

YOUR BRAIN ON EMOTIONS: SCIENCE LESSON



Grades 4-7 Your Brain on Emotions Health Education, Science and Visual Arts

Purpose of the Lesson:

There's a lot going on inside of our brains. It can be helpful for students to understand what happens in our brains when we're feeling emotional. Understanding that there are things going on inside of our brains that we can't easily control can reduce the stigma surrounding mental health. This lesson explores the brain and our behaviour, showing how emotions are more complicated than we might think. Students will learn the "hand-brain" model to help them understand the brain's different parts and what they do. They will create their own "brain hat" as a visual representation of their minds. Dialogue in this lesson focuses on emotional regulation, strong emotional responses, and mental wellbeing.

Curriculum Competencies:

Health and Physical Education

- Describe and assess strategies for promoting mental well-being (Grade 4).
- Describe and assess strategies for promoting mental well-being, for self and others (Grade 5/6/7).
- Describe and assess strategies for managing problems related to mental well-being and substance use (Grade 4).
- Describe and assess strategies for managing problems related to mental well-being and substance use, for others (Grade 5/6/7).
- Explore and describe strategies for managing physical, emotional, and social changes during puberty (Grade 4/5/6/7).
- Describe factors that positively influence mental well-being and self-identity (Grade 4)
- Explore and describe how personal identities adapt and change in different settings and situations (Grade 5/6/7).

Science

- Demonstrate curiosity about the natural world (Grade 4).
- Demonstrate a sustained curiosity about a scientific topic or problem of personal interest (Grade 5/6/7).
- Observe objects and events in familiar contexts (Grade 4).
- Make observations in familiar or unfamiliar contexts (Grade 5/6/7).
- Identify questions about familiar objects and events that can be investigated scientifically (Grade 4).
- Identify questions to answer or problems to solve through scientific inquiry (Grade 5/6/7).
- Make predictions based on prior knowledge (Grade 4).
- Make predictions about the findings of their inquiry (Grade 5/6/7).
- Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate (Grade 4).
- Communicate ideas, explanations, and processes in a variety of ways (Grade 5/6/7).

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Visual Arts

- Create artistic works collaboratively and as an individual using ideas inspired by imagination, inquiry, experimentation, and purposeful play (Grade 4/5/6/7).
- Explore identity, place, culture, and belonging through arts experiences (Grade 4/5/6/7).
- Experience, document, and present creative works in a variety of ways (Grade 4/5/6/7).

First Peoples Principles of Learning:

- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).
- Learning involves recognizing the consequences of one's actions.
- Deep understanding of place and connection to the natural world.

Video

[A Tour of the Brain \(PART 1\) - Mineola Grows!](#)

Mineola Grows! (Apr 7, 2021). *A Tour of the Brain!* | *Self-Regulation Lesson 1* [Video]. YouTube. <https://www.youtube.com/watch?v=Q6vqSehMYQQ>

Guiding Questions:

1. What are some new things you learned about the brain?
2. How do the different parts of the brain interact with one another?
3. How does your brain affect your emotions?

[The Hand Brain Model \(PART 2\) - Mineola Grows!](#)

Mineola Grows! (Mar 1, 2021). *The Hand Brain Model!* | *Self-Regulation Lesson 1* [Video]. YouTube. <https://www.youtube.com/watch?v=IRmnVmELMn8>

Guiding Questions:

1. What does the hand-brain model teach us about how we express our feelings?
2. Can you think of a time when you've "flipped your lid"?

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Step-by-Step Lesson Plan

Preparation: Queue up video/set up projector and print out copies of the brain model activity for each student. Make sure students have access to scissors and either glue or tape for assembling the model.

1. Have the students watch the video “A Tour of the Brain” This can be found [HERE](#).

2. Pause the video and use the Guiding Questions to spark discussion.

3. Have the students watch the video “The Hand-Brain Model” This can be found [HERE](#).

4. Pause the video and use the Guiding Questions to spark discussion.

5. Discuss the concept of emotional regulation with your students. Now that your students have been introduced to the various parts of the brain and what they do, discuss with them how we can begin to regulate our emotions. Review the hand-brain model with them and demonstrate again that, when we’re not thinking with the cortex of our brains and we “flip our lid,” our emotions can get the better of us. Explain that becoming aware of this fact can help us regulate our emotions when they become very intense.

6. In a think-pair-share, prompt your students to reflect on their experiences with emotional regulation. Ask them to reflect on times when they’ve stopped thinking with their cortex and their emotions have become all-consuming. One example might be a situation where a sibling has taken something that belongs to them, and they get extremely upset. Have them share their experiences in pairs so that they can have their attention drawn to other situations where they might experience “flipping their lid.”

