

# Year 6 Spring 2019

## The gift of knowledge

### Key vocabulary:

Inherit -to gain a quality or characteristic from a parent or ancestor

Adaptation - the process of change so that an organism or species can become better suited to their environment

Evolution - the process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth

Fossil -the remains or impression of a prehistoric plant or animal

Invertebrate -an animal lacking a backbone

Vertebrate -an animal with possession of a backbone/ spinal column

Mammal -a warm-blooded vertebrate animal, distinguishable by the possession of hair or fur and typically giving birth to live young

Crustaceans -mostly live in water with a hard shell and segmented body.

Reptile -a vertebrate animal that has dry scaly skin and typically lay soft-shelled eggs on land

Palaeontologist - a scientist who studies fossils

### Key information:

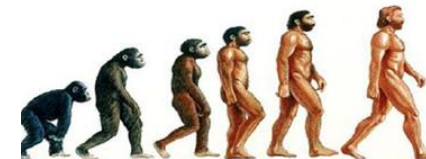
Dinosaurs ruled the Earth for over 160 million years, from the Triassic period around 230 million years ago through the Jurassic period and until the end of the Cretaceous period around 65 million years ago.

It is believed that dinosaurs lived on Earth until around 65 million years ago when a mass extinction occurred. Scientists believe that the event leading to the extinction may have been a massive asteroid impact or huge volcanic activity.



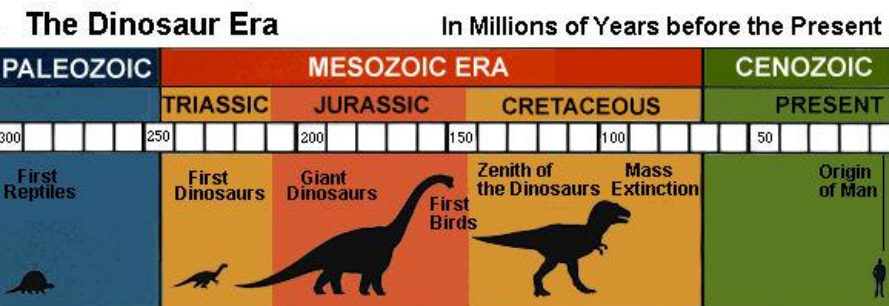
### Significant people:

Charles Darwin - famous for his theories on evolution - that species change over time and on natural selection - only those adapted to live in their environment survive



Mary Anning - an English fossil collector, dealer, and palaeontologist made famous for her discoveries on the Dorset coast

Paul Sereno - a palaeontologist who has made dinosaur discoveries across several continents



The first dinosaur discovered was called the *Megalosaurus*. The first known fossil from this dinosaur was discovered in 1676 in England but it wasn't given a scientific name until 1824 by William Buckland.

# The top 5 dinosaurs



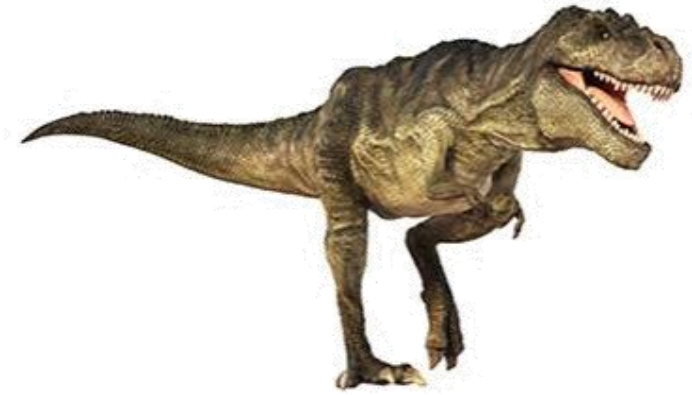
## Triceratops

Triceratops was a plant-eater with specialised teeth for cutting and slicing and a huge stomach for digesting tough plant matter. It would have used its horns for defending itself from predators like Tyrannosaurus.



## Stegosaurus

This slow-moving plant-eater used spikes on its tail to fend off would-be predators. The jury is still out on what the spiny plates on its back were used for.



## Tyrannosaurus

An infamous meat-eating predator. Look at the evidence as to whether Tyrannosaurus hunted in packs or alone.



## Diplodocus

This herbivore had a long neck that it would have used to reach high and low vegetation, and to drink water.



## Coelophysis

This small meat-eater was one of the earliest dinosaurs. It was fast and agile and would have fed on animals like small reptiles and insects.

