

Lesson Plan

NEUROHEADWAY

Neuroscience Into Education

LESSON PLAN: The Science of the Brain

WHAT ARE THE STUDENTS GOING TO LEARN TODAY? Learners will begin to understand how the brain and nervous system work and how these physical functions can affect/promote health and wellbeing

WHY DO THE STUDENTS NEED TO LEARN THESE TOPICS TODAY? Learning how the nervous system works will create a stronger understanding of how important physical brain function is

ASSESSED LEARNING OUTCOMES: 1) Identify the different parts of the brain and nervous system 2) Be able to discuss why brain and nervous system function are important to health and wellbeing

Hour One

TIME	CONTENT	TEACHER ACTIVITIES	LEARNER ACTIVITIES	ASSESSMENT METHODS	RESOURCES REQUIRED
2 minutes		Registration	Settle into classroom environment		
8 minutes	Slide 1- 4 The Brain	Introduce the topic Discuss the points raised in 2nd slide. Ask learners to list or describe what they think the brain/nervous system is and does. Write answers on Whiteboard as list or spider diagram	Ask questions, make observations	Group discussion Learner feedback Assess Prior Learning	Power Point Projector White board, Markers
2 minutes	Animation: Left Brain/Right Brain	Play short animation	Watch animation		

6-8 minutes	Slide 5 – 10	Restart presentation explaining the content. Add to the Whiteboard list/Spider diagram	Ask questions, make observations	Observation, discussion	
10 minutes	Activity	Handout Worksheet #1 on The Brain	Fill in worksheet, refer to the whiteboard	Worksheet	Handout materials, pens and paper
6-8 minutes	Slide 11 – 14 Neurons	Restart presentation. Start a new List/Spider Diagram adding to it from Slides	Ask questions, make observations		
	Activity	Split cohort into pairs, handout Worksheet #2 on Neurons	Paired Group activity in ongoing assessment	Observation, learner feedback	Handout materials, pens and paper

Hour Two

TIME	CONTENT	TEACHER ACTIVITIES	LEARNER ACTIVITIES	ASSESSMENT METHODS	RESOURCES REQUIRED
2 minutes		Registration	Settle into classroom environment		
8 minutes		Recap the previous session Use the Whiteboard to list Bullet points and prompts	Ask questions, make observations	Group discussion Learner feedback Assess Prior learning	Power Point Projector White board, Markers
6-8 minutes	Slide 15 – 17 Neurons continued	Restart presentation explaining the content. Add to the Whiteboard list/Spider diagram		Observation, discussion	

10 minutes	Activity	Ask learners to add to the List/Spider Diagram on Whiteboard	Learner led participation	Observation Discussion	
	Slide 18 - 30	Restart presentation. Start a new List/Spider Diagram adding to it from Slides	Ask questions, make observations		
	Activity	Split cohort into pairs, handout Worksheet #3 on Neurons	Paired Group activity in ongoing assessment	Observation, Learner feedback	Handout materials, pens and paper

