Year 3 – Light

Scientific Knowledge and Conceptual Understanding:

1. LO: I can recognise that there needs to be light in order to see things and that darkness is the absence of light.
   What is a light source?
2. LO: I can notice that light is reflected from surfaces.
   What is reflected light?
3. LO: I can recognise that light from the Sun can be dangerous and that there are ways to protect your eyes and skin from the Sun.
   Is the Sun dangerous?
4. LO: I can recognise that shadows are formed when light from a light source is blocked by an opaque object.
   LO: I know that shows take on the shape of the opaque object.
   LO: I can predict where a shadow will form in relation to an opaque object and a light source.
   What is a shadow?
5. LO: I can find patterns in the way that the length of shadows change.
   Does moving the light source above the object make the object's shadow longer?
6. LO: I can understand that light is reflected from surfaces (mirrors).
   How do mirrors work?

Previous and Future Learning:

KS1	Children do not study light as a separate topic. However, as part of the seasonal changes topic, children will have observed and talked about changes in the weather and the seasons and will have talked about the dangers of looking at the Sun directly.
Year 2	Children might have observed the effect of light on plant growth.
Year 6	Children will consolidate previous learning by exploring the way that light behaves, including light sources, reflection and shadows. Pupils will make predictions and investigate the relationship between light sources, objects and shadows and understand how the eye works. Children could extend their experience of light by looking at rainbows, prisms, colours in soap bubbles, colour filters and bending light in wate r(although they don't need to explain why these phenomena occur at this stage).
KS3	Children will learn that human sight is based on the ability to see red, blue and green light and that the colour of the object depends on the colours of light that it absorbs and scatters. Light travels at 300 million metres per second in a vacuum and different colours of light have different frequencies. The path that light takes can be bent (refracted) and that transparent materials can be shaped into lenses and prisms to alter the path of light by refraction (convex and concave lens). The ray model can describe the formation of an image in a mirror and how objects appear different colours.

Key Vocabulary:

light source	dark	reflect
shadow	opaque	translucent
transparent	luminous	