TECH QUEST

ACTIVITY: BUILD A BETTER BRAIN BREAK

For Grades 3-9

Challenge Based Learning, or CBL, is a flexible framework that empowers learners to co-own and co-author learning experiences. CBL provides a simple way for anyone to address personal, community, and global challenges while acquiring content knowledge in areas such as literacy, math, science, technology, and the arts.

These resources are designed as a “quick start” for out-of-school time educators looking to bring CBL into their learning environment through a health & life sciences lens. Through these activities, youth develop foundational STEM and durable skills while building career awareness in the health and life sciences. All activities are suitable for grades 3-9.



STEM NEXT
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Activity: Build a Better Brain Break

In this activity, youth will be able to:

- Explain how brain breaks influence attention, energy and mood.
- Investigate the effectiveness of brain breaks to lessen stress levels.
- Use the scientific method to make an hypothesis, complete an experiment, collect data, and draw conclusions.



Big Idea: Mental Health
Essential Question: How can we use science and design to create better brain breaks for youth?

Preparation

Materials	• Digital device with internet access (1 device per youth group)
Presentation	Slides Keynote

Facilitation

Overview:

In this challenge based learning activity, youth explore how movement, breathing, and creativity can affect attention, energy, and stress. They use feedback and the CBL process to design, test, and improve a 3–5 minute brain break for their peers.

Engage:

1. Ask youth: *How are you feeling? Give me two words to describe your feelings right now.* As youth provide responses, write them on the board or poster paper.
2. Complete the brain break in each of the following categories:
    - Calming Breathing
        - Finger Breathing: Use your fingers to breathe in and out. Spread your fingers on your left hand apart and with the

pointer finger of your right hand trace around your hand. Breathe in as you move up a finger, breathe out as you move down a finger. Repeat until you've breathed through the hand back and forth (Slide 2).

- Gentle Movement/Yoga
  - Stir the Pot: Have kids visualize they are standing in front of an enormous cauldron. Inside the cauldron is an ooey-gooey pot of caramel. They take hold of a large stirrer and plunge it to the bottom of the pot. Slowly begin to stir in a clockwise direction. Have them use their whole body to help get a full range of motion in their wrists and shoulders. Instruct them to throw their hips into the action. After a minute or two, reverse the direction (Slide 3).
- Mindful Resets
  - Word Doodle: Give students scrap paper and pencils or crayons. Set a timer for 60 seconds, and ask students to draw whatever comes to mind in response to the word you give them. Try using abstract concepts to get them thinking creatively: happiness, growth, friendship, challenges, etc (Slide 4).

3. Ask youth: *How are you feeling now? Give me two words to describe your feelings.* As youth provide responses, write them on the board or poster paper. Discuss any changes in mood or feelings. Discuss which type of break they liked best and why.

Exploration:

1. Explain what makes a brain break effective. Have youth create a list of criteria for a brain break that will help youth refocus their body and mind (Slide 5).

2. Divide youth into working teams of 3-4. Challenge each team to create a 3-5 minute brain break that could be used in the afterschool program. They should identify the purpose, steps, materials, and expected benefit.

3. After teams have created their brain break, have them present it to the reset of the group. Participants provide feedback using a simple **"Glow & Grow"** format (Slide 6):
   a. **Glow:** What worked well?
   b. **Grow:** What could be improved?
4. Have teams take the feedback and redesign their brain break.

Act:

1. Tell the group: *We are going to create a brain break bank that program facilitators could use with youth.*

2. Have the group decide the format of the final product. Some suggestions may include:
    a. Create a calendar with the brain break and instructions listed for each day.
    b. Slide presentation using Keynote or other tools to explain each brain break.
    c. A video using iMovie to explain and demonstrate each brain break.

Implementation

Alternative:

1. Younger youth may have a hard time expressing their feelings, provide them with a poster or chart with various emojis to pick from to share how they are feeling.
2. Youth may not have ideas for a brain break and you may want to allow them time to research the internet to find some options that have already been created. After they present the break to the group, they could make modifications to customize the break to their specific program.

Career Connection:

- Psychologist
    - Studying and Experiencing Mental Illness, Mariam Aly
    - Brainworks: Exercise and the Brain
- Kinesiology
    - PBS: I Can Be Anything I Want To Be
- Thinking Beyond
    - Engage youth to consider other careers or skills that would be valuable in this challenge. Have them explain why they chose those careers and/or skills. *These conversations may incite ideas on careers that are yet to exist in the health and life sciences industry!*