

## **Mad Science**

### **Pre-session webquest**

***Research the following scientists and answer the questions...***

#### **Albert Einstein**

*Why is he famous?*

*What do his discoveries tell us about time travel?*

*What did his teachers say about him at school?*

#### **Maria Sklodowska-Curie**

*Curie won two nobel prizes; what were they for?*

*What are the two elements she discovered?*

*What effect did radiation have on her notebooks?*

#### **Isaac Newton**

*What effect did an apple have on his research?*

*Briefly describe the three Laws of Motion:*

*What strange "science" did Newton become involved with later in life?*

## Mad Science

### Post-session comprehension

#### Story

Why did Prof. Chumbley and Mungo travel back in time from 2036?

What is life like in their time?

What equipment did they use to create a “vortex generator”?

#### Science

*Complete the description of a vortex generator with the words below*

aperture      thrust      membrane      vortex      chamber      pulse

To create a \_\_\_\_\_ you must use your hand to hit the \_\_\_\_\_. This creates \_\_\_\_\_ within the \_\_\_\_\_, pushing air forward. The air is then forced through a small hole (or \_\_\_\_\_) which then creates a concentrated \_\_\_\_\_ of air.

*Order the sentences below to describe how superstitions are formed*

For example, many athletes have lucky items of clothing (like a sock) because they were wearing it when they first had a big success. They believe that the sock is what makes them successful, although logically we know this is not true.

This is also how our parents teach us to behave: if we do good things, we are rewarded; if we do bad things, we are punished.

However, sometimes our brains make connections between things that are not related, just because they happen at the same time.

This is why you might think it is bad luck to break a mirror, or good luck to kick somebody's bottom.

Humans are naturally programmed to create connections between behaviours and things that happen, for example if you see a dark cloud you know it is going to rain.

## Mad Science

### Reading comprehension (higher)

**Nicolaus Copernicus** was an astronomer. People know Copernicus for his ideas about the sun and the earth. His main idea was that our world is *heliocentric* (*helios* = sun). His theory was that the sun is in the middle of the solar system, and the planets go around it. This was published in his book, *On the revolutions of the heavenly spheres*.

Copernicus was born in 1473 in the city of Thorn (Toruń), in Royal Prussia, a mainly German-speaking region that a few years earlier had become a part of the Kingdom of Poland. He was taught first in Krakow and then in Italy, where he graduated as a lawyer of the church. He also studied medicine to serve his fellow priests. Copernicus spent most of his life working and researching in Frombork, Warmia, where he died in 1543.

Copernicus was one of the great polymaths of his age. He was a priest, mathematician, astronomer, doctor, lawyer, physician, politician, administrator, diplomat, economist, and soldier. During all these jobs, he treated astronomy as a hobby. However, his formula of how the sun, rather than the earth, is at the centre of the solar system, is still one of the most important scientific hypotheses in history. It was the beginning of modern astronomy.

***Read the article above and try to guess the meaning of the underlined words. Write your guesses in the table below and then check your answers in a dictionary or with your teacher.***

<b>Theory</b>	
<b>Solar system</b>	
<b>Graduate</b>	
<b>Research</b>	
<b>Polymath</b>	
<b>hypothesis</b>	

***Use some of the words above to complete the following sentences:***

1. I think governments should do more \_\_\_\_\_ on how to stop climate change.

2. Jupiter is the biggest planet in the \_\_\_\_\_ and Mercury is the smallest.

3. Leonardo da Vinci is one of history's most far genius in many different subjects!



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### Reading comprehension (lower)

**Nicolaus Copernicus** was an astronomer. He is famous because of his ideas about the sun and the earth. His main idea was that our world is *heliocentric* (*helios* = sun). His theory was that the sun is in the middle of the solar system, and the planets move around it. He wrote a book about this, but the church didn't like it!

Copernicus was born in 1473 in the city of Thorn (Toruń), in Royal Prussia, a mostly German-speaking area that had become a part of the Kingdom of Poland a short time before. He studied first in Krakow and then in Italy, where he graduated as a lawyer of the church. He also studied medicine to be a doctor for the priests in his area. Copernicus spent most of his life working and researching in Frombork, Warmia, where he died in 1543.

Copernicus was one of the great polymaths of his age. He was a priest, mathematician, astronomer, doctor, lawyer, physician, politician, administrator, diplomat, economist, and soldier. Whilst he was doing all these jobs, astronomy was only his hobby. However, his idea that the sun, and not the earth, is at the centre of the solar system is still one of the most important scientific theories in history. It was the beginning of modern astronomy.

***Read the article above and try to guess the meaning of the underlined words. Write your guesses in the table below and then check your answers in a dictionary or with your teacher.***

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<b>Solar system</b>	
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<b>Polymath</b>	

***Use some of the words above to complete the following sentences:***

1. I think governments should do more \_\_\_\_\_ on how to stop climate change.
2. Jupiter is the biggest planet in the \_\_\_\_\_ and Mercury is the smallest.
3. When I \_\_\_\_\_ from university, I want to be a famous scientist.