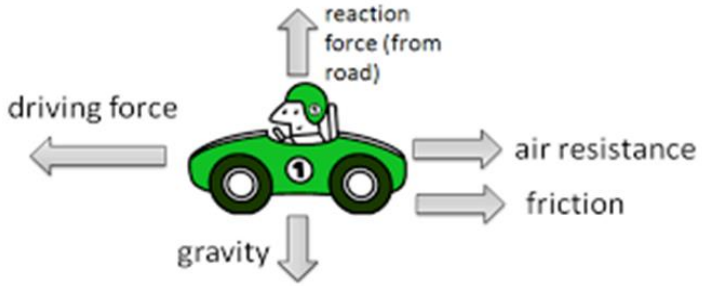
As a team, how can we use our knowledge of forces to design and make the fastest racing car?

SCIENCE KNOWLEDGE ORGANISER YEAR 5

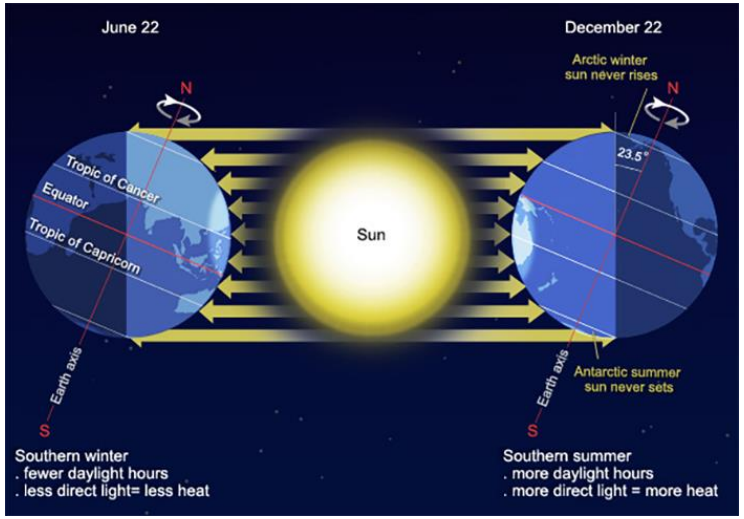


Skills - I can

Plan an investigation that demonstrates how I have considered how the variables need to be controlled for the test to be fair.

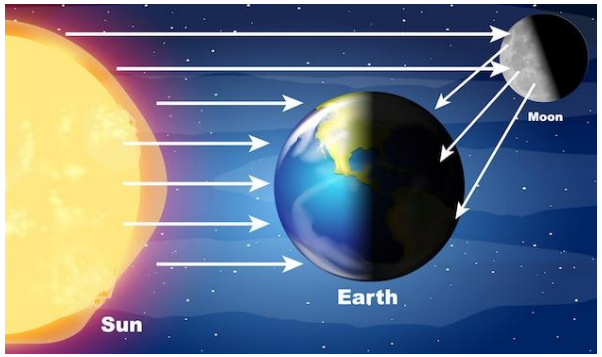
Explain how I have used prior knowledge to help me form my hypothesis.

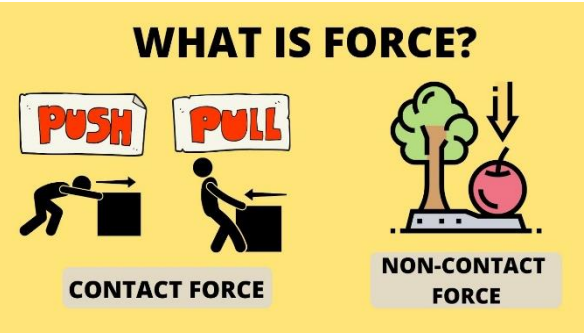
Demonstrate how the constant evaluation of my investigation has helped ensure fair and accurate results.



Vocabulary- I use

Earth	The planet we live on. It is a round body that spins around in space and travels around the Sun. It has an atmosphere made up of different gases.
air resistance	the force that acts in the opposite direction to an object moving through the air. It is also known as "drag."
water resistance	a type of force that uses friction to slow things down that are moving through water.
mechanism	a device which takes an input motion or force, and outputs a different motion and force.
space	everything in the universe beyond the top of the Earth's atmosphere
levers	a simple machine which helps us to lift objects. It has a long arm and a fulcrum, which is where the arm pivots.
pulleys	a simple machine which is useful for lifting things. Made by looping a rope over one or more wheels. It reduces the effort required to raise a load.
gears	wheels with teeth that slot together. When one gear is turned the other one turns as well. If the gears are of different sizes, they can be used to increase the power of a turning force.
gravity	an invisible force that pulls objects toward each other
orbit	the curved path in space that is followed by an object going round and round a planet, moon, or star.
solar system	consists of the Sun and everything that orbits, or travels around, the sun.
spherical	like a sphere in being round, or more or less round, in three dimensions.
sun	the star at the centre of the solar system.
moon	the large round object that circles the Earth and that shines at night by reflecting light from the sun.
phases	The portion of the moon that we can see from Earth on any given night.