# Year 5 Spring 2019

The gift  
of knowledge

## Key vocabulary related to space and forces:

- Orbit - to move around a star or planet
- Rotation - to spin on an axis
- Gravity - a force that attracts to the centre of the Earth
- Friction - The resistance caused by one object rubbing over another
- Resistance - a stopping force
- NASA - The National Aeronautics and Space Administration. There are 20 sites in America and the headquarters is in Washington.
- The I.S.S - The International Space Station

## Significant people:

Tim Peake - British astronaut, completed ISS space expedition Dec 2015- June 2016

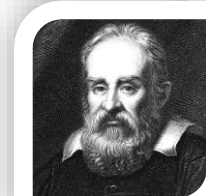
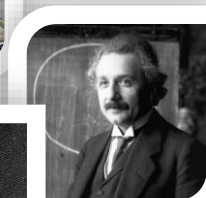
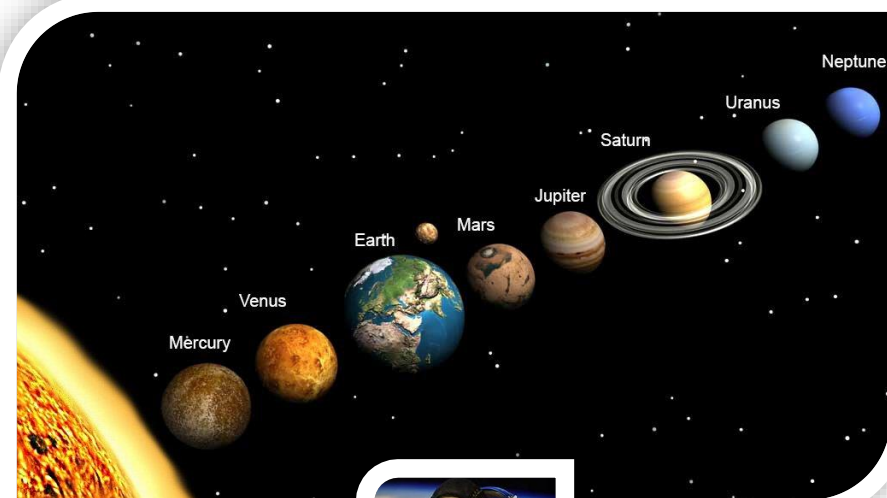
Albert Einstein - German scientist who discovered the theory of relativity in 1915

Galileo Galilei - Italian astronomer and physicist who proved the solar system moved around the sun and created superior telescopes to see Jupiter's moons and the moon's crater

## Key information:

- The solar system is made up of all the planets that orbit our Sun, moons, comets, asteroids, minor planets, dust and gas.
- Everything in the Solar system orbits or revolves around the Sun.
- The sun - The sun is a star and consists mostly of hydrogen and helium. It also has some carbon, oxygen, nitrogen and small amounts of other gases. Its powerful gravity attracts all the other objects in the Solar System towards it.
- The Sun is the closest star to Earth and is 92.96 MILLION miles away from us!
- All of the planets orbit the sun.
- The sun provides warmth and solar energy for Earth.
- It takes  $365 \frac{1}{4}$  days for Earth to orbit the sun.
- It takes 28 days for the moon to orbit the Earth.

Planets, in order from the sun:



# Year 4 Spring 2019

## The gift of knowledge

### Key vocabulary:

Robot - a moving machine programmed by a computer

Coding - written commands in a computer program

Artificial Intelligence (A.I) - where a machine can think for itself

Circuit - a series of components which energy travels through

Electrical components- the parts of a circuit (cell, wire, Switch, buzzer and bulb)

Motor - changes electricity into movement

Electrical power - energy from mains supply or battery

Solar power: energy from the sun


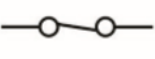


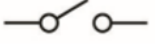

Water power: energy from water

### Key information:

#### Early robots:

- Before robots were automata - moving machines driven by clockwork, air or water
- 1928 - Eric was created - a 2m tall robot with wires connected to motors. These made it sit down, stand up, turn and wave arms whilst talking.
- 1948 - Elmer and Elsie - tortoise-like machines were the first robots to react to what was around them
- 1966 - Shakey - The first robot to think for itself. It could look around a room with a camera and plan how to move without bumping into things.
- Types of robot: industrial, domestic, entertainment, medical, security and space.
- Robots are being used to solve environmental issues such as ocean pollution

