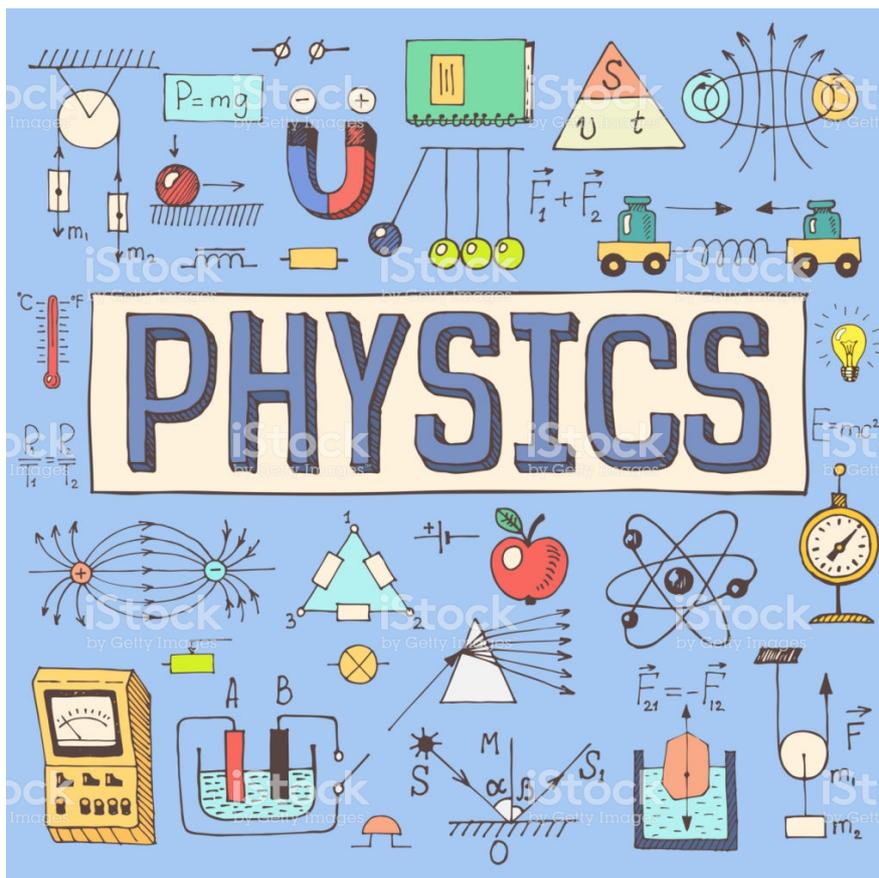


Get ready for...

Physics!



This booklet is full of **fun tasks** that will introduce you to some of the topics you will learn about when you get to Southmoor!



Task 1: Circuits!

Can you draw a simple circuit that you would find in a torch?

Include these things:

Battery



Bulb



Switch

A large, empty rectangular box with a solid purple border, intended for the student to draw a simple circuit diagram.

What would happen to the torch if the battery ran out?

Task 2: The Sun!



On a sunny day – try this task!

- Stand so you can see your shadow.
- Ask an adult to mark on the ground (with some chalk or put an object down) on the head of your shadow.
- What position is the sun in? (**Warning: do not look directly at the sun!**)
- Repeat this at different times of the day.
- What did you find out?

Time	Position of Shadow	Position of Sun
10am		
12pm		
2pm		
4pm		
6pm		

How did your shadow change during the day?

How did the position of the sun change during the day?

Task 3: Forces

Some types of force slow us down when we are moving.
Using the words below, complete the sentence.

Water Resistance

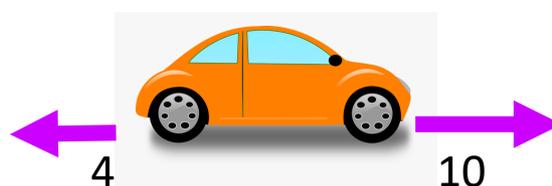
Air Resistance

Drag

- A force that slows me down when I run is.....
- A force that slows me down when I swim is.....
- A force that slows me down when I cycle is.....

Sometimes, more than one force acts on an object. If these forces are balanced (the same size) on a stationary (still) object, the object will not move. If the forces are not balanced, the object will move.

Look at these objects – do you think they will be stationary (still) or moving?



Task 4: Rainbow in a Glass!

Try this fun task!

1. Line up five glasses. Add 1 tablespoon of sugar to the first glass, 2 tablespoons of sugar to the second glass, 3 tablespoons of sugar to the third glass, and 4 tablespoons of sugar to the fourth glass. The fifth glass remains empty.
2. Add 3 tablespoons of water to each of the first 4 glasses. Stir each solution. If the sugar does not dissolve in any of the four glasses, then add one more tablespoon of water to each of the four glasses.
3. Add 2-3 drops of red food coloring to the first glass, yellow food coloring to the second glass, green food coloring to the third glass, and blue food coloring to the fourth glass. Stir each solution.
4. Now let's make a rainbow using the different density solutions. Fill the last glass about one-fourth full of the blue sugar solution.
5. Carefully layer some green sugar solution above the blue liquid. Do this by putting a spoon in the glass, just above the blue layer, and pouring the green solution slowly over the back of the spoon. If you do this right, you won't disturb the blue solution much at all. Add green solution until the glass is about half full.
6. Now layer the yellow solution above the green liquid, using the back of the spoon. Fill the glass to three-quarters full.
7. Finally, layer the red solution above the yellow liquid. Fill the glass the rest of the way.

