## Why does a steel boat float?

A big steel boat floats, but a small steel ball sinks. Why?

When you hold the ball in water, it pushes some water aside. The ball weighs more than the amount of water it pushes aside. So the ball sinks.

When you hold the boat down in water, it pushes water aside, too. The boat and the ball weigh the same. Why does the boat float while the ball sinks?

It is because the boat pushes aside more water than the ball.

The water the boat pushes aside weighs more than the boat. So when you put the boat on the water, water pushes the boat up until the weight of the boat and the weight of the water it pushes aside are the same. Then, the boat floats.

A boat will float as long as it never weighs more than the water it pushes aside.

The force that makes a boat float is called buoyancy.

For example, Noah's Ark, mentioned in the book of Genesis, was considered to be about 438 feet [134 m] long, 73 feet [22 m] wide, and 44 feet [13 m] high. Because of buoyancy, this gigantic structure floated on water. Also, the ark's chestlike shape would have been uniform from end to end. Its weight, too, would have been uniform.