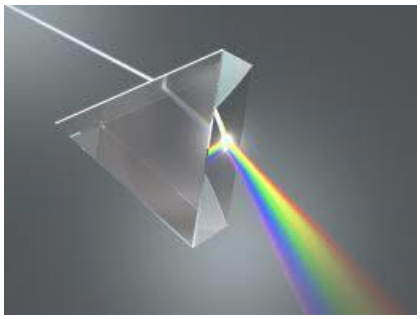
Sacred Heart Primary School
Literacy Plan

Year 6 Spring Term
Science – Light



Attention Grabber: …

Rationale: This 'Light' unit will teach your class about light, how we see, shadows, reflection and refraction. The children will learn how light travels and how this enables us to see objects. They will demonstrate their knowledge by making and starring in their own television programme. The children will have the opportunity to make a functioning periscope, finding out about mirrors and the angles of reflection and incidence. They will work scientifically and collaboratively to investigate refraction, carrying out some fascinating experiments into the effects of bending light. Furthermore, they will have chance to predict what will happen in an exciting investigation into the visible spectrum. They will work in a hands-on way to explore how light creates the colours we see, designing coded messages. Finally, they will learn about Isaac Newton and his theory of light and colour, performing a shadow puppet play about his discoveries and ideas.

Learning Objectives:

- I can explain that light travels in straight lines from light sources to our eyes, and from light sources to objects and then to our eyes
- I can understand how mirrors reflect light, and how they can help us see objects.
- I can investigate how refraction changes the direction in which light travels.
- I can investigate how a prism changes a ray of light.
- I can investigate how light enables us to see colours.
- I can explain why shadows have the same shape as the object that casts them.

Overview:

Lesson 1: How We See To recognise that light appears to travel in straight lines by creating a model of light travelling. To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye by creating a model of light travelling.

To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes by creating a light documentary.
Lesson 2: Reflecting Light To recognise that light appears to travel in straight lines by investigating the angles of incidence and reflection. To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye by creating a periscope and explaining how it works. To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes by creating a periscope and explaining how it works.
Lesson 3: Refraction To recognise that light appears to travel in straight lines by investigating refraction.
Lesson 4: Spectacular Spectrum To recognise that light appears to travel in straight lines by exploring prisms and creating colour wheels.
Lesson 5: Seeing Colours To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye by investigating how we see colours. To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes by investigating how we see colours
Lesson 6: Shadow Theatre To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them by performing a shadow puppet show about Isaac Newton. To identify scientific evidence that has been used to support or refute ideas or arguments by performing a shadow puppet show about Isaac Newton.

SMSVC Links

N/A

Cross-Curricular Links

N/A

Resources

Twinkl resources

Online pictures/videos etc

Opportunities for enrichment:

Videos online, could do possible trip to London Science Museum etc

Impact/Assessment

Most Children will: Explain how light travels to enable us to see. Understand that all objects reflect light. Identify the angles of incidence and reflection. Understand refraction as light bending or changing direction. Explain how a prism allows us to see the visible spectrum. Understand that colours are a result of light reflecting off an object. Explain Isaac Newton's experiments about light and colour. Understand how shadows change size. Understand that shadows are the same shape as the object that casts them. Make observations and conclusions. Be able to answer questions based on their learning.

Less Able Children will: Recognise that light travels in straight lines. Describe how light enables us to see. Understand reflection as light bouncing off a surface. Identify some effects of refraction. Identify the visible spectrum. Explore colours using light. Recognise that Isaac Newton discovered information about light and colour. Explain that objects block light to form shadows. Predict what will happen in an investigation. Make observations.

More Able Children will: Explain how light enables us to see an object reflected in a mirror. Recognise that the angles of incidence and reflection are equal. Explain how light is refracted as it travels through glass or water. Recognise that the colours of the visible spectrum have different wavelengths. Understand how filters reflect or absorb different colours of light. Recognise how Isaac Newton used proof to support his ideas about light and colour. Set up reliable and accurate

investigations. Make and explain predictions. Make and record accurate observations. Use scientific language to explain their findings. Be able to ask and answer questions based on their learning using scientific language.