



Change the Frequency Lesson Plan

Educators and school personnel play vital roles in promoting mental health and well-being for their students. Adapt the lesson below to meet the needs of your grade level to begin or continue conversations about mental wellness and the impact of our brain frequencies. For ease of access to hyperlinks, this lesson plan can also be found at www.projectawarein.org.

Social and Emotional Learning Competency(s):

Sensory Motor Integration

- 1A. Students demonstrate an understanding of body awareness and sensations in the body

Insight

- 2A. Students identify a wide range of emotions
- 2C. Students demonstrate self-efficacy

Regulation

- 3A. Students demonstrate self-control
- 3B. Students recognize life stressors and have strategies to manage them
- 3C. Students practice personal responsibility

Mindset

- 7A. Students demonstrate a willingness to learn, especially when faced with challenges or following a failure

Lesson Overview:

This lesson will help students understand the name and purpose of brain waves and their frequency. This conversation can be an entry point for students to gain better understanding of brain functionality and the importance of finding a balance among brain frequencies to create positive mental health.

Differentiation Strategies to Meet Diverse Learner Needs:

- Provide subtitles during the YouTube video
- Give students the option to keep their eyes open during breathing exercises if they feel unsafe or uncomfortable closing them
- Keep visual aids (brain wave names and definitions) visible during discussion
- Provide opportunities for large group and individual student reflection





Objectives:

- Students will be able to identify the five different types of brainwaves and their characteristics
- Students will demonstrate the ability to apply deep breathing exercises to influence positive change on their own brain frequency

Materials:

- A/V capabilities
- Project AWARE visual to show connection to the initiative

Engagement Hook:

- Play video “Ride the Brain Wave”: <https://www.youtube.com/watch?v=8CejGESrRkc>

Instructions:

- After watching the video, display this Brain Wave Visual: https://drive.google.com/file/d/1IPQ80kdZrt_cypqgd0_HNfUAr07D_4O-/view to summarize the different brain waves shown in the video
- Pose these discussion questions:
 - When is a time your brain might show Gamma waves? (extreme concentration)
 - Learning a new topic or taking a test
 - When is a time your brain might show Beta brain waves? (focused and engaged)
 - Working on homework, a choir performance, playing a sport, or video games
 - When is a time your brain might show Alpha waves? (relaxed, meditative)
 - Watching your favorite show, reading your favorite book, playing with your dog
 - When is a time your brain might show Theta waves? (relaxed)
 - Laying down for a nap, deep breathing exercises
 - When is a time your brain might show Delta waves? (sleep)
 - During deep sleep
- Read aloud:
 - *“In order to be mentally healthy, one thing we can do is to understand how our brain works. If your brain functioned with Gamma waves for a long period of time (for example, taking a six-hour test), your mind and body would certainly need a break. Our brainwaves change according to what we’re doing and feeling. When slower brain waves are more frequent, we can feel tired, slow, sluggish, or dreamy. The higher frequencies are happen when we feel wired, hyper-alert, or focused. All of your brainwaves serve a purpose, but it’s important to know that we can change our frequency for the better through our actions and words.”*

Alpha waves, usually found when people are relaxed, may help reduce stress and anxiety. These waves can also boost creativity! One of the things you can do to get into the Alpha zone is to close your eyes and practice a deep breathing exercise. Let’s try one together!”





- Pull up the Square Breathing Visual: <https://drive.google.com/file/d/1Mw8PsW0Cm1Ycryi505MaMjT8QSMOZAGG/view> to teach Square Breathing in four steps:
 - Breathe in through your nose for four counts
 - Pause/hold your breath for four counts
 - Exhale through your mouth for four counts
 - Pause/hold your breath for four counts

Cross-Curricular Connection(s): Science, Health, and Physical Education

Assessment & Evaluation:

- Ask students to write down what brainwave is most dominant at different times during the day
 - Early morning after waking up, before lunch, after playing outside with friends
- Identify a time when most believed their brain was functioning with Gamma waves (extreme concentration). Practice the square breathing exercise together the next time you participate in that activity (after a test or playing a game) as a group
 - Have students write down or discuss how they feel differently

Closing:

- Read aloud:
 - *“Brain waves’ frequency determines our experiences of being, thinking, and perceiving. Actions and habits have the power to impact this frequency—influencing our state of mental well-being. All of you can empower positive mental health in yourselves and your friends.*

Getting to know those around you and being open to their feelings and needs is a great place to start. Research shows that when our brain waves are in-sync, we are much more likely to feel connected with each other and engaged in classroom activities. Let’s work together to Change Our Frequency to ensure that we are mentally well and creating a positive learning environment for each other.”

- Hand out bracelets to remind students about this lesson and what they learned about brain frequencies

Extension Activities:

1. Use the ‘100 days of Educational Neuroscience’ framework to strategically implement lessons in the classroom that help students understand the different parts of their brain and how they function:
 - a. IDOE’s Educational Neuroscience Toolkit:
<https://www.doe.in.gov/sites/default/files/sebw/educational-neuroscience-toolkit-cover.pdf>





2. Learn more about synchronized brain waves:
 - a. Article, “Synchronized brainwaves a sign of positive feelings”:
<https://cosmosmagazine.com/biology/synchronised-brainwaves-a-sign-of-positive-feelings>
 - b. “Students’ Brains Sync Up When They’re in an Engaging Class, Neuroscience Shows”:
<https://www.smithsonianmag.com/science-nature/how-sitting-through-same-class-gets-your-brains-same-wavelength-180963075/>

Other Resources:

1. Use the below resources to help reduce stigma associated with mental illness and normalize discussion about mental health issues (most appropriate for secondary students):
 - a. Bring Change to Mind: <https://bringchange2mind.org/learn/psas/talk-to-anyone>
 - i. How to talk about mental health with anyone
 - b. Glowmedia Project: <https://www.glowmedia.org/>
 - ii. Free films and resources to help young people develop the emotional agility necessary to thrive

References:

Ride The Brainwave YouTube Video: <https://www.youtube.com/watch?v=8CejGESrRkc>

Brainwaves Visual: https://drive.google.com/open?id=1PQ80kdZrt_cypqgd0_HNfUAr07D_4O-

Square Breathing Visual: <https://drive.google.com/file/d/1Mw8PsW0Cm1Ycryi505MaMjT8QSMOZAGG/view>

IDOE’s Educational Neuroscience Toolkit: <https://www.doe.in.gov/sites/default/files/sebw/educational-neuroscience-toolkit-cover.pdf>

Synchronized Brainwaves Sign of Positive Feelings: <https://cosmosmagazine.com/biology/synchronised-brainwaves-a-sign-of-positive-feelings>

Students’ Brains Sync Up When They’re in an Engaging Class, Neuroscience Shows:
<https://www.smithsonianmag.com/science-nature/how-sitting-through-same-class-gets-your-brains-same-wavelength-180963075/>

Bring Change to Mind: <https://bringchange2mind.org/learn/psas/talk-to-anyone>

Glowmedia Project: <https://www.glowmedia.org>

How (and Why) to Boost Your Alpha Brainwaves:
<https://www.caba.org.uk/help-and-guides/information/how-and-why-boost-your-alpha-brainwaves>

What You Need to Know About the 5 Types of Brainwaves—for Better Sleep, Health, and Focus:
<https://www.wellandgood.com/good-advice/multivitamin-ingredients-centrum-vitamins/>

