

Escape the Museum



Escape the Museum

The class has had an interesting day at the National Museum of Evolution and Inheritance.

"Right everyone," says Mr Wood, "you've all been brilliant today so you've got an hour to freely explore the museum. It closes promptly at 6:00 p.m. so let's meet outside the front entrance at 5:45 p.m Got it?"

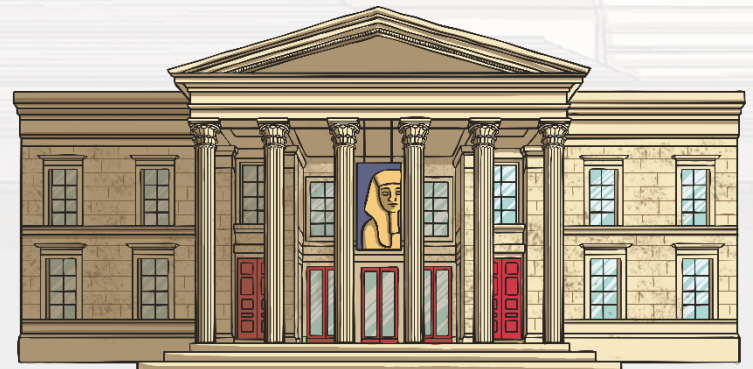
"Yes," everyone chants.

Jacob and Millie decide to return to the Alfred Wallace exhibition at the opposite end of the museum. They enter, gazing at the fascinating artefacts and pictures when they hear a loud noise. The door they entered through has just slammed shut, automatically locking itself. The pair try to make themselves known to museum staff but the building is eerily quiet and they realise they are the only people in the room.

"Look, here's a keypad!" shouts Jacob, pointing next to the door.

"We need to work out the code. The museum closes soon," replied Millie.

"OK, we can do this," says Jacob, calmly.



Escape the Museum

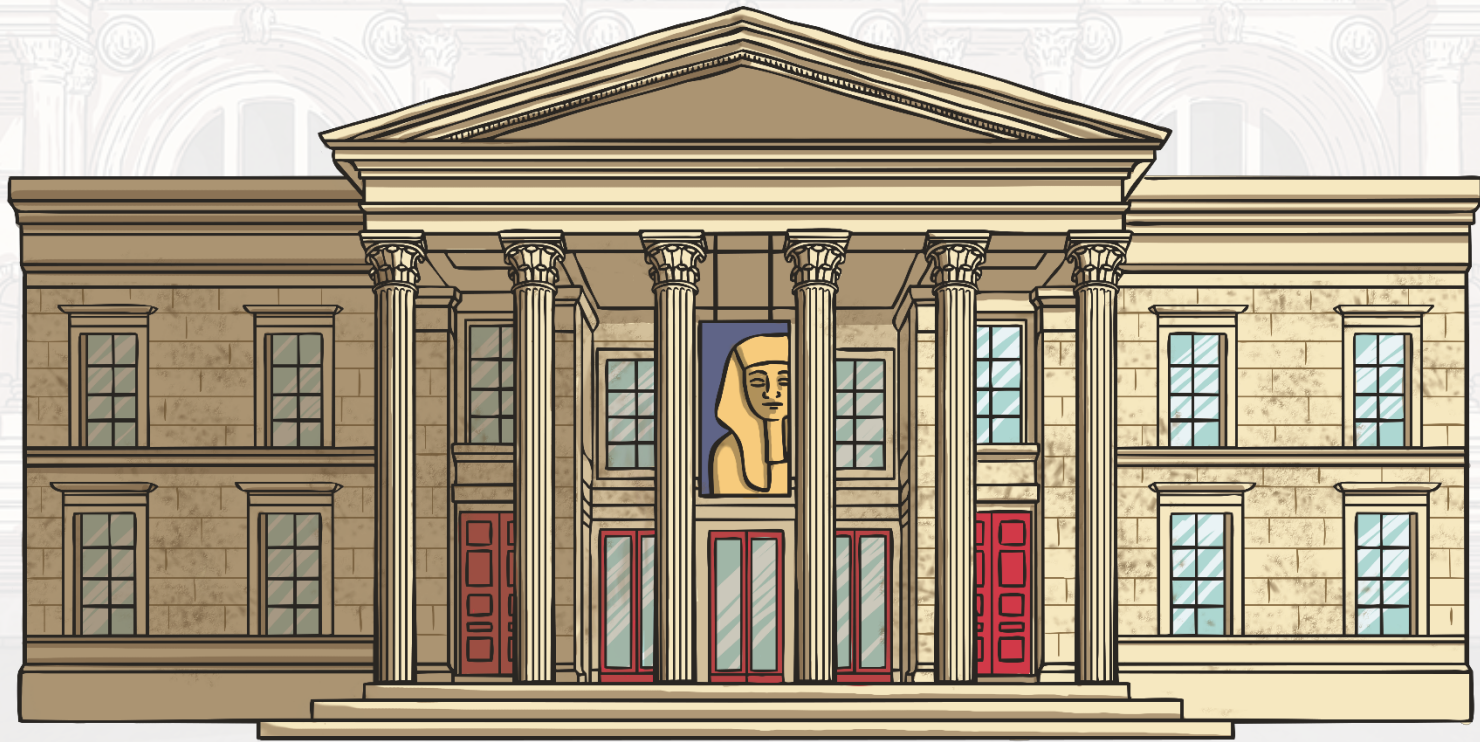
The Rules

- You can work in small groups.
- When you find a clue, work together to solve the puzzle.
- Write your answer down on your answer sheet.
- Once you have discovered the number for the keypad, check it with your teacher to discover if you can escape the museum.



