

# PERCEPTION•LEARNING•MEMORY

## PSYCHOLOGY TRAIL

Your amazing brain @Bristol

Name \_\_\_\_\_

School \_\_\_\_\_

You can visit the exhibits in this trail in any order

You can use the exhibits individually or in small groups

Use the key below to help you



Use this exhibit



Write down your answer here



What do you think?

# PERCEPTION•LEARNING•MEMORY

## Teachers information

This trail is designed for psychology students to help focus and structure their educational visit to Explore At-Bristol.

The trail is suitable for GCSE and AS/A2 Level students.

Closely linked to the main exam boards schemes of work, topics covered include:

Cognitive psychology

Physiological psychology

Social psychology

Individual differences

Your amazing brain is located on the ground floor of Explore-At-Bristol.

The trail should take approximately 45 minutes – 1 hour.

The exhibits can be visited in any order by individuals or small groups.

Enjoy your visit.



# Go to 'Brain at work' section

## MAP YOUR BRAIN

Use the touch screen exhibit to find out which areas of your brain do which job.



Press start then follow the instructions on screen.



Draw arrows to the parts of the brain responsible for:

**Hearing**

(Auditory cortex)

**Remembering**

(Hippocampus)



**Moving your hand**

(Motor Cortex)

**Seeing**

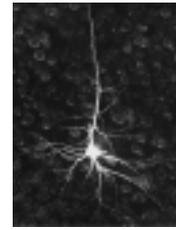
(Occipital Lobe)



What do you think 'localisation of function' means?

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## FIRE A NEURON



Go to the giant neuron near the giant brain.



Your brain is made up of a complex networks of cells called neurons.



Push a button to fire the big neuron.

Can you make the lights at the top light up?  Yes  No

What do you have to do to make them light?

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Try working as a team. What happens?

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Neurons must reach a threshold level before they fire. Why is this a good idea?

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## BRAIN MESSAGES



Find the information boards next to the giant brain.



Label the parts of the neuron

Cell body          nucleus          axon          myelin          synapse



Why do neurons have myelin?

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## Now move to 'Test yourself' section

### TRY YOUR PEOPLE SKILLS

Go to this touch screen exhibit and see if you can tell how someone is feeling just by looking at their body language.

Press **Start**.



Try the experiment called '**With others**'.

In the first example, what do you think the person on the left saying with their body?



I am bored

I am inferior

I am superior

In the second example, what do you think the person on the left saying with their body?



I find you attractive

I find you boring

I find you unattractive



Understanding body language is innate.

What does innate mean? \_\_\_\_\_

Why is understanding body language important in society?  
\_\_\_\_\_

## TRY THIS CHALLENGE

Go to 'Try this challenge' and take part in our experiment.



Press **start**.

Try experiment **2** on this exhibit.



What was your score?

\_\_\_\_\_

What was the average score of other people your age and sex?

\_\_\_\_\_

What number of dots was the easiest to count?

1-3

4-6

7-9



Do you think this is a good way to gather data? Why?

\_\_\_\_\_

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## MEMORY CHALLENGE



Go to the touch screen exhibit called 'Memory Challenge' and see if you are a good eye witness.

This exhibit lasts about five minutes. A group of people can watch together.



Watch the exhibit. Now answer the questions overleaf.



## MEMORY CHALLENGE



What colour was the woman's car?

black

blue

red

How many gunshots did you hear?

one

two

none

What was the robber wearing on his head?

wig

woolly hat

hood

How many questions on the exhibit did you get right?

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How did your friends do?

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Is eye witness testimony reliable? Why do you think this?

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Can you think of any factors that could prevent eye witnesses remembering properly?

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## Move to 'Super Senses' section

### INSIDE YOUR EYE



Find the giant eye and have a peek inside!



Why is your eye better than an expensive camera?

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Why is the image of the palm tree upside down?

- Our world is really upside down
- Images are projected through our lenses into our eyes upside down, but our brain reverses them
- The eyeball exhibit is upside down



Which area of the brain does information from the eyes go to?

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## Now go to 'Gregory's games'

### UNUSUAL FACE



Tick the true statements:

- Her nose sticks out
- The face is hollow
- This is an optical illusion
- Your eyes are tricking you
- Our brain is ignoring information from our eyes



Our brains have lots of experience of faces that stick out. Experience and prior knowledge can affect how our brain perceives images. What might be the advantage of this?

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# SHAPES FROM SHADOWS



Look at the exhibits on either side of the unusual face.



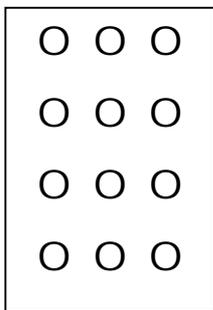
Can you tell if the bumps are sticking out or in?



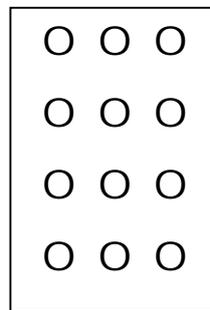
In our experience, light comes from the sun. We perceive objects as having shadows.

Above

Below



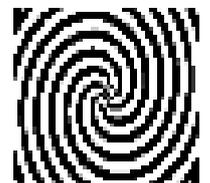
Shade in the shadows if the light is coming from **above**.



Shade in the shadows if the light is coming from **below**.

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## IN A SPIN – THE SPIRAL



Find the two 'In a spin' exhibits.

**Warning:** This exhibit may not be suitable for people with epilepsy.



Stare at the spinning disc on the right for 20 seconds.

Now stare at your hand.



What happens? \_\_\_\_\_

Why do you think this is?

- Your hand begins to spin
- Your brain gets dizzy
- Some brain cells get tired and different ones respond



How does this make you feel?

\_\_\_\_\_

## YOUNG OR OLD?



Find the optical illusions opposite the 'Unusual Face'.

Look at this image. How many different images can you see?



\_\_\_\_\_

Why can't you see more than one image at the same time?

- Your right eye looks at one woman, your left eye at the other
- We can only concentrate on the features of one woman at once
- It is impossible to see two women at once

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## INVISIBLE MAN



Stare at the man for 20 seconds. Then look at the wall.



What happens? \_\_\_\_\_

Can you really see the man again?  yes  no

Staring at the bright white areas of the picture tires out some of the light-sensitive detectors in your retina. Closing your eyes or staring at a white wall produces a negative after-image

Are there other exhibits that show this phenomenon?



\_\_\_\_\_

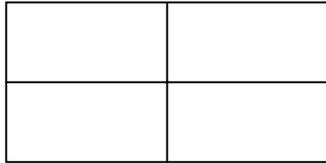
## AMES WINDOW

Find 'Ames Window' at the far back wall of 'Your amazing brain'.

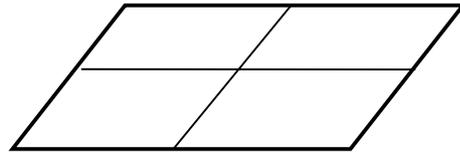


Close one eye and watch the window spin.

What shape is the window?



Rectangle



Trapezium



Which way does the window appear to spin?



Clockwise

Anticlockwise

It flips direction

Your brain is misled because the window is a strange shape – as if you were looking at a normal window at an angle.



Why does using both eyes interfere with the illusion?

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## Move to 'Brain Changes' section

### WHEN BRAINS WORK DIFFERENTLY



Touch the screen to start.

Select **More topics**

Choose either schizophrenia or stress and find out more



Name two symptoms of this disorder?

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What causes it? \_\_\_\_\_

Are there any treatments or cures?

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