Making Neuroscience Fun

A Brain Awareness Program for All Ages

Brain Health: It's SPECtacular

Being Afraid Can Help You-WHAT?!? (🧠 An Emotional Health Story)
(2nd – 7-8 yrs.)
Experiment: A Heart-Pounding Experience

STORY CONNECTION-SLIDE 8 (Approx Time: 10-15 mins)

Fear is the emotion that some of us feel when we are in high places, see scary snakes or smell fire. In all these cases, our senses are telling us that there is something that could potentially hurt us. Because we could get hurt, this is why our brain has turned on our ANS automatically for us. Our brain is trying to help us to behave in a way that will protect us.

Materials needed:

- Paper to record pulse
- Pencils
- Chart paper
- Markers
- Watch or timer with second hand
- Optional: Stethoscope

Preparation needed:

- Load video on how to take your pulse. https://www.youtube.com/watch?v=wzdVUSVObOw
- Read through the instructions below on how to take a pulse (wrist and neck).
- Determine when Part I (resting pulse) will be completed
    - Suggestions: Beginning of day, prior to story, or activity
- Determine when Part II (active pulse) will be completed
    - Can be completed immediately after Part I or later in the day
    - Decide what is best for your student(s).
- Determine if student(s) will complete optional extension exercises.

Instructions:

1. Discuss with the students that one way our brain protects us is by increasing or decreasing our heart rate. We can measure our heart rate by taking our pulse.
2. Describe how the beating heart creates a pulse. Your heart has to push so much blood through your body that you can feel a little thump in your arteries each time the heart beats. The most common places to feel a pulse is on your wrist and your neck (https://kidshealth.org).
3. Show the students the video on how to take your pulse.

Part I: Resting Pulse

1. At the beginning of the day or prior to starting this story, student(s) take their pulses and record them. Initial pulses should be taken when student(s) are calm. This can be done with a stethoscope or simply by taking the pulse manually.

   Note: See steps below for taking wrist and neck pulse.
2. Student(s) now have their pulse when they are in a calm, relaxed, or normal state.
3. Make sure they write this down.

Part II: Active Pulse

4. Have the student(s) stand up and do five jumping jacks.
5. Have them take and record their pulse again after doing them.
6. Ask student(s) and have them respond: What do you notice?
7. Next, have student(s) run in place for 30 seconds.
8. Have them take and record their pulse again after running.
9. Ask student(s) and have them respond: What do you notice?
10. Extension (Optional): You can either stop with those two activities or you can add a third such as jumping jacks or running in place or one full minute. Have them take and record their pulse again. Ask student(s) and have them respond: What do you notice?

Part III: Discussion

11. Have some student(s) share their initial pulse rate and their pulse rates after doing each activity.
12. Student(s) should notice that their pulses increased.
13. List the five senses on the chart paper.
14. Brainstorm with student(s) about their senses and unexpected or stressful events. Ask probing questions:
    - What did you notice about your body when you were expected to do the exercises?
    - How did you feel?
    - How was your breathing? Sweating? Heart?
    - What happened to your body as time passed?

      Sample Responses:
      sweating, clammy palms, heart pounding, breathing increased, tough time paying attention/listening, trembling, etc.
      They started to cool down and calm down again.
15. Talk about how our bodies react in similar ways when we are scared and when we are doing physical activity. When we are experiencing these reactions and feelings, we cannot do our best thinking and learning so it is important to be able to understand and regulate our fears and emotions. We need to be able to get our body back to a calmer and relaxed state so we can do our best thinking and learning.

Steps For Checking Your Pulse

You can check a person's pulse by putting 2 fingers on the inside of their wrist or on their neck.
To measure the pulse in someone's wrist:

- hold the person's arm so it is straight, with the palm of their hand facing upwards
- place your index (first finger) and middle fingers on their wrist, at the base of their thumb
- using a clock or watch that counts seconds, count how many beats you feel in a minute, or count them over 30 seconds and multiply the number by 2 to work how many beats a minute
- If you cannot find their pulse, try moving your fingers around a bit and pressing a little harder

To measure the pulse in someone's neck:

- place your index and middle fingers on the side of their neck, in the soft hollow area just beside their windpipe
- using a clock or watch that counts seconds, count how many beats you feel in a minute, or count them over 30 seconds and multiply the number by 2 to work how many beats a minute
- If you cannot find their pulse, try moving your fingers around a bit

Pulse Credit: https://www.nhs.uk/common-health-questions/accidents-first-aid-and-treatments/how-do-i-check-someones-pulse/#:~:text=place%20your%20index%20(first%20finger,how%20many%20beats%20a%20minute