



Spooky Science

The human body is wired to survive. When we get scared, our body reacts by releasing hormones that trigger our fight-or-flight response.

During a fight-or-flight response, the part of our brain called the amygdala is activated. The amygdala sends a surge of hormones throughout our body, specifically the adrenaline hormone. Adrenaline causes an increase in heart rate to pump more blood to our muscles and brain. If we really did need to fight or flee from something scary, the additional blood in our muscles would help us attack or run away quickly.

How do you react when you get scared? Can you feel and measure your heart rate getting faster? Try this activity to find out.

Note: Please complete this activity at your own risk and ask for adult permission before viewing or doing anything scary! Be sure to select safe situations for this activity and watch videos instead of creating fright in real life.

Materials needed:

- Stopwatch
- Pen and paper
- Video streaming site (like YouTube)

Step-by-step instructions:

1. Find your pulse by placing two fingers on the inside of your wrist below your thumb.
2. Using the stopwatch, count the number of beats you feel for 30 seconds.
3. Multiply the number of beats you counted by 2 to calculate your heart rate (beats per minute) and write it down
4. Watch something scary (like a video of a spider or a snake).
5. Measure your heart rate again.
6. Take notes about your reaction to the video.

Additional explorations:

- With their permission, share a video that you find scary with someone in your household. How does their reaction compare to yours?

Discussion questions:

- Did your heart rate increase after watching something scary? Why or why not?
- Do you think you would react differently to something scary in real life?
- In what other ways did your body react to viewing a scary video?

Addition resources:

- National Geographic, Spiders: <https://www.youtube.com/watch?v=SdZUd-RwI1s>
- NatGeo Wild, Snakes: https://www.youtube.com/watch?v=_qgA63lxc_Y
- Prairie Aerial , 1500' TV Tower: <https://www.youtube.com/watch?v=f1BgziZRfT8>
- Smithsonian Channel, Insects: <https://www.youtube.com/watch?v=Q4apGsFH6HE>

