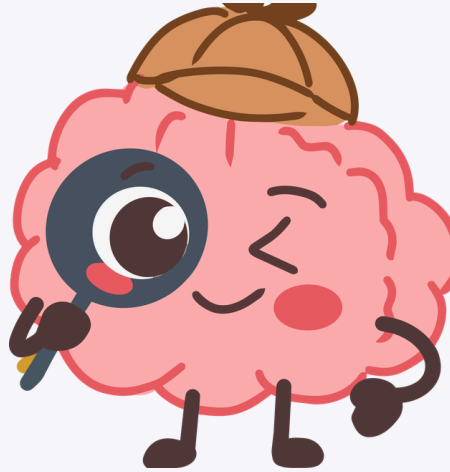


THE BRAIN DETECTIVE

Can You Solve the Mysteries of the Brain?



WATCH • INVESTIGATE • DISCOVER

HEADQUARTERS CASE FILE

Junior Detective: _____

Date Assigned: _____ **Grade:** _____

*This activity works with the video at this URL:
<https://epilepsyweb4kids.ca/what-is-the-brain/>*

Welcome to Brain Headquarters! Before we solve mysteries, you need to know how your control centre works. Answer the questions below to unlock your detective credentials.

1. Where is your brain located and what protects it?

- | | |
|--|---|
| ☐ Inside your chest, protected by ribs | ☐ Inside your skull (cranium), protected by bone |
| ☐ In your stomach, protected by muscles | ☐ In your spine, protected by fluid only |

2. What is the main job of the Cerebellum (located at the back of your brain)?

- | | |
|---|---|
| ☐ Digesting your lunch | ☐ Balance, coordination, and smooth movement |
| ☐ Controlling your hair growth | ☐ Storing your phone numbers only |

3. True or False: Your brain is divided into two halves called hemispheres.

- ☐ **TRUE** — The Left and Right Hemispheres control opposite sides of the body!
- ☐ **FALSE** — The brain is one solid sphere with no divisions.

4. How does the brain send messages back and forth to the rest of your body?

- | | |
|---|--|
| ☐ Through tiny sound waves in the air | ☐ Through nerve cells called neurons via electrical signals |
| ☐ By pumping extra blood to your fingers | ☐ It doesn't — the body works totally on its own |

**DETECTIVE BRAIN FACT!**

Your brain contains about **86 billion neurons**! If you lined up all the neurons in your brain end-to-end, they would stretch about 600 miles (965 km)!

Read each everyday mystery. Identify which specialized brain region is responsible for solving the problem!

 CLUE CARD 1: The Wobble Mystery

"Sam is riding his bicycle down the path. Suddenly, he hits a small bump! Without even thinking, his body makes micro-adjustments so he doesn't fall over."

Which brain part is keeping Sam balanced?

- ☐ A) Occipital Lobe ☐ B) Cerebellum ☐ C) Brain Stem

 CLUE CARD 2: The Hot Omelette

"Maya accidentally touches the edge of a hot frying pan. Before she even feels the pain, her hand snaps backward in a fraction of a second!"

Which lobe processes touch and temperature signals from her skin?

- ☐ A) Parietal Lobe ☐ B) Temporal Lobe ☐ C) Frontal Lobe

 CLUE CARD 3: The Familiar Voice

"Leo hears someone call his name in a noisy hallway. He immediately recognizes his best friend's voice and remembers their playdate."

Which lobe processes hearing and facial recognition/memory?

- ☐ A) Cerebellum ☐ B) Temporal Lobe ☐ C) Occipital Lobe

 CLUE CARD 4: The Fast Pass

"During a soccer game, Chloe spots a black-and-white ball flying toward her through the air. She calculates where it will land."

Which lobe at the back of the brain processes visual information?

- ☐ A) Occipital Lobe ☐ B) Frontal Lobe ☐ C) Brain Stem

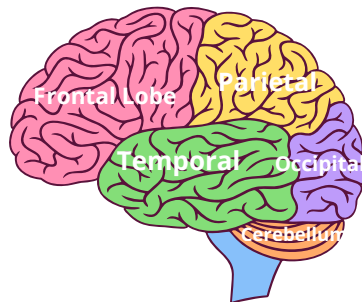
 CLUE CARD 5: The Project Planner

"Alex has a big science poster due Friday. He breaks the work into 3 steps, sets a timer, and decides to work for 20 minutes."

