density - extra info

Answers to worksheet questions

1 0.8g/cm³

2 An avocado will sink in water

Links to research at ISIS Neutron & Muon Source

Neutrons and muons are used at ISIS to look at the structure and dynamics of materials. In archaeological studies, neutrons fired at Bronze-Age swords revealed the density in different regions of the blade. This indicated what type of combat they were used for. The solid form of a substance is generally denser than their liquid form, but ice is unusual because it floats on liquid water. Neutrons have been used at ISIS to investigate the special properties of ice that facilitate this. To find out more about what goes on at ISIS, visit the science highlights section of our website: www.isis.stfc.ac.uk/Pages/Science-Highlights.aspx

Links to KS2 & KS3 National Curriculum

This workshop provides content relevant to the KS2/KS3 school curriculum, and an opportunity to enhance student engagement with these concepts through experimentation, scientific thinking and discussion. During this workshop, we explore some real-life applications of this science, providing an opportunity for students experience science outside the classroom.

KS2 Compare and group materials together, according to solids, liquids and gases.

KS3 Material behaviour: use the particle model to explain different physical properties and behaviour of matter

Extension activities

For schools

A Eureka can can be used to calculate density. Pupils will predict which of two objects is denser, describe how to make the investigation a fair test, and conduct the investigation. They will then report their findings and state if their conclusion matched their hypothesis.

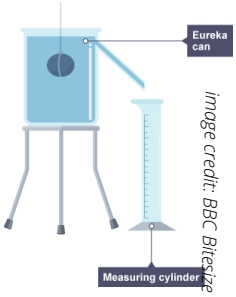

image credit: BBC Bitesize

At home

The above investigation can be done without a Eureka can. Fill a cup to the brim with water and place a container with raised sides underneath. Place object in and measure how much water is displaced into the container. Repeat for each object, refilling water to brim each time.

Additional Resources

ISIS Resources for Schools page: www.isis.stfc.ac.uk/Pages/Resources-for-Schools.aspx

UKRI Science and Technology Facilities Council