

Module 3:

Mental Health and the Brain

- The brain changes over time
- Our thoughts, feelings, behaviours and reactions to the environment are linked with the brain
- The brain and the body are connected
- Mental health is a component of overall health



Links for Activities:



Classroom Slide Deck (see Module 3):

- [Google Slide Deck](#)
- [PDF Slide Deck](#)



Student Activity Sheets

- [Digital](#)
- [Colour \(printable\)](#)
- [Black & White \(printable\)](#)



MHL Journal

- [Digital](#)
- [Colour \(printable\)](#)
- [Black & White \(printable\)](#)

- See [Appendix E](#) for download instructions
- Please see individual activities for video links, sample quiz links and all other resources

Conceptual Knowledge	Procedural Knowledge	Handle with Care
<ul style="list-style-type: none"> • Our thoughts, feelings, behaviours and reactions are linked with the brain • The brain and the body are connected • Mental health is a component of overall health • The brain changes over time 	<ul style="list-style-type: none"> • Explain how the brain and body are connected • Identify basic parts of the brain and their functions • Describe ways that the brain adapts to the environment and changes over time 	<ul style="list-style-type: none"> • Avoid excessive explanation of neurology and biochemistry of brain development • Avoid giving students the impression that they are less competent because their brain is still developing! (e.g. point out that young brains are better at language learning)



Activity I - The Brain- Body Connection

Purpose: Develop students' understanding of the ways the brain and body are connected and explore basic structures and functions of the brain

Conceptual Connection:

- The brain and body are connected
- Our thoughts, feelings and behaviours are linked with the brain



Ask students, 'What are the major organs in the human body?' Record their answers on the active board / whiteboard. Identify any organs they have missed such as the heart, lungs, kidneys, liver, large and small intestine, skin and the brain.



Digital Delivery:

- Have students respond in the chat using the Waterfall technique. Use a tool like Google Jamboard or Google Slides to record student responses on-screen.
- Or Jamboard Brainstorm - prepare a Jamboard with the question 'What are the major organs in the human body?' and share it with students, asking them to use the sticky note tool to add their answers. Group correct answers together and delete incorrect answers.



Provide student activity sheets with instructions for creating *Build-A-Brain* hats.

Resources:

- Digital Brain Puzzle Slide (in Classroom Slide Deck, Module 3)
- Digital Activity Sheets
- Printable Activity Sheets



Digital Delivery:

- Brain Puzzle: Instruct students to first move the labels to identify the regions of the brain. Next, have students match the core functions to each region (see [Appendix C](#) for answer sheet).

Pro-tip for teachers:

For best results when printing the *Build-A-Brain* hat activity sheets, select the option 'fit to printed page' on your printer



- **Frontal lobe:** Thinking and cognition (e.g. thinking, decision-making, problem-solving, understanding)
- **Parietal lobe:** Processes touch, taste and temperature (e.g. smelling popcorn, touching your nose with your eyes closed, crossing your hands, squeezing to create pressure, feeling if the tap water is warming up)
- **Temporal lobe:** Processes sound, visual recognition such as faces and plays a role in understanding and giving meaning to language (e.g. listening to music, giving a speech, communicating with different languages)
- **Occipital lobe:** Processes vision, distinguishes colour, and processes motion
- **Amygdala:** Plays an important role in emotions and behaviour (e.g. feeling happy, relaxed, scared). It signals the body when there is a threat in the environment

Resource: Digital Brain Puzzle Slide (in Classroom Slide Deck, Module 3)



Prompt: Can you draw the brain with its different lobes? What is something you didn't know about the brain before you did this activity?

Resources:

- Digital MHL Journal
- Printable MHL Journal

Activity II - Growing a Brain

Purpose: Draw students' attention to how the brain changes as we grow and develop

Conceptual Connection: The brain adapts to the environment and changes over time



Watch the *Grow a Brain* video.

Resource: <https://youtu.be/q1op7mN-Ps4>



Digital Delivery: [Sample Jamboard Link](#)



Review a key example of brain development from the video with the students:

When a baby is hungry they cry for food. When a five year old child is hungry they can use their words to ask their caregiver for the kind of food they want. When an adult is hungry, they buy and cook their food.



Using the *Grow a Brain* student activity sheet, prompt students to create their own examples of how the brain might adapt over time.

Resources:

- Printable Activity Sheets
- Digital Activity Sheets



Digital Delivery: Moderate a whole group discussion (or a virtual think-pair-share using breakout rooms) of different ways our brains adapt over time. Capture ideas using a blank slide or Jamboard. Students can insert clipart into the boxes or use Google Drawings (or a similar tool) to create their own visual for each box and then add text below.



