**IPC Brainwave Unit - The Art of Learning**

**Learning Goals**

3.01 Know about some of the recent evidence and research into the brain and learning

3.02 Know about some of the different areas of the brain and their function

3.03 Understand the different ways that they can learn

3.04 Understand how they can improve their learning and their attitudes to learning

3.05 Understand the importance of cooperation and global awareness in their learning

[Use this Google Slide alongside planning](https://docs.google.com/presentation/d/1xWr36HUPlOdQjXTMuxZapj5vvt2p8DwHxAtLgH_ZL8A/edit?usp=sharing)

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| **Lesson** | **Warm-up** | **Main Teaching** | **Activity/Assessment** | **Plenary** | **Resources** |
| **Monday**  **KNOWLEDGE HARVEST** | Read out these [statements about the brain](https://docs.google.com/a/britishschool.g12.br/document/d/13Yx74QUnZa_MevM0LGJ3jV6mZIu9x_SKBcnxHn8OMp8/edit?usp=sharing). Children discuss in pairs whether or not they think these statements are true. | Point out that all these statements were false. Discuss the reasons why.  Explain to them that knowing about the brain can help each of us to learn much better, which is why we will be doing this unit of work.  Then explore the three stages of learning: Knowledge – Skills – Understanding.  What is knowledge?  How do we gain knowledge?  Why might knowledge be important?  What are skills?  How might we develop them?  Why is practice important? | Complete the KWL in their exercise books  Elicit simple definitions:  Knowledge (Things I know)  Skills (Things I can do)  Understanding (How my knowledge and skills can be used)  **Knowledge + Skills = Understanding**  Ask students to record examples of the three stages, e.g:  **Knowledge**– internet, books, interviews, talks, slideshows, DVDs, newspapers, artefacts, documentaries, paintings, quizzes, tests, etc.  **Skills**– doing it, practice, modelling, assessment rubrics, workshops, sports clubs, tutoring, etc.  **Understanding**– reﬂecting, debate, role-play, teaching others, solving puzzles, challenges, exit point celebrations, etc.  These examples can be added to a knowledge harvest display. Establishing these definitions will help children to identify the types of learning that are taking place in the different subject areas of the IPC units. | How do you feel about mistakes? Are they good?  Neuroscientists have studied the brain and made two important discoveries.  Some people give up when they make a mistake. They shut down and stop trying so their brain gets lazy.  Other people focus on learning when they make a mistake. They decide to try harder next time so their brains grow stronger.  ClassDojo - Growth Mindset Video  [The Magic of Mistakes](https://ideas.classdojo.com/f/growth-mindset-2) | Read out these [statements about the brain](https://docs.google.com/a/britishschool.g12.br/document/d/13Yx74QUnZa_MevM0LGJ3jV6mZIu9x_SKBcnxHn8OMp8/edit?usp=sharing). Children discuss in pairs whether or not they think these statements are true. |
| **Lesson** | **Warm-up** | **Main Teaching** | **Activity / Assessment** | **Plenary** | **Resources** |
| **Tuesday**  **ENTRY POINT** | Discuss what children think brains look and feel like.  Show children the Brain dissection video:  <https://www.youtube.com/watch?v=OMqWRlxo1oQ> | As children will be taking on the role of scientists, explain that they will be looking at and observing cow brains. Explain that cow brain look and feel very similar to human brains. | After looking at and observing the cow brains, children should draw a picture of the brain their exercise book and write down their observations using a spider diagram. In the middle of the spider diagram, students should write ‘The Brain’ and around the outside, they should write as many adjectives to describe the brain as possible.  Then, students should write answers to these questions:   1. Why do you think the brain is wrinkly? 2. Why is the brain pink? 3. Why do you think the brain is found inside the skull? | Sign into Discovery Education:  Username: student70703  Password: brazil  Read and discuss this [news article](https://central.espresso.co.uk/espresso/primary_uk/subject/news/article/item838299/grade2/index.html?source=search-all-all-all-all&source-keywords=brainwaves) about the idea with the students about downloading their brain onto a computer. |  |
| **Lesson 1** | **Warm-up** | **Main Teaching** | **Activity / Assessment** | **Plenary** | **Resources** |
| **Wednesday**  LO: Know about some of the recent evidence and research into the brain and learning | Children work in pairs to discuss the statement: “The brain is like a computer.”  They then watch the video, [Are Brains like Computers?](https://youtu.be/rjnRiEaud0Y) | Elicit from the children some similarities and differences between brains and computers, e.g.:  Both brains and computers use electrical signals. Electrical signals in the brain pass along neurons. Electrical signals in the computer pass along wires. | Draw and complete a table in their exercise books, which shows the similarities and differences between brains and computers. | Go over the children’s table. | Computers |
| **Lesson 2** | **Warm-up** | **Main Teaching** | **Activity / Assessment** | **Plenary** | **Resources** |
| **Thursday**  LO: Create a digital portfolio folder in the Google Drive | Draw a comparison between the fact that the organisation of information in the brain, in which similar ideas are grouped together, is comparable to how the folder storage system is organised in a computer.  Explain that this is why we have folder organisation systems on computers, to help us to quickly find and recall information - similar to how our brain groups similar ideas together! | Explain to the students that they will create a digital portfolio folder on their Google Drive and will share this with their teacher.  Show students this [**tutorial video, to help get them started**](https://youtu.be/7rAoJr4zydc).  **Please share with students a template table in which they can insert their QR code image.**  **(Note: Here is the** [**teacher version of this video**](https://www.youtube.com/watch?v=YQRJSVY1C74))**)** | Students work independently to create their digital portfolio folders and QR code images. | Check all children have made their digital folders. | Computers  Video |

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| **Lesson 3** | **Warm-up** | **Main Teaching** | **Activity / Assessment** | **Plenary** | **Resources** |
| **Friday**  LO: To know about different areas of the brain and their function | Show students the BrainPop video about the brain:  <https://www.brainpop.com/health/bodysystems/brain/>  Discuss key ideas from the video and introduce the fact that children’s learning takes place in the brain.  Then show students the video of a man in France who is missing 90% of his brain but functioning normally:  <https://youtu.be/_oXoMYJIvJ4> | Discuss with the children the folds of the cortex. Show them an opened sheet of a broadsheet newspaper and point out that, if opened out, the brain that is squashed into their skull would be that size. | Students should copy and complete the explanations about the brain, filling in the missing words:  The brain is about the size of a ***(grapefruit)***  The left-hand side of the brain controls the ***(right-hand side)*** of the body and vice-versa, and that the two halves are connected by a group of fibres  The ***(brain-stem)*** is the part of our brain that we share with all creatures, even the smallest of insects  The ***(cortex)*** is the part of the brain where we do all of our thinking  ***(Neurons)*** are the individual cells of the brain  The brain is ***(soft)*** and is protected by the ***(skull)***  Extension activities:  Use the website to research about the brain.  <http://www.childrensuniversity.manchester.ac.uk/learning-activities/science/the-brain-and-senses/the-brain/>  Students should record key notes about the brain in their exercise books.  Students to work in pairs to find pictures of the brain using the Internet. They should put together a Google Slide and label all images. | Ask students to report on what they have found out and discuss it with them. | Computers |

For additional activities, use Chromebooks or the computer lab and ask students to complete the [Brainwave activities available on our Classroom Flipped website](http://classroomflipped.com/topic_class3_topic1.php?title=Brainwaves&class=Class+3).