### Symbols for electrical components:

 Cell	 Closed switch	 Buzzer
 Wire	 Open switch	 Bulb

### Famous robot engineers:

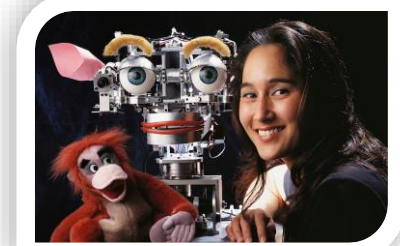
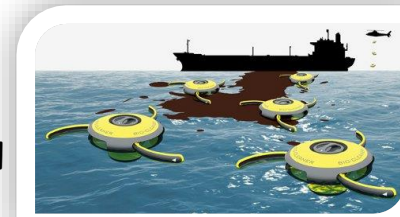
Rodney Brooks - he built a humanoid robot called cog that learns like a human. He also started

The companies making Roomba, a cleaner robot and Baxter, a worker robot.

Joseph F. Engelberger - he made the first industrial robot, Unimate. These robots work in factories and do jobs such as building cars.



Cynthia Breazeal - she makes social robots that can talk to humans and show feelings such as happiness, Sadness or fear



# Year 3 Spring 2019

## The gift of knowledge

### Key vocabulary:

Light - The natural agent that stimulates sight and makes things visible.

Light source - Something that provides light, whether it be artificial or natural light.

Reflection - The throwing back by a body or surface of light, heat or sound without absorbing it.

Shadow - A dark area or shape produced by an object coming between rays of light and a surface.

Translucent - Light can travel through, however it is scattered so you cannot see it clearly.

Transparent - Most of the light can travel through.

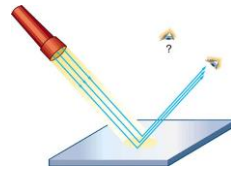
Opaque - Objects that do not transmit light.

Light bulb - a glass bulb which provides light by passing an electric current through a filament or a pocket of gas.

Inventions - The process of creating something for the first time.

### Key information:

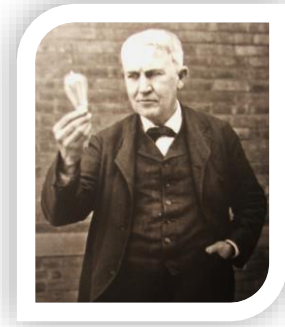
1. We need light in order to see.
2. Light from the light source hits an object and is reflected into
3. the eye



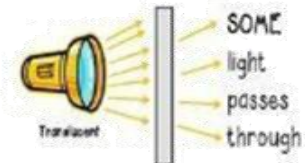
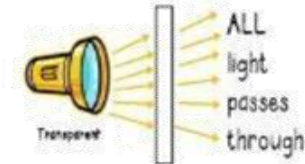
4. Light can be dangerous to our eyes.
5. Darkness is the absence of light.
6. Shadows are formed when light is blocked by an object.
7. Shadows can change depending on the distance of the light
8. source.
9. Greenland in Denmark, is famous for summer's midnight sun and winter's northern lights
10. Alaska in Canada, has 67 days without sun in winter and 80 days of
11. daylight in summer

### Significant person:

Thomas Edison, an American inventor, developed the electric light bulb in 1879. He is considered to be one of America's greatest inventors.



Translucent, Transparent & Opaque



# Year 2 Spring 2019

## The gift of knowledge

### Key vocabulary:

Living - a creature or plant that is alive.

Dead - used to be alive but is now no longer alive.

Non-living - never been alive and never lived.

Life cycle - different stages of a life

Offspring - a human's child or an animal's baby

Reproduce - to produce babies or offspring

Survive - to make sure you stay alive

Habitat - the place a creature, animal or human naturally live in

Locality - an area or neighbourhood

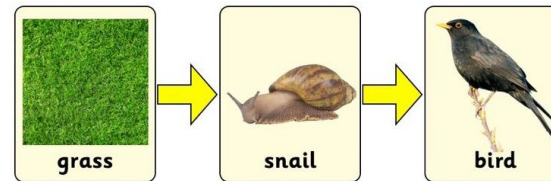
Carnivores - animals that only eat meat.

Herbivores - animals that only eat plants.

