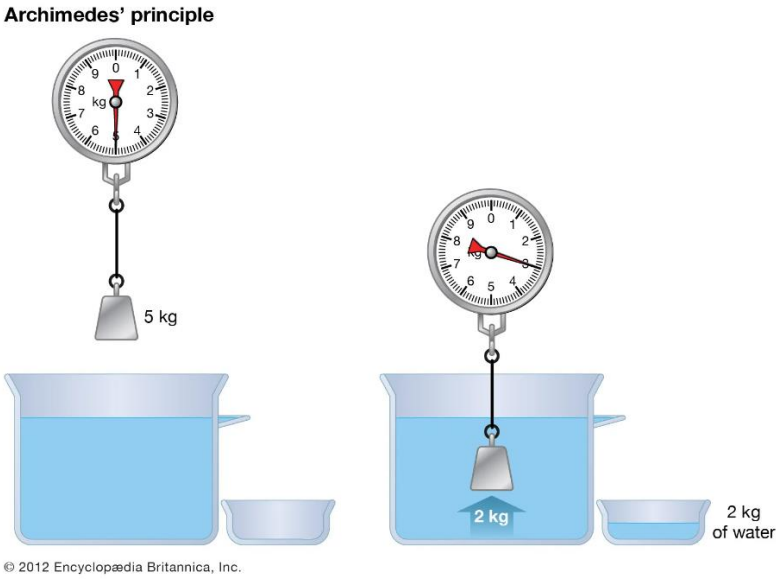
SINK OR FLOAT?

Why do some things sink and others float? Let's consider objects made out of **iron**. **Iron** is a dense metal, and a small coin made out of iron will sink. However, a huge ship made out of iron floats well enough to cross oceans. What makes this same metal act in such different ways?

It's all a matter of **displacement**. The ancient Greek mathematician and inventor Archimedes described this phenomenon in what is known as Archimedes' principle. This principle states that any object immersed in a fluid is acted upon by an upward, or buoyant, force equal to the weight of the fluid displaced by the object. As long as enough water gets displaced, the object will float. If it does not, then the object sinks. This means that a certain size needs to be maintained for the object so that it will float.

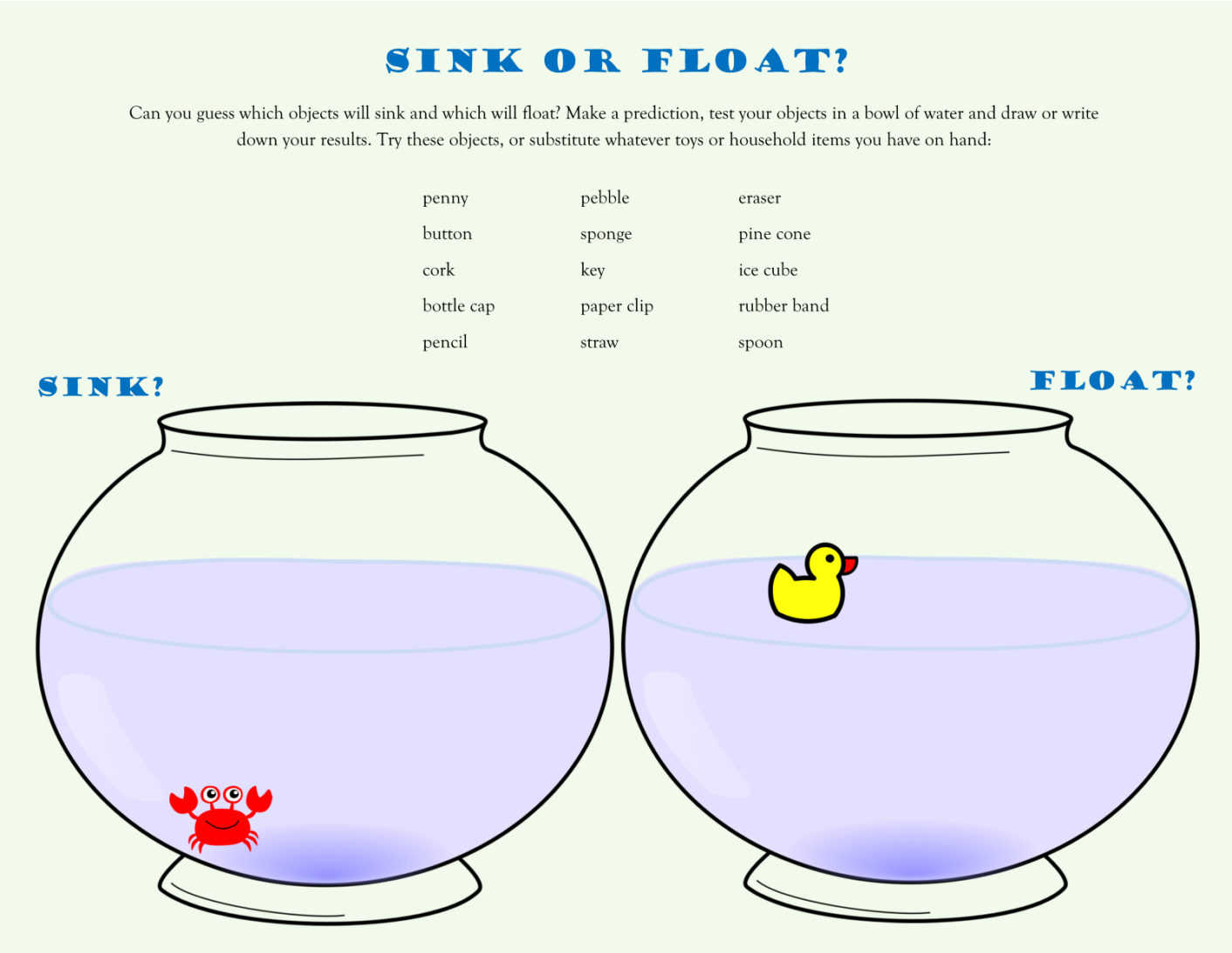


battleship

iceberg

ACTIVITY

Gather up some household items to test for buoyancy, and fill a bowl with water to test each object in. We've attached a worksheet that you can use to mark down your results.



ADDITIONAL RESOURCES

Materials from the Washoe County Library System:

Bill Nye the Science Guy (DVD) by Bill Nye, Disney Educational Productions

Boats by Christian Broutin

Does It Sink or Float? by Susan Hughes

How Do Big Ships Float? by Isaac Asimov

The Magic School Bus Ups and Downs: A Book About Floating and Sinking by Joanna Cole

The Way Things Work: Floating (DVD) by David Macaulay, Schlessinger Media

Websites:

PBS LearningMedia, Sink or Float? | Everyday Learning https://knpb.pbslearningmedia.org/resource/ket-earlychild-sci10/sink-or-float/

Steve Spangler Science, Sink or Swim (Surface Tension)
https://www.stevespanglerscience.com/lab/experiments/sink-or-swim-surface-tension/