

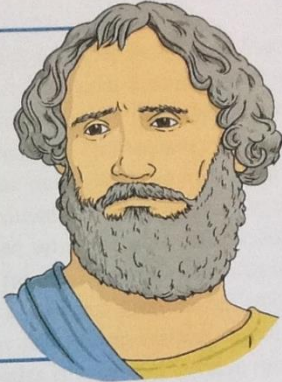
Wed 8th July

Y6 today complete this comprehension about the famous Ancient Greek Archimedes:

Archimedes

Key Information:

- Date of birth: 287 BC
- Date of death: 212BC
- Born: Syracuse, Sicily
- Father: Phidias
- Nationality: Greek
- Famous as: Mathematician, Engineer, Inventor, Physicist.



Who was he?


Although few details of his life are known, Archimedes is regarded as one of the leading scientists in classical history. Archimedes was a Greek mathematician, philosopher and inventor who wrote important books on geometry, mathematics and mechanics. Archimedes was born in Syracuse on the eastern coast of Sicily. His father was an astronomer. Archimedes lived his whole life in Sicily, except when he went to study at the University of Alexandria in Egypt where he probably met and worked with the other great scientists of his time: Euclid, Aristarchus, and Eratosthenes. He then returned to Syracuse, where he spent most of the rest of his life, devoting his time to research and experimentation in many fields of science and mathematics.

Archimedes' Principle

The question of why some objects sink in fluids while others float can be answered using Archimedes' Principle. Several examples using water as the fluid illustrate this. If the weight of an object submerged in water is less than that of the displaced water, the object rises. This happens when a block of wood is released underwater. If the weight of an object is greater than the weight of the displaced water (water that has moved), the object sinks. This happens when a rock is dropped into water. An object floats—that is, it neither rises nor sinks—when its weight equals that of the displaced/moved water. For example, a ship floats at a depth where the weight of the water it displaces is equal to its own weight. As the ship is loaded and becomes heavier, it sinks deeper, displacing more water. In this way, the strength of the buoyant force continuously matches the weight of the ship and its cargo.

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Why was he so important?

In his lifetime, Archimedes invented many different kinds of machines. The most important of these machines was the screw pump, which uses a screw to lift water from one place to another. Archimedes was also interested in why things worked, and whether they would work the same way every time. In mechanics, he defined the principle of the lever and invented the compound pulley and the hydraulic screw for raising water from a lower to higher level. Archimedes worked on getting a more accurate number for pi. Pi is a formula or number, which is used to calculate the different measurements of a circle. He is most famous, however, for discovering the law of buoyancy or hydrostatics, sometimes known as 'Archimedes' principle'. Archimedes discovered that a body immersed in fluid loses weight equal to the weight of the amount of fluid it displaces. Archimedes is supposed to have made this discovery when stepping into his bath, causing him to exclaim, 'Eureka!'

Archimedes' Screw Pump

Archimedes' screw consists of a screw inside a hollow pipe. The screw is turned usually by a windmill or by manual labour. As the shaft turns, the bottom end scoops up a volume of water. This water will slide up in the spiral tube, until it finally pours out from the top of the tube. The screw is used mostly for draining water out of mines or for draining land that was originally underwater. Archimedes' screw pump is also used as part of the movement of removing marine life safely from ponds and transporting them to another location. This technology is used primarily at fish farms, where it is desirable to minimize the physical handling of fish.

Did you know?

Archimedes was killed by a Roman soldier. It is said that he was so absorbed in his calculations he told his killer not to disturb him!

Questions

1. Where was Archimedes born?

2. Where did Archimedes study?

3. Which other scientists did Archimedes study with?

4. What was Archimedes interested in?

5. What two discoveries is Archimedes most famous for?

6. How is it said that Archimedes discovered the law of buoyancy?

7. What does Archimedes' screw pump consist of?

8. What is the purpose of the screw pump?

9. Describe an example of Archimedes' Principle in action.

10. How did Archimedes die?

Now show evidence from the text above of:

A RELATIVE CLAUSE

(remember relative pronouns who whose which that where when)

PARENTHESIS USING DASHES

PARENTHESIS USING BRACKETS

FRONTED ADVERBIAL WITH COMMA

Now write a list of effective high level vocabulary that you can find in this text:

HIGH LEVEL VOCABULARY