Prompt: Thinking about the other MHL characters, what are some ideas of how you imagine their brains may change or adapt as they grow up? What skills will they develop?

Resources:

- Digital MHL Journal
- Printable MHL Journal

Alternative Activities

Draw a Brain

Using a YouTube video or step-by-step guide, draw a picture of the brain. Label the parts of the brain. Through an internet search (that can be completed when computers are available or at home) students are responsible for finding out functions of the major parts of the brain (frontal lobe, parietal lobe, occipital lobe, cerebellum, temporal lobe, brain stem and amygdala).

Sample drawing activities:

- How to draw the human brain | Easy step-by-step tutorial <https://youtu.be/GmYzO7MiUnI>
- How to draw a brain (easy) <https://youtu.be/wIBFsAzhXWg>

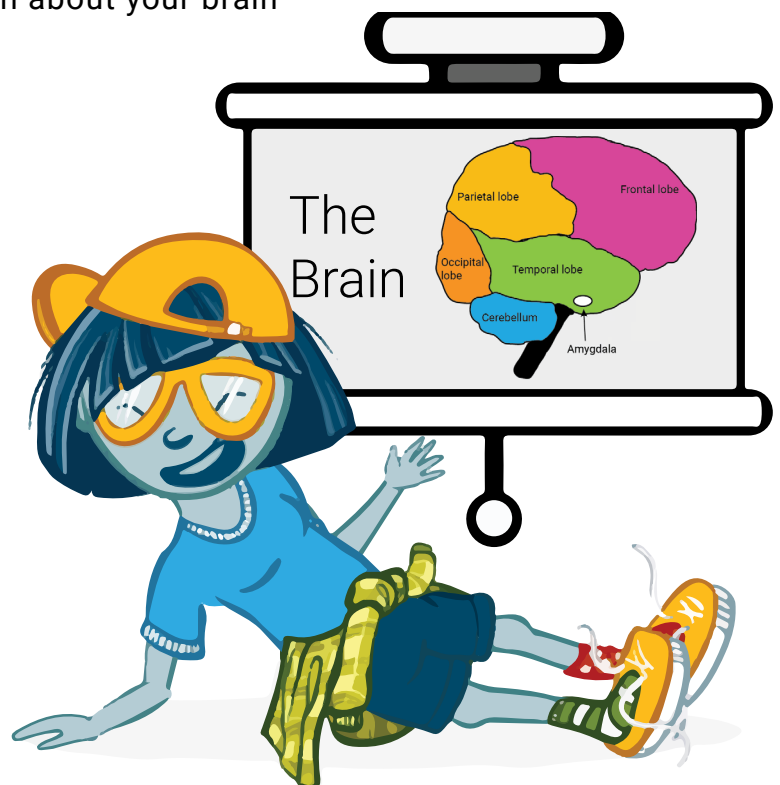
Brain Fun Facts Videos

Watch videos about the brain that teach fun facts. After each video, teachers can review and students can record the facts in their MHL journals. Sample brain fun facts videos:

- Sentis: How the brain works <https://youtu.be/XSzsI5aGcK4>
- LearnStorm Growth Mindset: The truth about your brain <https://youtu.be/rf8FX2sI3gU>

Slideshow

Students create a slideshow to share their own examples of how the brain might adapt over time.



Alternative Activities

The Brain Game

Fun facts review! In this Jeopardy-style game, students demonstrate their learning about the brain. The class is divided in half. A 5 x 5 grid is drawn on the board and squares are labelled 1 to 25. On a separate piece of paper, the teacher has a 5 x 5 grid with point values for each square (higher point values are more fun - 300, 400, 500, etc.). One team chooses a square between 1 and 25. The game show host (teacher) asks a skill-testing question that the team must agree on to answer (e.g. what are two functions of the brain?). If the answer is correct, the team gets the point value on the points card the teacher is holding. This game can also be used for different topics throughout the unit, or as a celebration of learning at the end of the EMHLR.



Alternative Activities

Mini 3D Brain

Choose plasticine, modelling clay, styrofoam balls, tennis balls, walnuts or other mediums. Use toothpicks to label and describe brain functions. Or, modify a hockey helmet or similar with paper, paint, toothpicks, labels, etc. to demonstrate parts of the brain.

Create a Rap, Chant, Story or Skit

Or... some other imaginative way of showing how the brain changes over time! Students might choose to perform their creative responses for the class, or record them on Flipgrid to share with others.

Create Your Own Movie-Maker, iMovie, Google Slides or Claymation Video

Write and produce a video explaining how the brain changes over time (e.g. the brain learns new skills over the course of development).



Appendix C

Module 3 Brain Puzzle Answer

