

## Water Pressure

### Vocabulary Bank

**Water Pressure**

Water pressure is the force of water on an object. It can be measured in atmospheres, bars, pascals and pounds-per-square inch (PSI). Water pressure in the ocean increases by approximately 1 atmosphere for every 10 meters of depth.

**Atmosphere**

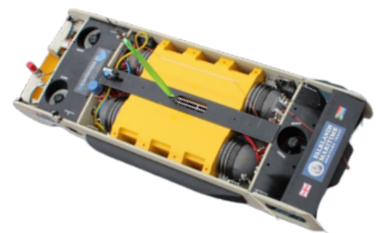
Air has weight just like water. An atmosphere represents the amount of *air pressure* (the amount of air weighing down on you) at sea level. We can also use atmospheres to measure water pressure.

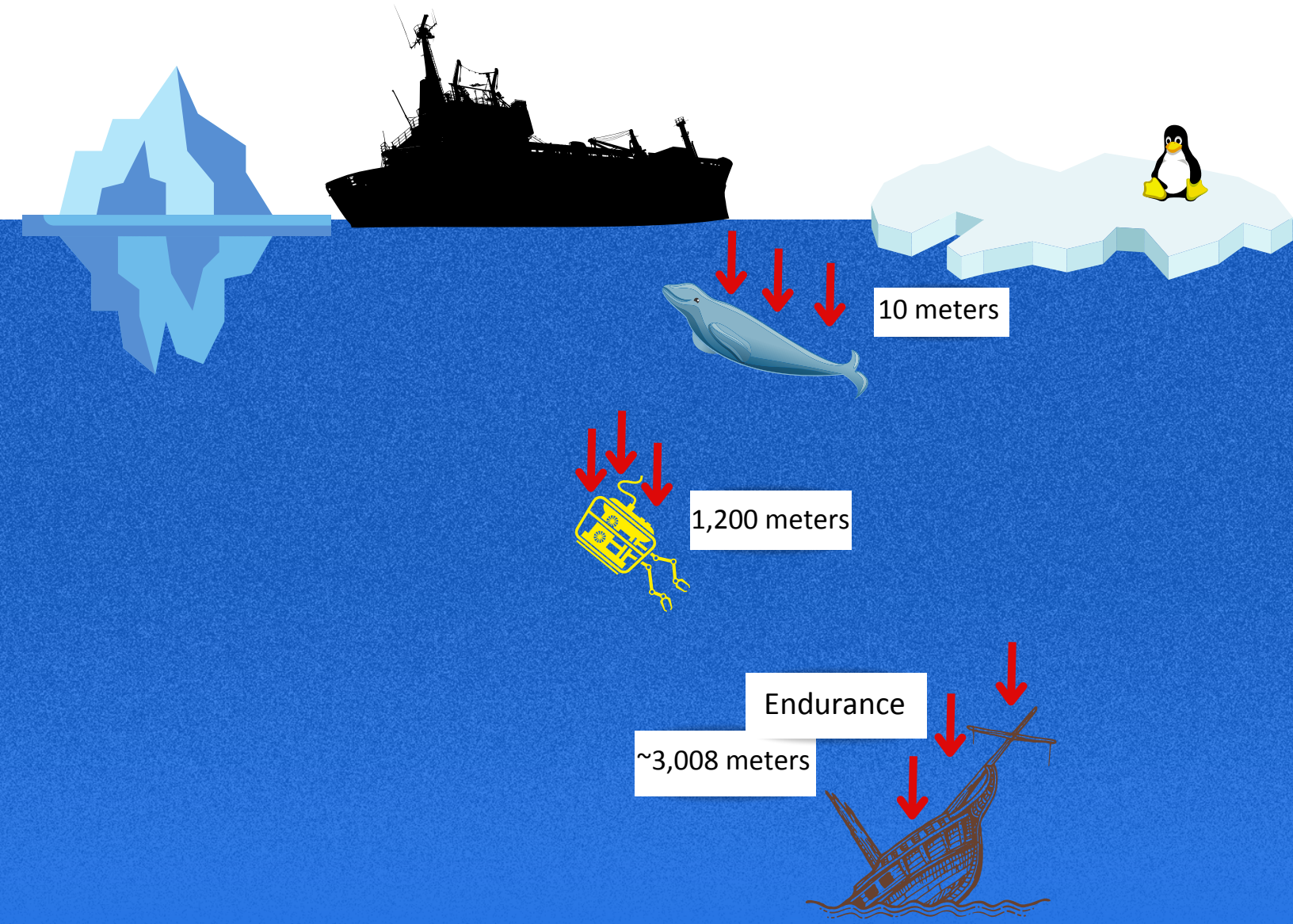


## Thinking Questions

Which do you think is heavier: air or water? (Hint: Imagine holding a bucket of water versus a bucket of air)

Water pressure,  $p$ , in the ocean increases by approximately 1 atmosphere for every 10 meters of depth,  $d$ . Use these variables to write an equation that represents this relationship.





Find the water pressure, in atmospheres, of each animal/object:

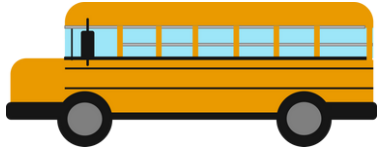
**Whale:**

**Penguin:**

**AUV:**

**Endurance:**

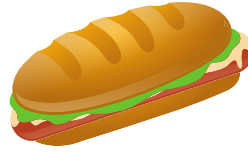
1 atmosphere is equal to about 15 PSI (pounds per square inch). Calculate the water pressure on Endurance from atmospheres to PSI. Then, circle the object below that is closest in weight to the water pressure in PSI on Endurance.



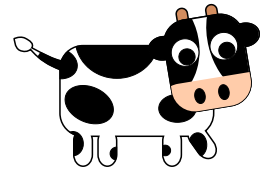
24,000 pounds



5,000 pounds



3 pounds



1,600 pounds