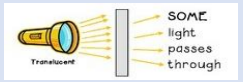
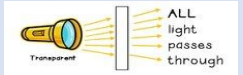
Can You See Me?

What are the key physical facts that I need to know?

Scientific Fact 1	Scientific Fact 2	Scientific Fact 3	Scientific Fact 4	Scientific Fact 5	Scientific Fact 6
Some animals, such as **fireflies** and **glow-worms**, are light sources. They make their own light to attract mates.	Their green leaves capture sunlight to make food by photosynthesis, providing food other living organisms on Earth, as well as life-giving oxygen.	The carnivorous Venus flytrap takes essential minerals from insects. The plant's leaves form a trap. If an insect lands on the pads, it snaps shut and the insect is digested.	Plants cannot move around like animals, but they still show movements. Shoots grow; leaves turn toward the Sun.	Trees are the biggest of all plants. The tallest tree is the Californian coast redwood, which reaches over 110 metres.	Plants cannot escape from hungry plant-eaters, but they have a range of defences. Some have thorns that cut and pierce its mouth if eaten. Some produce foul tasting chemicals that may be poisonous.

Key Scientific Vocabulary - words that are related to the topic you are investigating and that must be used in your work

Word	Definition
dark 	With no or very little light, especially because it is night.
dim 	Not well lit, low levels of light.
luminous 	Shining in the dark; giving out light.
non-luminous 	Not capable of producing light, but reflects light from another source.
opaque 	A material or object that is not clear enough to see through or allow light through.
translucent 	Allows light to pass through but not completely clear.
transparent 	A material or object that you can see through.

Sticky Knowledge- what we want you to know at the end of the unit
To know that our senses helps us explore the world around us.

To know that we need light in order to see
- a source of light makes light
- the sun and other stars, fires, torches and lamps all make their own light and so are examples of sources of light
- without light we cannot see because there is nothing to reflect off

To know how light travels
- light travels in straight lines
- light scatters and reflects in different directions

To know that different objects reflect different amounts of light
- shiny materials or objects reflect light more than dull ones

To know that reflective clothes are safe to wear at night
- reflective materials are effective at night because they reflect light back to the source
- reflective materials contain microscopic glass beads that reflect light

To know how a mirror reflects our image
- when light from an object is reflected by a surface, it changes direction
- smooth, shiny surfaces such as mirrors reflect light well

To know what a shadow is
- shadows are formed when opaque objects block a source of light

The scientific skills that you will be learning to use to answer the scientific questions

What is science?
Science is the exciting study of the nature and behaviour of natural things and the knowledge that we obtain about them. We ask questions that need answers. In order to answer these questions successfully, you will lean to use all these skills.

Grouping and classifying:
In this type of enquiry, you will observe and take measurements to find similarities and differences in the light sources that you will be studying.
How would you organise these light sources into natural and artificial sources?
Can you explain your answer?

Noticing patterns:
During this type of enquiry, you will be making measurements of observations to explore situations where there are variables that you cannot easily control. In this type of enquiry. You are trying to answer 'big questions' by identifying patterns in the measurements and observations

shadow 	The dark shape that somebody/something's form makes on a surface.	**To know how the size of a shadow can be changed** • the closer an object is to the light source, the larger the shadow it casts • his is because an object closer to the source blocks a larger area of the light, therefore increasing its shadow size	they record. **What can you change to make the shadow larger?**