VCE Psychology at Melbourne Museum

Unit 1 2016-2020 VCE Study Design – student trail

# **Information for teachers**

**This student-led trail covers content from Unit 1 of VCE Psychology:**

**Area of Study 1 – How does the brain function?**

* **Role of the brain in mental processes and behaviour**
* **Brain plasticity and brain damage**

**Area of Study 2 – What influences psychological development?**

* **Atypical psychological development**

**Students will use The *Mind* exhibition at Melbourne Museum to complete the trail. The trail includes activities based around themes covered in the study design. They do not represent a comprehensive coverage of all of the material relevant to Unit 1 in the galleries, but a selection of those exhibits most relevant. The trail is organised in order of location as the students walk through the The *Mind*.**

**Please note, the Human Body exhibition is now closed, and is no longer available.**

**Depending on your learning intention, or duration of visit, you may like to edit the document for your class. The following suggestions are not exhaustive, but may help focus your students:**

* **Select certain activities to focus on limited themes and content in line with the students current areas of study**
* **Give students classroom time prior to visiting to self-select a limited number of activities, or focus on just one for deeper inquiry**
* **In groups, students may be allocated one activity/theme to present back to the class.**

**We recommend familiarising yourself with the trail prior to your class excursion. Visiting the galleries before the excursion will also assist you in directing your students.**

**VIT registered teachers can get into Melbourne Museum free of charge by subscribing to MV teachers:**

<https://museumsvictoria.com.au/learning/mv-teachers-network/>

# Gallery Floor planPsychology Timeline

Work Station Site

Timeline table at the entrance to the *Mind* gallery.

Choose one key event from each time period on the timeline below.

Why did you choose it? Why is it important?

2000

1950

1900

1800

1300

5000BCE

# The Brain and Nervous System



Work Station Site

Entrance to the *Mind* gallery

1. Observe the wall of twinkling lights at the entrance of the gallery.

What do you think the lights represent?

1. How accurately does this represent our nervous system as we know it today?

Record your thoughts in the table below:

| Similarities | Differences |
| --- | --- |
|  |  |
|  |  |
|  |  |

Enter the gallery to view information panels and interactives regarding brain and nerve cell function

1. Label the following parts on the diagram below:



* Dendrite
* Cell body
* Synapse
* Synaptic gap
* Axon
1. Look at the New Scientist interactive located on the wall. Locate the regions of the brain responsible for the following activities and mark them in on the diagrams by shading the appropriate areas.

| Vision | Brain | Sound | Brain |
| --- | --- | --- | --- |
| Speech and language | Brain | Touch | Brain |
|  Decisions | Brain | Social interactions | Brain |

## Watch the video animation:

## After six months the foetal brain contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_nerve cells or neurons.

1. What does it mean when they say that neurons migrate to locations in the brain?

1. How are neural connections strengthened and what causes connections to die off?

…………………………………………………………………………………………………………

## Write a key feature of brain development in each of the following stages of life:

| **Stage of development** | **Brain development** |
| --- | --- |
| Childhood |  |
| By the age of two |  |
| Adolescence |  |
| Adulthood |  |
| Old age |  |

## Is it true that we only use about 10% of our brain? Explain.

1. What is plasticity of the brain?

# Normal and Abnormal Behaviour

Work Station Site – Various locations

Look at the information about treating abnormal behaviour in *The Mind* Exhibition, by visiting the locations indicated on the map



1. If behaviour is defined as an observable action made by a person, how would you define abnormal behaviour?

2. Some abnormal behaviour can be treated. List and explain how three treatments are administered.

|  |  |
| --- | --- |
| **Treatment** | **Method of giving the treatment** |
|  |  |
|  |  |
|  |  |

3. How has an understanding of the brain influenced the treatment of mental disorders?

# Gallery floor planHuman Emotions

Work Station Site

Enter the area behind the Human Emotions wall and watch the video clips.

Complete the table below for the video clips shown on the ‘Human Emotions’ screen.

|  |  |  |  |
| --- | --- | --- | --- |
| Video Segment | What emotion did youExperience? | What cues were used to evoke emotion? | List other ‘cues’ from yourday to day life that would evoke the same emotions |
| Laughter |  |  |  |
| Scream |  |  |  |
| Dogs |  |  |  |
| Vomit/maggots |  |  |  |
| Bullying |  |  |  |
| Crying people |  |  |  |

# Gallery floor planDrugs and the Brain

Work Station Site

The wall to the right of the *Human Emotions* video wall.

1. These men in this photo are using two drugs – what are they?



Next to the men relaxing in the backyard in Bendigo, you will find a television screen. Watch the video clip on the television screen.

1. Describe how addictive substances work:
2. Which neurotransmitter is involved?

# Gallery Floor planUnderstanding the brain

Work Station Site

Locate the brain and skull specimens on the “Differences” wall, and continue around the corner to the EEG.

1. What has happened to the brain in the following conditions

(Please note: specimens are currently off display, but the content to answer the questions is still in the gallery):

Haemorrhage after an aneurysm:

Senile atrophy:

Neurosyphilis:

1. Alzheimer’s disease is the result of a genetic condition that causes:
2. How are the neurons in the brain of an Alzheimer’s sufferer affected?
3. The effects of Alzheimer’s disease include:

Suggest three ways you could stimulate the brain to build reserves of brain cells and improve brain cell connections:
1.

2.

3.

Anaesthesia is a state in which consciousness is reduced to decrease the sensation of pain. Anaesthetics exert their effect on the nervous system.

1. How do anaesthetics work?
2. What other sorts of medicines effect the central nervous system?

1. How long have anaesthetics been available?
2. Imagine what it would have been like to have an operation without anaesthetics. Why would you willingly allow a doctor to operate on you without anaesthetic?

# Gallery Floor planMental Health Case studies

Work Station Location

Enter a booth in the *Being: Identity and Interaction* section and listen to one of the personal stories.

Select and name one condition to focus on for your investigation

1. Condition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Explain how the condition affects the human body or how it manifests itself.
3. How do the symptoms affect the day-to-day lives of people who have this condition?
4. What do these accounts say about the stigma associated with unusual mental conditions?
5. In each case, talking to somebody else was important. Why was this the case in the story that you listened to?