Escape the Museum

Answers to the Clues

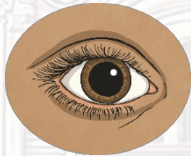


Escape the Museum – Clue 1

Which are inherited and which are acquired characteristics?

The number of inherited characteristics is the first digit on the keypad.

Inherited



natural eye colour



blood group



natural hair colour

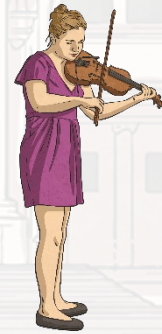


inherited diseases

Acquired



riding a horse



playing violin



hairstyle

The **first** digit on the keypad is four.



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Escape the Museum – Clue 2

Which of the following statements are true and which are false?

The number of true statements is the second digit on the keypad.

Camels have wide, flat feet to make it easier to walk in the sand.	True
Coral contains toxins which deter predators.	True
Ash trees have broad leaves to catch plenty of sunlight.	True
A toucan's claws are very strong and blunt to allow it to grip branches.	False
The cactus can store water in its stem.	True
Bats have good eyesight to enable them to see in the dark.	False

There are four true statements.

The **second** digit on the keypad is four.



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Escape the Museum – Clue 3

Who am I?

I was born in 1809. From a young age, I was passionate about studying living things. I trained to be a doctor but couldn't deal with all the blood. Instead, I studied plants and animals. At the age of 22, I travelled to the Galapagos Islands. It was there that I started to come up with my greatest theory: The Theory of Evolution. Evolution is the process of adaptation over a long period of time.

Mary Anning
Zhang Zhou
Alfred Wallace
Charles Darwin
Epicurus

The number of letters in my first name is the next digit on the keypad.

There are seven letters in Charles.

The **third** digit on the keypad is seven.



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Escape the Museum – Clue 4

Add the numbers of the correct answers to find the next digit.

Darwin discovered that humans and apes shared ancestors. Evolution happens over an extremely long period of time so we don't really notice it. There are small changes with each new _____. Evolution happens through inheritance.

- 1) decade 2) century 3) generation

Animals and plants evolve to make adaptations to not only survive but to survive better. Some of these changes are down to _____.

- 1) gender 2) habitats 3) age

Darwin studied different finches living in different parts of the Galapagos Islands and realised, even though they were different, they all had the same ancestors. Some had evolved to have larger _____ in certain areas and some had smaller ones in other locations due to different food being available.

- 1) feet 2) heads 3) beaks

$3+2+3=8$. The **fourth** digit on the keypad is eight.



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Escape the Museum – Clue 5

‘Survival of the _____’ means those that are most suited to their environment, as a result of their inherited or adaptive traits, survive while others do not.

1. strongest
2. biggest
3. fittest
4. tallest
5. fastest
6. smallest

The number of the correct answer is the next digit for the keypad.
The answer is number 3, fittest.

The **fifth** digit on the keypad is three.



3

Escape the Museum – Clue 6

The letters in the orange boxes spell the next number on the keypad.

The process whereby certain inherited and adaptive traits allow living things to survive and reproduce while others become extinct is called what?

n	a	t	u	r	a	l	s	e	l	e	c	t	i	o	n
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

What preserved remains are used as evidence to support the theory of evolution?

f	o	s	s	i	l	s
---	---	---	---	---	---	---

Which part of an animal is most likely to be fossilised?

b	o	n	e	s
---	---	---	---	---

Many living things, such as soft-bodied animals and most types of plants, have very incomplete records and fossil finds are very _____.

r	a	r	e
---	---	---	---

The **sixth** digit on the keypad is nine.



9

Escape the Museum – Clue 7

Match the words to the definition. There is one word left without a definition. The number of letters in this word is the seventh digit on the keypad.

evolution		The helpful changes, which occur through natural selection, in a species that allow it to survive in a changing environment.
adaptation		The children or young of a person or animal.
inheritance		The gradual change in the characteristics of a population of animals or plants over a number of generations.
offspring		The passing of genetic characteristics from parents to offspring.
species		

The word 'species' has no definition. It has seven letters.

The **seventh** digit on the keypad is seven.



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Escape the Museum – Clue 8

Put these images in chronological order. The number of letters in the second part of the name of the fifth image is the keypad digit.

Earliest



Ardipithecus
ramidus
4.4 mya



Australopithecus
afarensis
3.9 – 3.0 mya



Australopithecus
africanus
2.8 – 2.5 mya



Homo
habilis
2.5 – 1.6 mya



Paranthropus
robustus
1.9 – 1.0 mya



Homo
neanderthalensis
300 000 – 30 000 ya



Homo sapiens
200 000 ya

The fifth image is 'Paranthropus robustus'. Robustus has eight letters.

The **eighth** digit on the keypad is eight.



8

Escape the Museum – Clue 9

How many of these statements are true? This is the final digit on the keypad.

All living things have a similar number of adaptations.	False
It is rare that an adaptation will have a completely positive or negative effect on the organism. True - e.g. a giraffe's adaptive trait is a long neck. The advantage of this is that it can eat leaves from tall trees. The disadvantage is that it makes it vulnerable to attack when drinking water.	True
Selective breeding (or artificial selection as it is sometimes referred to) involves humans deliberately breeding plants and animals to produce particular characteristics and therefore producing a new species e.g. sheep with thicker coats and wheat that produces more grain False - Selective breeding produces new varieties of an existing species, not new species.	False
Humans breed plants and animals to produce organisms with particular characteristics. This produces a new species. True – For example, a Poodle and a Labrador mate to produce a Labradoodle.	True

The **ninth** digit on the keypad is two.



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Escape the Museum

Now you've solved all the clues, it's time to enter the code on the keypad and escape the museum!

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digit 8	Digit 9
4	4	7	8	3	9	7	8	2