Omnivores - animals that eat meat and plants

### Key information:

- All living things move, feed, grow, reproduce and use their senses
- All animals need air, food, water and shelter to survive
- Food chains show what animals eat:

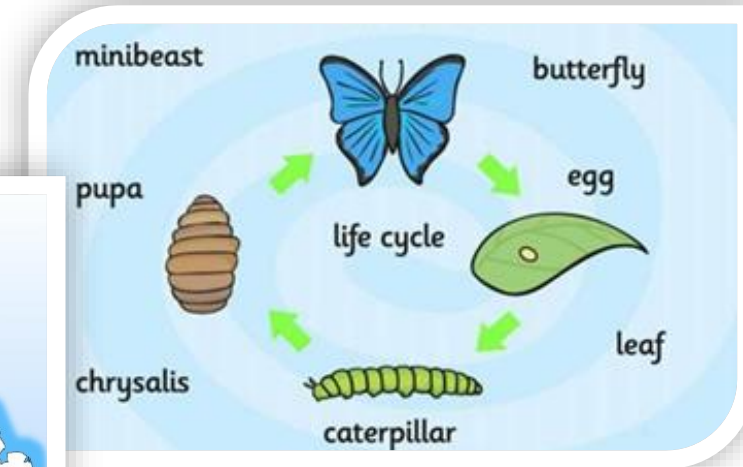
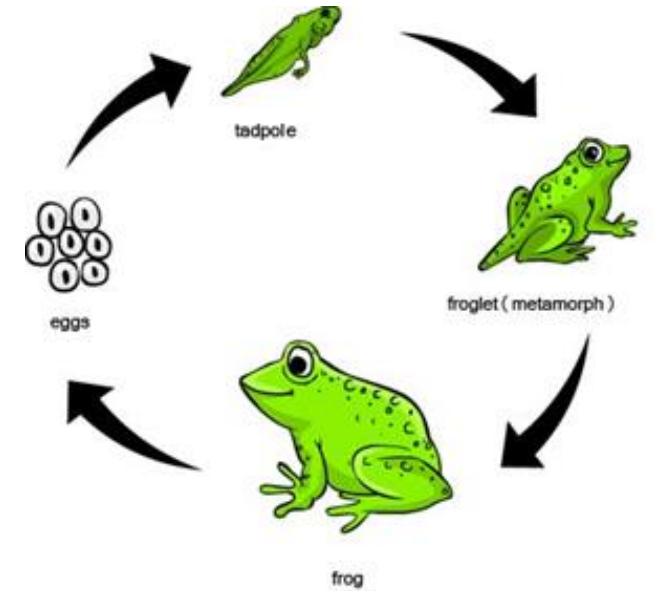


The UK stands for United Kingdom and it is the name for England, Scotland, Wales and Northern Ireland

- Physical features of a place include mountains, oceans, lakes, rivers and volcanoes



### Life cycles of a frog and a butterfly



# Year 1 Spring 2019

## The gift of knowledge

### Key information:

1) The five main kinds of animals are mammals, birds, fish, reptiles and amphibians.

2) Mammals have warm blood, have fur or hair on their bodies and feed their babies with milk. Humans are mammals.

3) Birds have feathers and wings. They lay eggs and have warm blood.

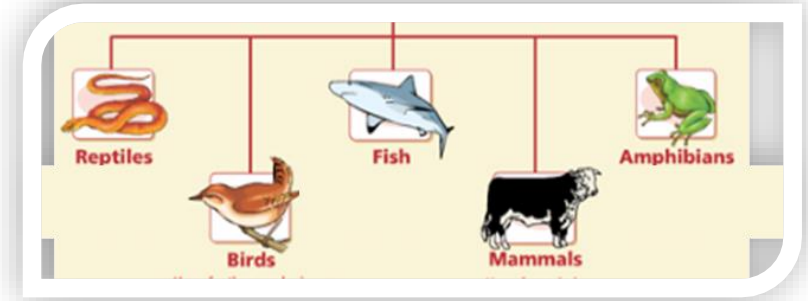
4) Reptiles have scales and lay eggs. They have cold blood.

5) Amphibians can live on land and in water. They lay their eggs in water. They have cold blood.

6) Fish have gills so they can breathe underwater.

7) Grace Darling was the daughter of a lighthouse keeper and she rescued a lot of men at sea.

### The five main kinds of animal:



### Key vocabulary:

Cold blooded- they have to take heat from the environment to heat themselves.

Warm blooded- they can use energy from food to heat themselves when they are cold.

Carnivores- eat meat.

Herbivores- eat plants.

Omnivores- eat plants and meat.

Equator- an imaginary line that shows the 'middle' of the earth.

North pole- the top of the earth.

South pole- the bottom of the earth.

