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May 2020

Week 3 #SolveItWithSTEM@Home Experiment Pack for Secondary Schools
featuring Alice and Eddie – our STEM Gurus

Hey everyone, welcome to Week 3!
Eddie and I hope you have enjoyed the last couple of packs.

This week we have included an experiment which needs you to find an old CD or DVD…make sure you don't use a family favourite!

We have also included the answer to the maths question from Week 2…head to page 6 for this.
(Be honest and don't cheat guys!)

Why not try our new maths question on page 5…the correct answer will be issued next week ☺

Reminder: Make sure you do the experiment safely and with an adult present!

Experiment #3: CD or DVD Hovercraft
(Make sure this experiment takes place **alongside an adult**!)

Items Required:
- 1 x sports bottle top
- Glue or Blu-tack
- 1 x old DVD or CD
- 1 x balloon

Instructions:
- Take the sports bottle top and glue/stick to the centre of your CD or DVD.
- Blow up the balloon and twist the end to keep the air in it.
- Whilst keeping the air in the balloon, attach it to the end of the sports bottle top.
- Pull the bottle top open and let go – you have now produced a hovercraft!

For best results, use on a smooth surface.

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How does it work?...

The air flow created by the balloon causes a cushion of moving air between the disc and the surface. This lifts the CD and reduces the friction which allows the disc to hover freely. Large scale hovercraft are capable of traveling over land, snow and water.

They test this theory on the following video on Science Bob:

https://sciencebob.com/build-a-tabletop-hovercraft-2/

Experiment #4: Electric Motor
(Make sure this experiment takes place **alongside an adult**!)

Items Required:
- Copper Wire
- Needles (or as an alternative, use paperclips)
- Battery 1.5 Volt
- Sticky tape or blu-tack
- Magnet

Instructions:
- Coil the copper wire round (leaving enough space for your thumb to fit through the middle) about 10 times – the more, the better!
- Straighten the two ends of the coiled copper wire so they can fit through the eye of a needle (or a small hole).
- Attach the needles (or paperclips) via sticky tape to a 1.5 volt battery.
- Place the magnet in the middle of the battery and spin the wire coil – it should now spin by itself.

Coiled copper wire

Paperclip or a needle

Magnet

Straightened copper wire ends
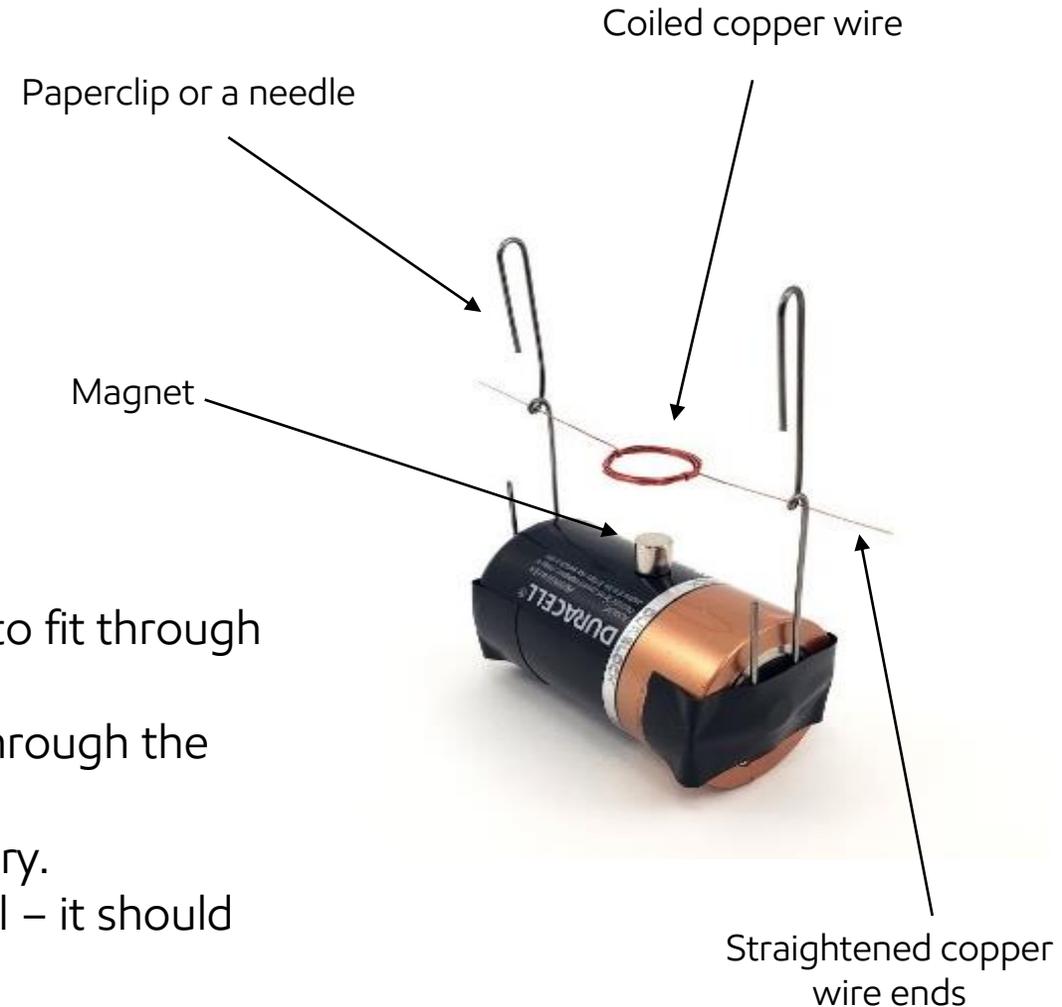
Week 3 – Maths Question!

If Tom gives Tim £12.00, they will both have the same amount of money.

If Tim gives Tom £12.00, Tom will have five times as much as Tim.

Who has what?

Why not give this maths question a go…

The correct answer will be included within next week's pack…stay tuned!

☺

Week 2 – Maths Question Answer…

If… 2 = 6

   3 = 12 then 3 x 4 = 12
   4 = 20 then 4 x 5 = 20
   5 = 30 then 5 x 6 = 30
   6 = 42 then 6 x 7 = 42
   7 = 56 then 7 x 8 = 56
   8 = 72 then 8 x 9 = 72
   9 = 90 then 9 x 10 = 90
   10 = 110 then 10 x 11 = 110

Then   11 = 132 then 11 x 12 = 132

Answer 132

We hope you enjoyed the Week 3 activities.

Week 4 will be coming soon.

Best wishes
The ExxonMobil Fawley #SolveItWithSTEM Team!