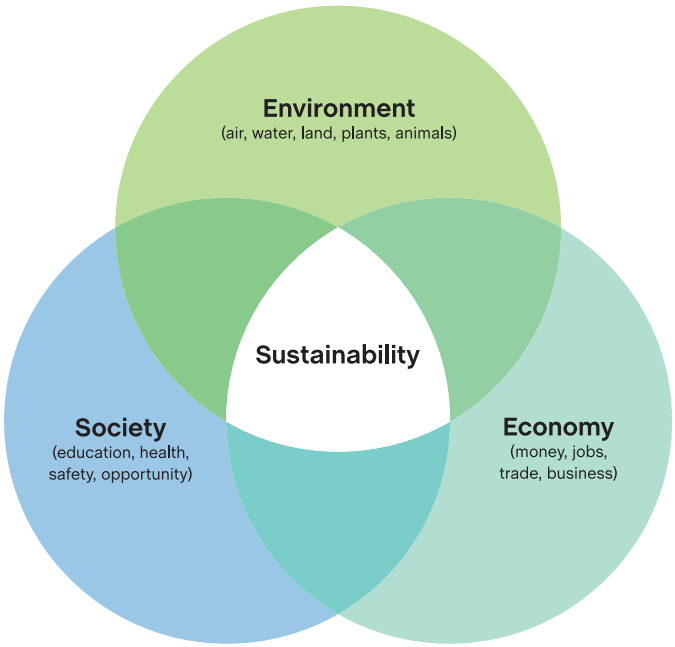
Sustainable Decision-making Tool

Team or Project: Robotix
(ex: *Renewable Energy* exhibit)

Use this template to facilitate a discussion with your team. The goal of this tool is to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability. Before you begin, it may be helpful to review a shared definition of the three pillars of sustainability.



STEP 1

Define the question: work with your team to make sure that everyone agrees on the same question, or problem statement, and record it here:

Question or Task: How do we manage the use of existing and new technology?

(ex: *Should we use computer electronics even though they use more energy than mechanical interactives?)*

STEP 2

Invite each member of the team to fill out the following table.
List all of the social, environmental, and economic considerations (large or small, good or bad) that come to mind regarding the question at hand. If more space is needed, attach an additional page.

3 PILLARS	CONSIDERATIONS
SOCIAL	
Considerations that affect the health, opportunity, and well-being of all people involved in the exhibit—from fabricators to visitors and community members.	*ex: Exhibits without immediate light or audio response may be less intuitive for visitors.* • toxic components • retraining of staff on new equipment/technology • educate public/visitors on new equipment/technology
ENVIRONMENTAL	
Considerations that affect the health and well-being of the natural environment—including impacts on land, air, and water quality, natural resources, and wildlife.	*ex: Using electricity may result in more carbon emissions over the life of the exhibit.* • toxic components • proper disposal • reuse of equipment
ECONOMIC	
Considerations that affect the health and well-being of the project as well as the economy—from supporting local jobs and businesses to meeting the project's budget goals.	*ex: Engineering mechanical solutions may cost more than developing a computer interface.* • cost of replacement • maintenance of partnerships with business • increase in cost to visitors possibly with higher cost of new purchases

STEP 3

Discuss each realm of consideration as a team.
For each category (social, environmental, economic), go around the table and have each team member share the considerations that they wrote down. Invite discussion around which considerations are the most important and record them here.

SOCIAL

Training/re-training staff on new equipment/technology

ENVIRONMENTAL

Re-use/re-purpose old equipment/technology

ECONOMIC

Is benefit an additional cost worth the expense/risk of buying new equipment/technology?

STEP 4

Identify any areas where more information is needed to make a well-informed decision and record them here. *(ex: Research possible new fabrication material)*

- Research new equipment/technology to minimize waste of spending and waste of getting rid of old equipment

STEP 5

End the meeting by identifying next steps toward making final decisions and record them here.

