Our Intent is: To develop inquisitive children who are excited about investigating with curiosity, "How can scientific enquiry explain the world?" Exploring answers by gathering and analysing evidence.

Forton Primary School
Science

Pendle Class Autumn 2 Year A	N.C. LINKS: **Light** Pupils should be taught to: • recognise that light appears to travel in straight lines • 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 • 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 • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Key Concept: Light **Key Question:** What relationship is there between light travelling, the eye and vision?	
Unit Overview: The relationship between light travelling, the eye and vision.	**Vocabulary:** • Reflection • Light source • Refraction • Visible spectrum

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	• Transparent • Translucent • Opaque
New Knowledge Progression: • . Recognise that light appears to travel in straight lines. • 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. • Explain that we see things because the light that travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form). • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. •	Building on Prior learning when B follow A: • 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 a solid object. • Find patterns in the way that the size of shadows can change.
Key Skills (Disciplinary) • Use secondary sources of information to identify and classify. • Independently ask their own scientific questions taking some ownership for finding out the answers. • Articulate and explain findings from their research using scientific knowledge and understanding. • Make decisions about which information to use from a wide range of sources. • Propose their own ideas and make decisions with agreement in a group.	

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- Support, listen to and acknowledge others in the group *e.g. Yes. I prefer that one too.*
- Check the clarity of each other's suggestions *e.g. are you saying you think this one is a herbivore?*
- Build on / add to someone else's idea to improve a plan or suggestion.
- Understand that it is okay to disagree with their peers and offer a reasons for their opinion.
- Use correct scientific knowledge and understanding and relevant scientific language to discuss their observations and explorations .
- Identify changes that have occurred over a very long period of time (evolution) and discuss how changes have impacted the world.
- Explore more abstract systems / functions / changes / behaviours and record their understanding of these *(e.g. the relationship between diet, exercise, drugs, lifestyle and health; evolutionary changes; how light travels).*
- Recognise the importance of classification to the scientific world and form a conclusion from their sorting and classifying.
- Compare and contrast more complex processes, systems, functions (e.g. sexual and asexual reproduction).
- Construct a classification key / branching database using more than two items.
- Compare and contrast things beyond their locality and discuss advantages / disadvantages, pros / cons of the similarities and differences.

Sequence of Lessons:

1. To understand how light travels.
2. To explain how light is reflected in mirrors and how this can help us see objects.
3. To investigate how refraction changes the direction in which light travels.
4. To investigate changing rays of light.
5. To explore how light enables us to see colour.

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6. To understand how shadows are formed.	
Enhancements: Modelling the travelling of light – spaghetti investigation. Reflect a light ray around a map – lighthouse. National Media Museum.	End of Unit Outcome: Creating and illustrating a non-fiction book about light.