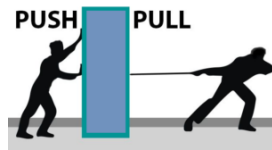




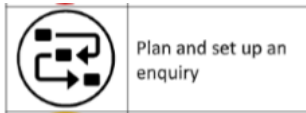
Year 5 Topic Forces and Magnets

Prior Learning: **Compare** how things move on different surfaces (Y3)

Concept: Energy. In this unit we will investigate different forces and their effects.



Working scientifically:

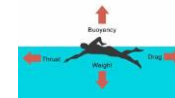


4. TWAL to explore the effect water resistance has on objects

In this lesson we will find out what water resistance is and the effects it has on objects. We will do an experiment using plasticine and water filled cylinders to measure the effects of water resistance.



Water resistance is a type of force that uses friction to slow objects down that are moving through water.



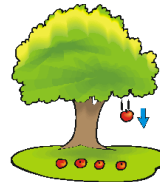
1. TWAL to understand what forces are

In this lesson we will learn about various different forces, including gravity, air resistance, water resistance and friction. Video:

<https://www.bbc.co.uk/bitesize/clips/zkw8q6f>



Forces affect the movement or shape of an object.



5. TWAL about the amount of friction created by different surfaces.

In this lesson we will recap what friction is and then we will plan a fair test to answer the question- Which surface in the classroom generates the most friction?



Air resistance and water resistance are both types of friction.



2. TWAL to explore the effect that gravity has on objects

Today we will be finding out about the difference between mass and weight. We will then be doing an experiment using Newton meters to investigate whether weight and mass are linked.



Gravity is a force that means that objects are pulled towards the centre of the Earth.



6. TWAL: to recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

In this lesson we will be finding out about how levers, gears and pulleys work and how when using them a smaller force can be used to have a greater effect. We will conduct an experiment using classroom equipment to see the effect of using a fulcrum and lever.



Lever, gears and pulleys all allow a smaller force to have a greater effect.



3. TWAL to explore the effect that air resistance has on objects

Today we are going to be investigating the force of air resistance. Video:

<https://www.youtube.com/watch?v=Aoy3j9tbOK0&t=6s>

What will we keep the same in our experiment? What will we change? What will we measure?



Air resistance is a kind of friction that occurs between air and another object.



Words we will know!