Which region handles planning, decision-making, and self-control?

- ☐ A) Parietal Lobe ☐ B) Brain Stem ☐ C) Frontal Lobe

Examine the brain map diagram below. Draw a line connecting each **Brain Lobe** on the left to its correct **Superpower Function** on the right!

**BRAIN LOBE****1. Frontal Lobe**

(Front region)

2. Parietal Lobe

(Top middle region)

3. Temporal Lobe

(Side region near ears)

4. Occipital Lobe

(Back region)

SUPERPOWER FUNCTION**A. Vision & Sight**

Processes shapes, colours, and movement.

B. Thinking & Planning

Handles problem-solving, emotions, and decisions.

C. Touch & Temperature

Feels heat, cold, pressure, and pain.

D. Hearing & Memory

Understands language and recognizes faces/sounds.

★ BONUS DETECTIVE QUESTION:

What connects the brain to the rest of the body and controls automatic survival jobs like breathing and your heartbeat?

Answer: _____

When you touch something hot, your nervous system works super fast! Unscramble the 5 steps below to show the exact path a neural message takes. Write numbers 1 through 5 in the correct boxes.

SCRAMBLED STEPS (Out of Order):

-  **Step A:** The brain processes the information and decides "TOO HOT!"
-  **Step B:** Sensory nerve receptors in the skin detect intense heat from the pan.
-  **Step C:** Motor nerves send an urgent message back down to muscle fibers.
-  **Step D:** Arm muscles contract instantly and pull the hand away safely!
-  **Step E:** Electrical signals zoom up sensory neurons through the spinal cord toward the brain.

WRITE THE CORRECT LETTER (A, B, C, D, or E) FOR EACH STEP:

#1 First Step (Trigger): _ _ _ _
The event that starts the entire reaction.

#2 Second Step (Signal Sent Up): _ _ _ _
Message travels up the highway of the nervous system.

#3 Third Step (Brain Headquarters): _ _ _ _
The brain analyzes what is happening.

#4 Fourth Step (Command Sent Down): _ _ _ _
Brain issues an emergency instruction to move.

#5 Fifth Step (Action Reaction): _ _ _ _
The body carries out the motion to protect itself.

Just like a detective keeps their tools in top shape, you must keep your brain healthy! Learn about the 6 Brain Super-Habits below and answer the reflection questions.

**1. Sleep 9–11 Hours**

Clears brain waste & organizes memories from the day.

**4. Exercise Daily**

Increases blood flow and fresh oxygen to the brain.

**2. Nutritious Food**

Fuel with water, berries, nuts, and leafy green veggies.

**5. Read & Learn**

Builds strong new neural connections every single day.

**3. Wear a Helmet**

Protect your skull during biking, skating, and sports.

**6. Do Puzzles**

Challenges problem-solving skills and boosts memory.

**DETECTIVE REFLECTION LOG**

1. Which brain-healthy habit do you already do really well?

2. What is ONE new brain habit you want to practice this week?

Test your knowledge to complete your detective training! Select the correct answer for each question.

1. What is the basic messaging cell of the nervous system called?

- ☐ A) Neuron ☐ B) Muscle ☐ C) Cranium

2. Which brain lobe handles sight and visual processing?

- ☐ A) Frontal ☐ B) Occipital ☐ C) Temporal

3. What is the main job of the Cerebellum?

- ☐ A) Hearing music ☐ B) Balance & coordination ☐ C) Digestion

4. How many hours of sleep should kids get each night to refresh their brain?

- ☐ A) 4–5 hours ☐ B) 9–11 hours ☐ C) 15–18 hours

5. What hard bone protects your brain from injury?

- ☐ A) Skull / Cranium ☐ B) Ribcage ☐ C) Vertebrae



OFFICIAL CERTIFICATE

THIS CERTIFIES THAT

HAS SUCCESSFULLY SOLVED ALL MYSTERIES AND IS NOW A CERTIFIED



MASTER BRAIN DETECTIVE





**SCAN THE QR CODE FOR THE
ANSWER KEY!**