Power point Example

NEUROHEADWAY

Neuroscience Into Education

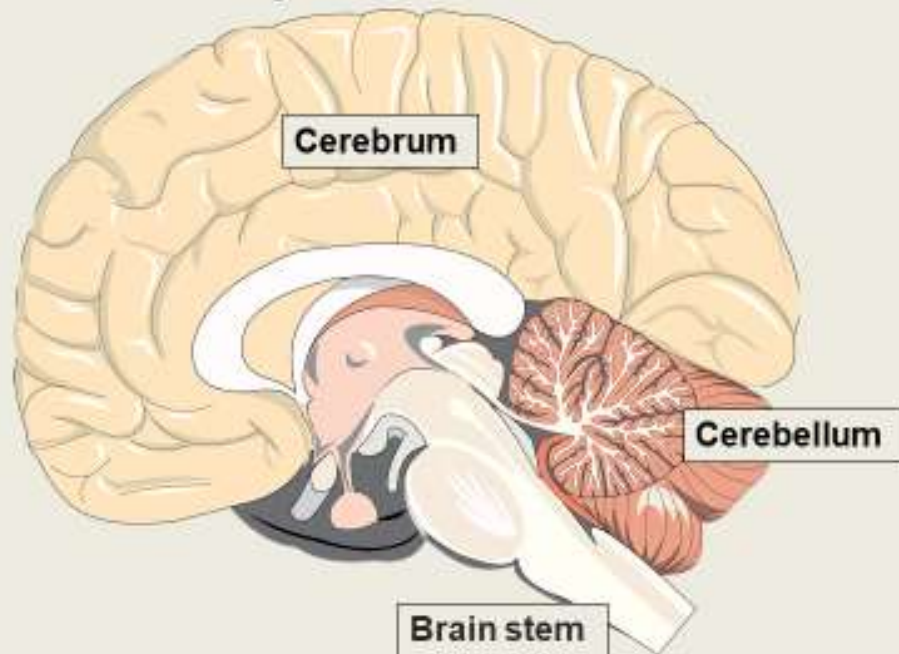
Are you curious about

- How we see and hear
- How we learn and forget
- How we feel joy and sadness
- How we move

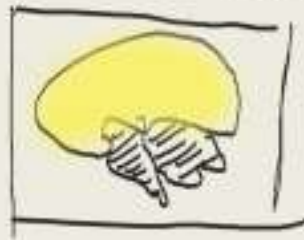
To understand this, we have to understand
how the **BRAIN** works!

→ The **BRAIN** is part of the **NERVOUS
SYSTEM**

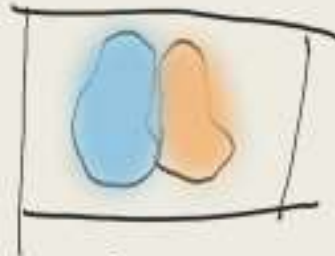
Let's have a closer look
at your brain!



Left Brain/ Right Brain



A



B



C



D



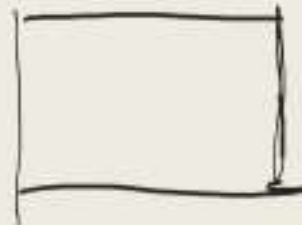
E



F



G



H



I

Let's find out more about our brain!
Here's the weight of a human brain:

- Newborns: 350-400 g
- Adults: 1.2-1.4 kg
- Women: approx. 1200g
- Men: approx. 1330 g

(And no, the weight doesn't make you smarter !!!)

Brain weight of animals

- Sperm whale: 7800 g
- Elephant: 4800 g
- Walrus: 1100 g
- Giraffe: 680 g
- Gorilla: 500 g
- Grizzly bear: 240 g
- Pig: 180 g
- Dog: 70 g
- Cat: 30 g

Let's play a little
game:

Who has the heavier
brain compared to
the human brain?

Compared to other mammals, we have
a relatively big brain!

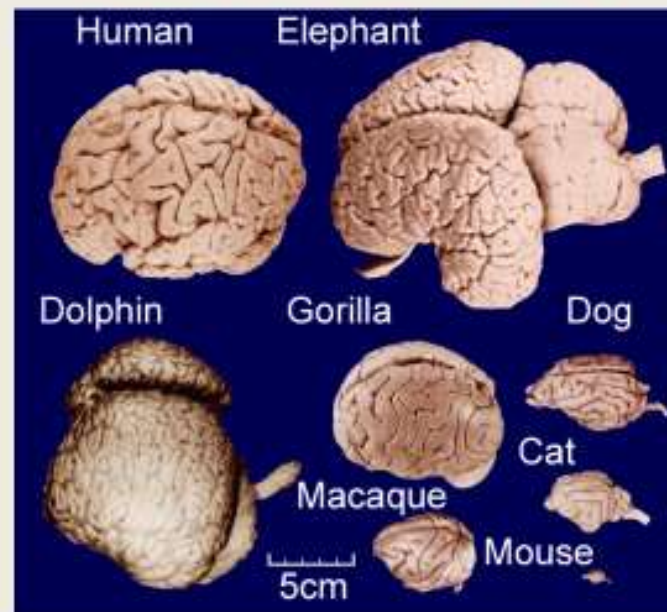


Image Brain Collection © University of Wisconsin, Madison

What does the brain consist of ?

The brain's material content is:

- Water: 68-80%
- Fat: 5-10%
- Protein: 10-11%

This does not sound like much, does it !?

Let's look at the brain from a different point of view!

The brain consists of :

- 86 billion neurons (nerve cells)
- And another 86 billion non-neuronal or glial cells (which surround the neurons)

This is pretty amazing, and this means it is very crowded in your brain!!!