As a team, how can we use our knowledge of forces to design and make the fastest racing car?

Knowledge - I know

I know what gravity is and its impact on falling objects.

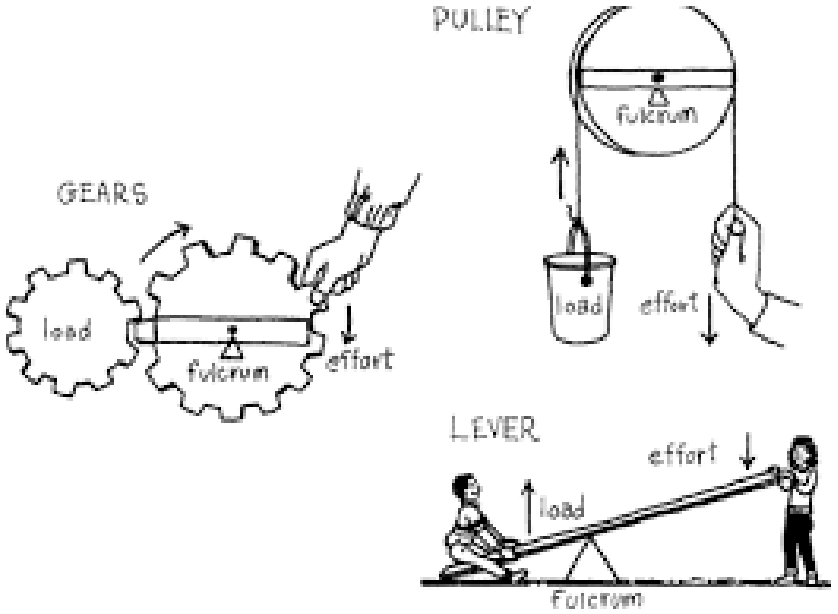
I know the effects of air resistance, water resistance and friction.

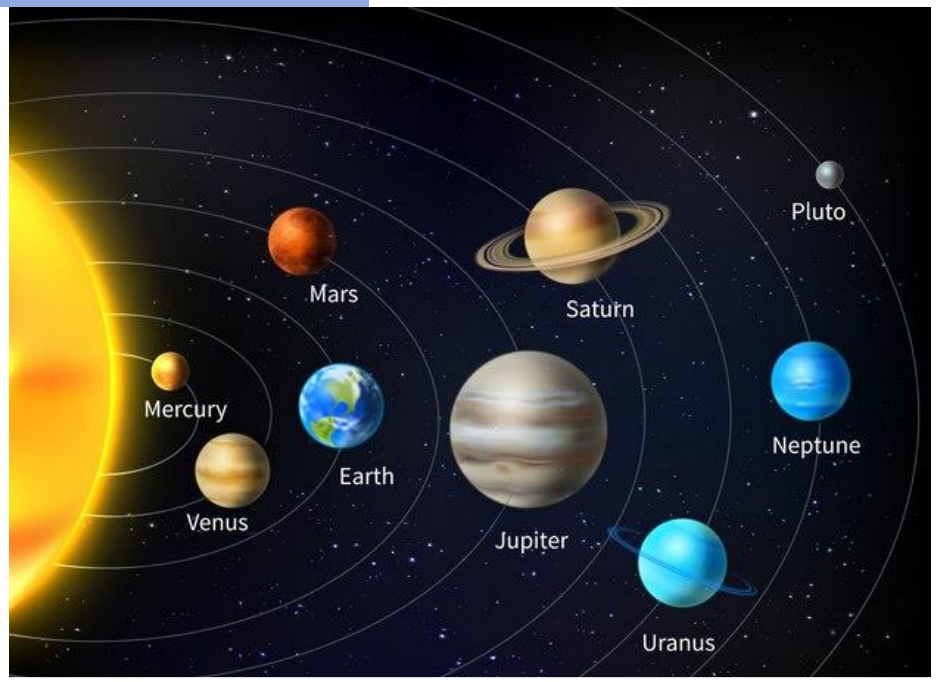
I know that some mechanisms including levers, pulleys and gears allow a small force to have a greater effect.

I know how to describe the shape and movement of the sun, earth and moon.

I know how forces effect the movement of the planets in the solar system.

I know how to explain day and night and the apparent movement of the sun across the sky





Teaching Videos - Links

https://www.youtube.com/watch?v=b25g4nZTHvM

https://www.youtube.com/watch?v=dkXLmEUK9k4

https://www.youtube.com/watch?v=gQZS1vGu_TQ

Useful Reading - Links

https://www.bbc.co.uk/bitesize/topics/znmmn39

https://kids.britannica.com/kids/article/Isaac-Newton/353532