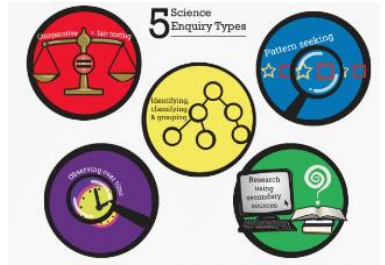


Year 3 Spring Term

Light



Prior knowledge learned in year 2

Not covered – new learning

National Curriculum for year 3

recognise that they need light in order to see things and that dark is the absence of light - notice that light is reflected from surfaces - recognise that light from the sun can be dangerous and that there are ways to protect their eyes - recognise that shadows are formed when the light from a light source is blocked by an opaque object - find patterns in the way that the size of shadows change.



LIGHT

KNOWLEDGE ORGANISER



Overview



- Light is a form of energy that makes it possible to see.
- Light is given off some objects (for example the Sun). Darkness is when there is no light.
- Light can reflect off surfaces (e.g. mirrors)
- Objects can be labelled as transparent, translucent, or opaque, depending on the amount of light that they let through.
- Shadows are formed when light is blocked by an opaque object.

Transparent, Translucent and Opaque



- When light hits an object, it can be absorbed by the object, reflect (bounce off) the object, or (transmit) pass through an object.
- The three key terms below tell us how much light objects let through them.
- Transparent – Transparent objects allow all of the light to pass through them. This means that we can clearly see through them.
- Translucent – Translucent objects only allow some light to pass through them. This means that we can partially see through them.
- Opaque – Opaque objects do not allow any light to pass through them. This means cannot see through them at all.

Light – Key Terms

Dark



- Darkness is the absence of light. In other words, where there is no light, it is dark!
- Human vision is unable to see colours, when there is high levels of darkness (too little light).
- At nighttime, the sky is darker because there is a lack of light from the sun.

Reflection



- Light may also reflect off the surface of an object.
- This means that light bounces off the object, sending it in another direction.
- Some examples of materials/objects that reflect light include mirrors or polished metal surfaces.

Absorption



- When light hits an object, it may be absorbed into the object.
- This means that it doesn't bounce off or pass through the object.
- Some examples of materials/objects that absorb light include wood, brick and stone.

Transmission



- Light can also be transmitted through certain objects.
- This means that it passes through the object. It can be seen from the other side of the object.
- Some examples of materials/objects that transmit light include windows and clean water.

Protection from Light

Some types of light (e.g. light from the sun) can be dangerous for our eyes and skin. This is because they contain UV rays that can cause damage. There are several things that we can do to protect ourselves in the sun.



1. Wearing sunglasses – Sunglasses reduce the amount of light (and also the UV rays) that reaches our eyes.
2. Covering up – Clothes can help to block some of the UV rays that can damage our skin.
3. Sun cream – This stops our skin from absorbing as many UV rays, protecting it from harm.

Key vocabulary

Shadow
Mirror
Reflect / reflective
Reflection
Light / dark

Suggested texts

Foxton – Light



Scientists

Justus Von Liebig – Mirror
James Clerk Maxwell – visible and invisible waves of light

Transparent Objects

Windows

Water

Air

Frosted Glass

Translucent Objects

Tracing Paper

Flower Petals

Plastic Milk Carton

Table

Opaque Objects

Sofa

Brick

How do we see objects in the absence of light?

Why / how do we need to stay safe with sun light?

What is a shadow and how are they made?

What is reflection?