



5E).

Floating and Sinking

Examine the two cans with sand in. Will either of the two cans float on water?

YOU WILL NEED:

- Two cans containing sand,
- A spring balance,
- A small bucket, half full of water,
- A towel to mop up any spills.

SAFETY:

Take care not to spill water and mop up any spills that do occur.

INSTRUCTIONS:

- 1). Measure the weight of the cans in air with the spring balance.
- 2). Gently lower each can in turn, supported by the spring balance, into water in the bucket.
- 3). What happens to the weight of the cans when lowered into water?
- 4). What happens to the level of water in the bucket?
- 5). Suggest what determines whether the can floats or sinks.

EXPLANATION.

When an object is put into a fluid it displaces some of the fluid.

The displaced fluid pushes back on the object causing an upthrust and reduces the weight of the object.

An object will float if it displaces enough of the fluid for the upthrust to equal its weight, before the object is completely submerged.