- Research Step 4
- Research ways to re-use before buying new

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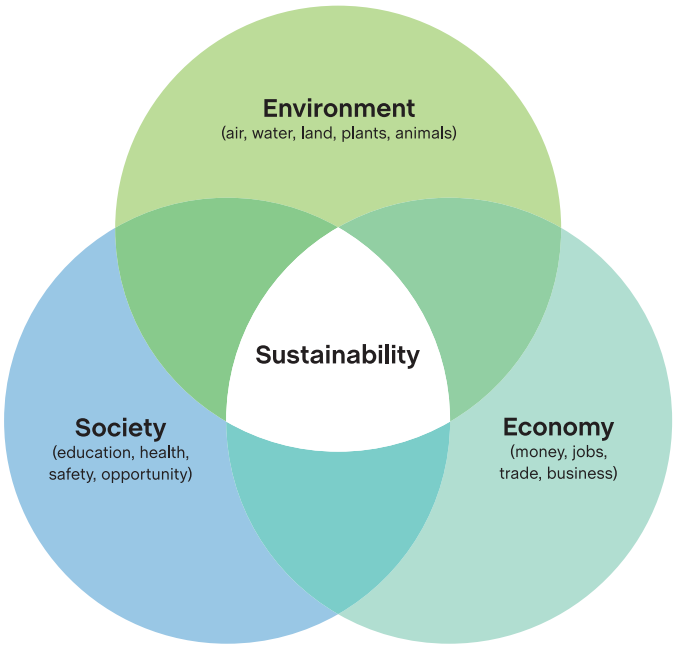
Sustainable Decision-making Tool

Team or Project: Chemical Reactions
(ex: *Renewable Energy* exhibit)

Use this template to facilitate a discussion with your team. The goal of this tool is to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability. Before you begin, it may be helpful to review a shared definition of the three pillars of sustainability.



STEP 1

Define the question: work with your team to make sure that everyone agrees on the same question, or problem statement, and record it here:

Question or Task: What is the advantage of using an interactive format to combine chemicals and observe reactions rather than using the chemicals themselves.

(ex: *Should we use computer electronics even though they use more energy than mechanical interactives?)*

STEP 2

Invite each member of the team to fill out the following table.
List all of the social, environmental, and economic considerations (large or small, good or bad) that come to mind regarding the question at hand. If more space is needed, attach an additional page.

3 PILLARS	CONSIDERATIONS
SOCIAL	
Considerations that affect the health, opportunity, and well-being of all people involved in the exhibit—from fabricators to visitors and community members.	*ex: Exhibits without immediate light or audio response may be less intuitive for visitors.* • Students will share observations • Hands-on, yet safe for all users
ENVIRONMENTAL	
Considerations that affect the health and well-being of the natural environment—including impacts on land, air, and water quality, natural resources, and wildlife.	*ex: Using electricity may result in more carbon emissions over the life of the exhibit.* • Positive electricity - Negative fossil fuels • No purchasing chemicals, disposing of them incorrectly, no noxious fumes
ECONOMIC	
Considerations that affect the health and well-being of the project as well as the economy—from supporting local jobs and businesses to meeting the project's budget goals.	*ex: Engineering mechanical solutions may cost more than developing a computer interface.* • High purchase price - negative • Investment for a long period - positive • No re-purchasing chemicals - positive

STEP 3

Discuss each realm of consideration as a team.
For each category (social, environmental, economic), go around the table and have each team member share the considerations that they wrote down. Invite discussion around which considerations are the most important and record them here.

SOCIAL

Training/re-training staff on new equipment/technology

ENVIRONMENTAL

Re-use/re-purpose old equipment/technology

ECONOMIC

Is benefit an additional cost worth the expense/risk of buying new equipment/technology?

STEP 4

Identify any areas where more information is needed to make a well-informed decision and record them here. *(ex: Research possible new fabrication material)*

- Research new equipment/technology to minimize waste of spending and waste of getting rid of old equipment

STEP 5

End the meeting by identifying next steps toward making final decisions and record them here.

- Research Step 4
- Research ways to re-use before buying new

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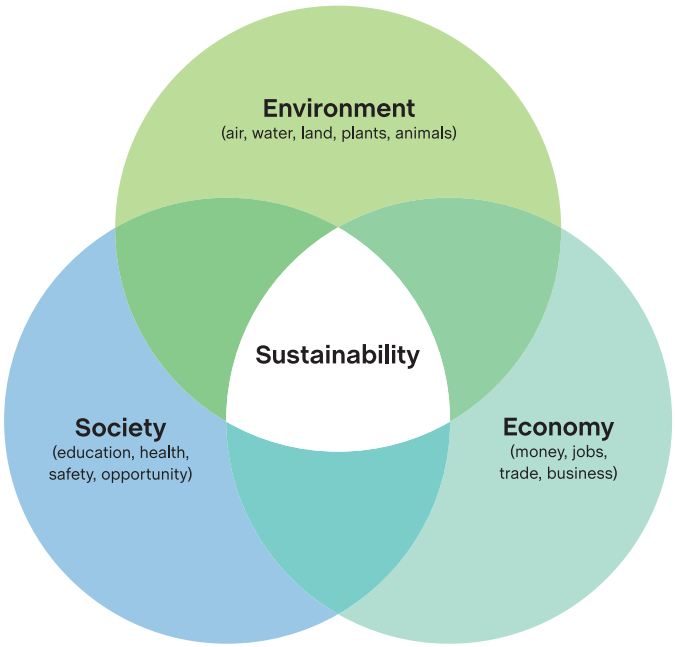
Sustainable Decision-making Tool