7. Spark a discussion with your students about how our brains control our mental health and wellbeing. Now that they have a better sense of where and how emotions exist in the brain, they can make connections between their everyday feelings and ones that might prove to be challenging. While emotions can be tricky to regulate at the best of times, when someone is experiencing mental health issues, the emotional parts of their brains can almost take over everything else and make it very challenging for them to function.

8. Reflect on these connections by brainstorming ideas about how the brain might impact mental health. On the board, take notes as your students reflect on what you’ve just discussed. Remind them that those who experience mental health issues can face a lot of stigma because some people think that our emotions can be easily controlled. However, the brain is highly complex, and emotions can be difficult to regulate. Understanding these complexities can help reduce the stigma around mental health issues.

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9. Explain the curriculum connections to your students. Today's lesson is a science art activity. Print out this “brain hat” for each of your students (see following pages). Have them colour the different parts of the brain and label what each part does. They can then add different images to the different sections based on how a map of their own brain would look (e.g. they can include pictures of activities, hobbies, emotions, feelings, etc). You can use the template on the following page as an example of what theirs will look like when it's done.

Accommodations/modifications:

- Students who are visually impaired can describe to you what they would like written or drawn on their brain model.
- Students whose first language isn't English can either draw images or write words in their first language.

10. Active reflection. Prompt your students to think about this activity and the “hand-brain” model in general. Get them to share their brains in small groups. Invite them to talk about their experience of unpacking the different parts of their brains. Did they learn anything new about themselves? Do they view mental health issues differently after having done this activity and had this discussion?

11. Lesson closure. Discuss how you can use the “hand-brain” model to practice emotional regulation in your classroom. Below are some suggestions that can help you get started. Invite your students to brainstorm some of their own ideas as well:

When they are becoming overwhelmed, they can hold up their “brain hat” to signal to you that they're feeling extremely emotional and need to take a break.

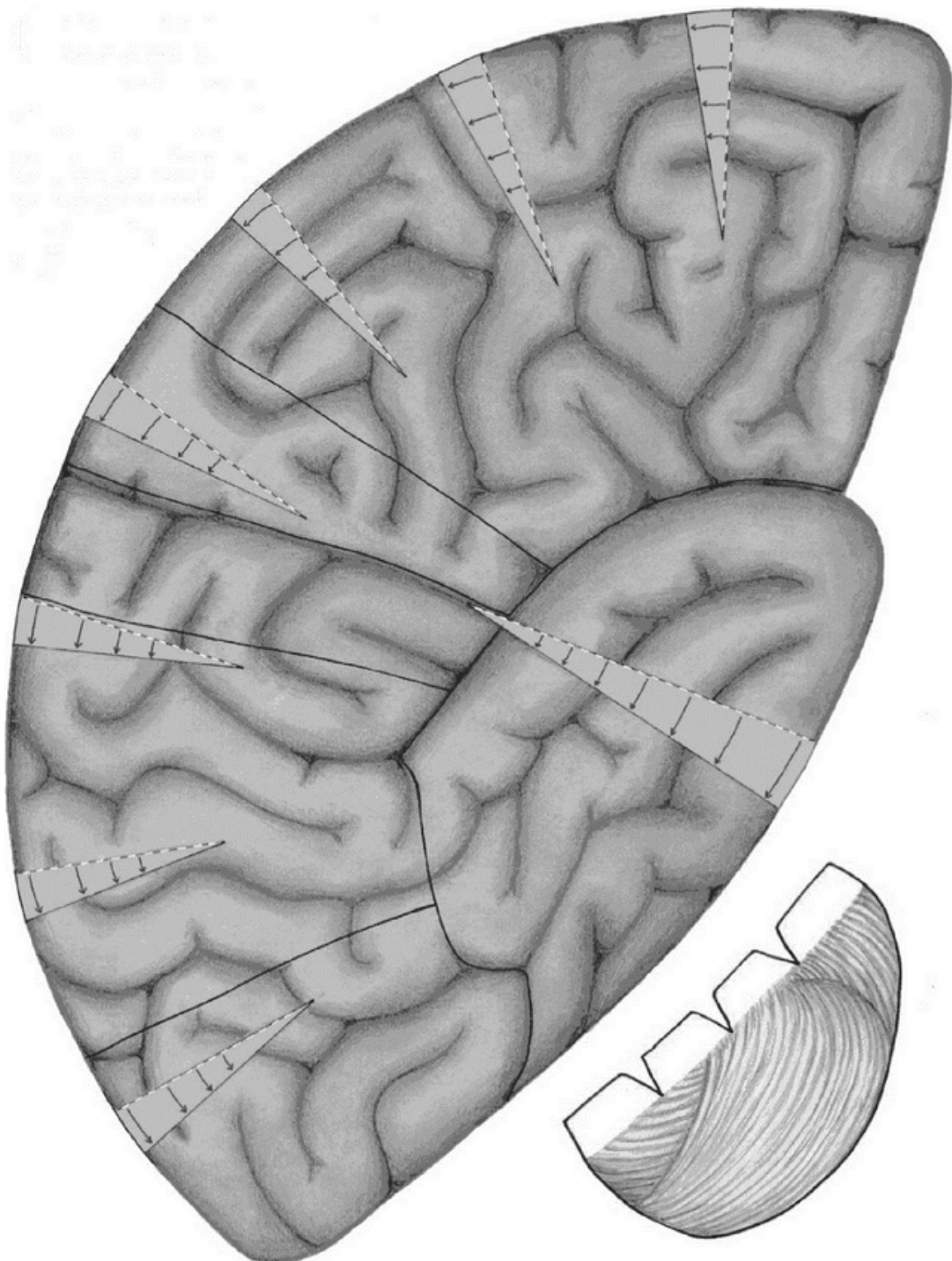
When they recognize that they are dealing with challenging emotions, they can say, “I'm going to flip my lid. Can you help me?” You can then work with them to find a solution.

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RIGHT SIDE

- 1) Cut around the outside edge.
- 2) Cut on the solid lines (the ones the arrows are pointing to).
- 3) Tuck the flaps under until the dashed line meets the solid line, and glue or tape in place.

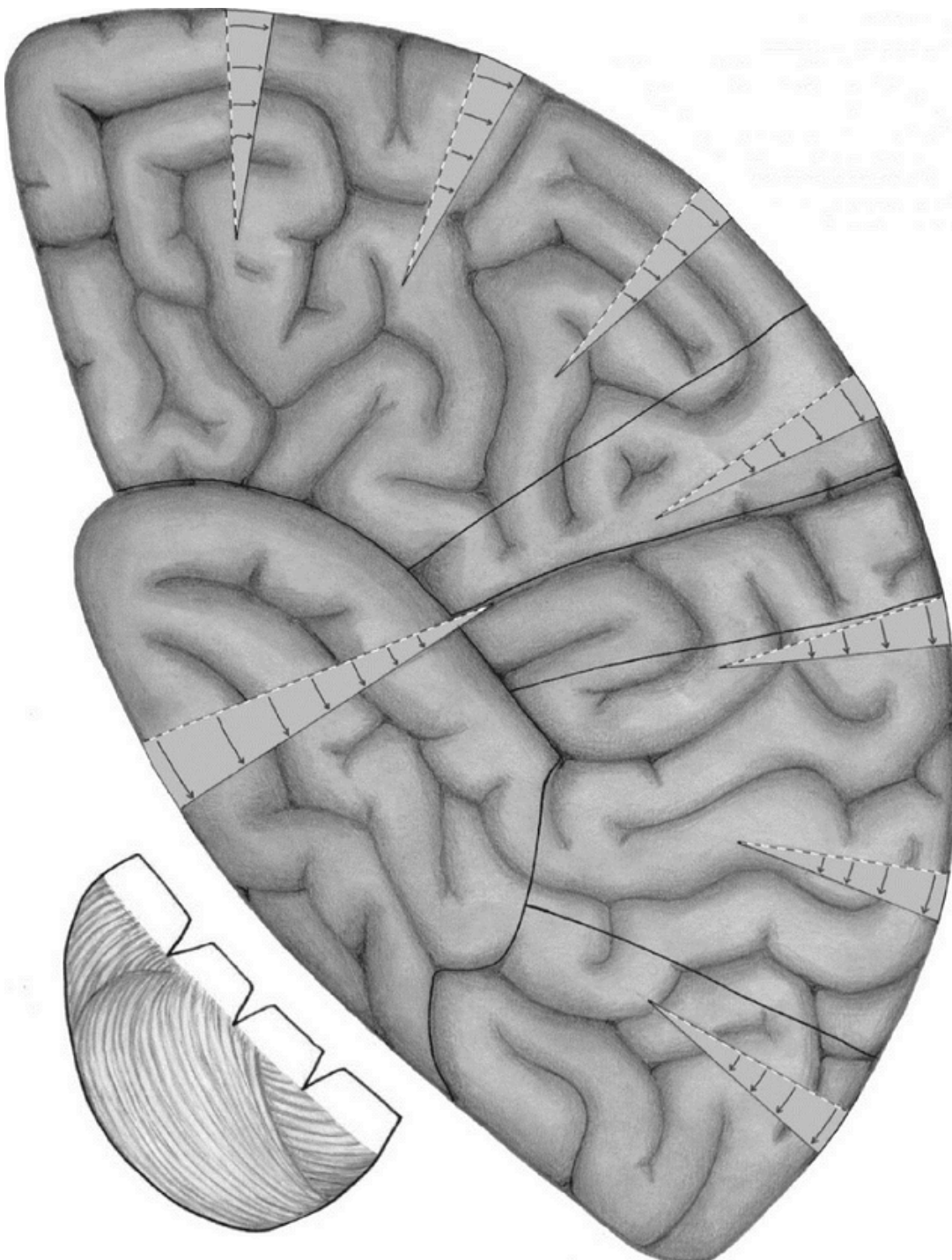


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LEFT SIDE

- 1) Cut around the outside edge.
- 2) Cut on the solid lines (the line that the arrows are pointing to).
- 3) Tuck the flaps under until the dashed line meets the solid line, and glue or tape in place.