Team or Project: Fetal Development Models for New Sex Ed Lessons
(ex: *Renewable Energy* exhibit)

Use this template to facilitate a discussion with your team. The goal of this tool is to inspire a well-rounded conversation that leads teams to decisions that consider all three (social, environmental, and economic) aspects of sustainability. Before you begin, it may be helpful to review a shared definition of the three pillars of sustainability.



STEP 1

Define the question: work with your team to make sure that everyone agrees on the same question, or problem statement, and record it here:

Question or Task: Would 3D modeling be more effective than digitally generated images of human fetal development.

(ex: *Should we use computer electronics even though they use more energy than mechanical interactives?)*

STEP 2

Invite each member of the team to fill out the following table.
List all of the social, environmental, and economic considerations (large or small, good or bad) that come to mind regarding the question at hand. If more space is needed, attach an additional page.

3 PILLARS	CONSIDERATIONS
SOCIAL	
Considerations that affect the health, opportunity, and well-being of all people involved in the exhibit—from fabricators to visitors and community members.	*ex: Exhibits without immediate light or audio response may be less intuitive for visitors.* • Socially a 3D model is more realistic • Greater impact on the visitor • You can touch model • Digital image is not actual size • Model gives fabricators work as an art!
ENVIRONMENTAL	
Considerations that affect the health and well-being of the natural environment—including impacts on land, air, and water quality, natural resources, and wildlife.	*ex: Using electricity may result in more carbon emissions over the life of the exhibit.* • Digital does reduce model's expense • Models, once made are long lasting • If models and cabinets are reused we would save money and materials
ECONOMIC	
Considerations that affect the health and well-being of the project as well as the economy—from supporting local jobs and businesses to meeting the project's budget goals.	*ex: Engineering mechanical solutions may cost more than developing a computer interface.* • Initial expense that creates jobs in the specific arts • Expense for model will cost more at first compared to technology

STEP 3

Discuss each realm of consideration as a team.
For each category (social, environmental, economic), go around the table and have each team member share the considerations that they wrote down. Invite discussion around which considerations are the most important and record them here.

SOCIAL

We combined them into #2

ENVIRONMENTAL

ECONOMIC

STEP 4

Identify any areas where more information is needed to make a well-informed decision and record them here. *(ex: Research possible new fabrication material)*

- Research model designers
- Feedback on impact from users
- Cost research on model vs digital

STEP 5

End the meeting by identifying next steps toward making final decisions and record them here.

- Investigating costs and impact on students and visitors

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3 Pillars of Sustainability for Museums

ENVIRONMENTAL considerations in a museum:

- Use non-toxic materials, finishes, and adhesives
- Use as little new materials as possible
  - Reduce use of "disposable" materials
  - Reuse existing things whenever possible
- Use as little water as possible (especially in areas where water is scarce and needed for other things)
- Limit buying/using things that add to air and water pollution
- Produce as little waste as possible (including recycling and composting)
- When waste is created, try to recycle or compost it
- Design for end-life
- Limit energy use
  - Lighting
  - Heating
  - Appliances & exhibits
  - Energy intensive products
  - Travel (especially by plane)
- Make more environmentally-friendly food choices

ECONOMIC considerations in a museum:

- Use local vendors and suppliers
- Include interns and volunteers when appropriate to reduce cost and provide job experience/training
- Create reasonable budgets and financial tracking systems
- Reuse existing things when possible
- Save energy and water to save costs

SOCIAL considerations in a museum:

- Support women and minority owned businesses
- Include artists and artistic expression when possible
- Encourage volunteering
- Encourage participation in community organizations and government decisions
- Encourage (directly or passively) healthy activities such as eating well, exercising, socializing, and learning
- Provide equitable access to learning opportunities, especially for underserved audiences
- Provide a place for people to congregate, share, and connect with each other
- Use non-toxic materials
- Make sure that your space is safe physically and emotionally
- Preference buying products or services that you know treat their employees/producers fairly and do not degrade the communities they work in