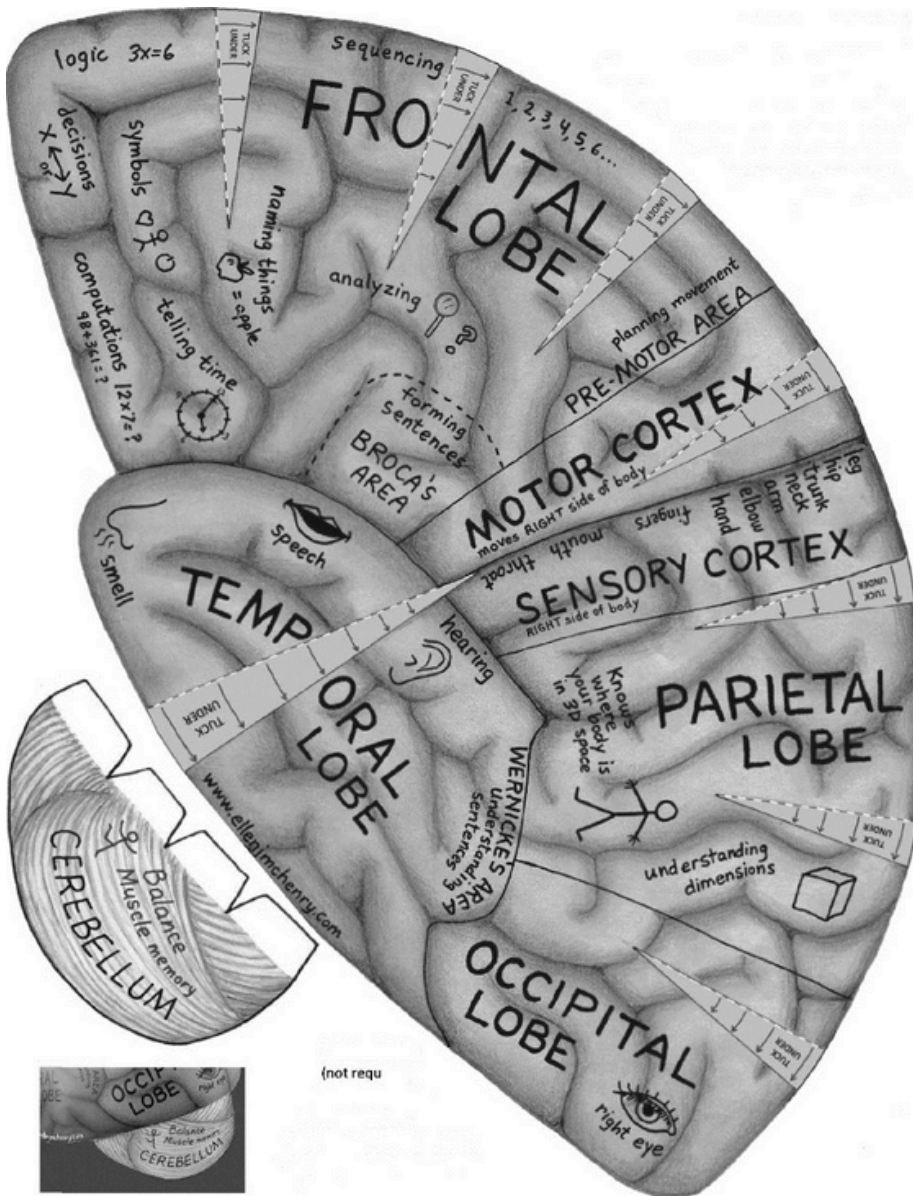


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- 1) Cut around the outside edge.
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OPTIONAL: (not required)

Add a cerebellum if you want to.

- 1) Cut out CEREBELLUM.
- 2) Tape onto the inside of the hat, as shown.

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RIGHT SIDE

- 4) Cut around the outside edge.
- 5) Cut on the solid lines (the ones the arrows are pointing to).
- 6) Tuck the flaps under until the dashed line meets the solid line, and glue or tape in place.

