

School Code	Neilston Primary
Practitioner Code	
Curriculum Area(s)	SCIENCE AND ART
Level	Second Level
Stage(s)	P6
Specific subject (if applicable)	LIGHT

Experiences and Outcomes:

SCN 2-11b - By exploring reflections, the formation of shadows and the mixing of coloured lights, I can use my knowledge of the properties of light to show how it can be used in a creative way.

EXA 2-04a Through observing and recording from my experiences across the curriculum, I can create images and objects which show my awareness and recognition of detail.

- Learning Intentions:
- To differentiate between shadows created by opaque, translucent and transparent materials.
 - Understand that a shadow forms when light from a source is blocked.
 - To understand that when light bounces off an object it is reflected.
 - To investigate the properties of light.
 - Create an image stimulated by natural light.
 - To improve scientific literacy and display more confidence in using key vocabulary.

- Success Criteria:
- I can discuss that shadows form when a light source is blocked (in daily life and in a Solar Eclipse).
 - I can correctly use key scientific vocabulary.
 - I can describe and explain how light is reflected.
 - I can investigate the behaviour of light on different surfaces.
 - I can select appropriate material to complete my work.
 - I can use colour and texture creatively.
 - I can display my learning in a way that suits me

Briefly outline the context and range of quality learning experiences that have been provided making reference to the chosen design principles.

Challenge and enjoyment Breadth Progression Depth Personalisation and choice Coherence Relevance

Sources of Light

Children will be provided with some of the topic related vocabulary and will discuss what they already know. They will watch a video which will provide examples of light sources. Children will display examples in their jotters, **selecting their own preferred format** (i.e. labelled images, text etc.).

Investigating shadows

Children will become 'Shadow Detectives' and will search the classroom to find shadows. They will watch a video which explains opaque, translucent and transparent material. The children will **continue their investigation** and identify materials in the room. They will record their learning in their jotters, **selecting their own preferred format**.

To assess their understanding of new vocabulary, an 'alien' assessment sheet will be given in which the children will **use their own words to explain key vocabulary** and ideas.

Solar Eclipse

In pairs, children will discuss what they know about a Solar Eclipse. They will watch a video clip providing a visual explanation **detailing the key learning points**. Individual children will be randomly selected to share key points. A sun will be drawn on board and children will **recreate a Solar Eclipse** using paper.

Properties of light /Reflection

Children will work in pairs and take notes during a Tig Tag video (listening out for key vocabulary). They will take part in class discussion on white light, refraction and reflection. They will watch a second video discussing the behaviour of light. Children will be asked to display their learning using appropriate labelled diagrams to display their learning.

Aurora Borealis

Prior to lesson, as a homework task, they will be asked to find out some information about the Northern lights. Children will watch a short video providing information. They will be asked to make some notes of key facts. They will be set the challenge **of creating their own Northern Lights** image focusing on using a wide variety of light and shadow. They will peer assess each other's work using Glow/Grow (verbally).

Record the range of assessment evidence that was gathered to meet the success criteria (Say, Write, Make, and Do) considering breadth, challenge and application.

Say:

- Generate questions for investigation.
- Use key vocabulary accurately in class discussions.
- Identify examples of light sources and shadows around them.

Write:

- Children will apply their knowledge to create a fact sheet to display understanding of the Aurora Borealis.
- Record definitions of key vocabulary and provide explanation.

Make:

- Create an image of the Northern Lights using a variety of materials.

Do:

- Investigate and record shadows in the classroom.
- Take part in a role play to demonstrate what happens during a Solar Eclipse. By becoming the planets they will add depth to their understanding.

- Complete a summative quiz on light (multiple choice)

Did the learner successfully attain the outcomes? YES/NO

SCN 2-11b - By exploring reflections, the formation of shadows and the mixing of coloured lights, I can use my knowledge of the properties of light to show how it can be used in a creative way. **YES**

EXA 2-04a Through observing and recording from my experiences across the curriculum, I can create images and objects which show my awareness and recognition of detail. **ONGOING**

Briefly outline the oral/written feedback given to the pupil on progress and next steps, referring to the learning intention and success criteria.

Written feedback was provided using Glow/Grow.

Glow focused on correct content, learning intentions that were met and clear explanations.

Grow focused on next steps in learning; transferring knowledge of concepts in different contexts i.e. shadows –Solar Eclipse.

Next steps were provided during whole class discussions.

Pupil Voice:

What have you learned? How did you learn? What skills have you developed?

Pupil 1

"I have learned all about light and shadows. I can use scientific words to explain what happens with different things. I learned by watching videos and investigating around my classroom and house .I pretended to be the earth for a Solar Eclipse. I did a little bit of research at home on my computer about the Northern Lights. I have improved on my talking skills and can explain things a bit better. I am better at investigating and guessing about how shadows change.

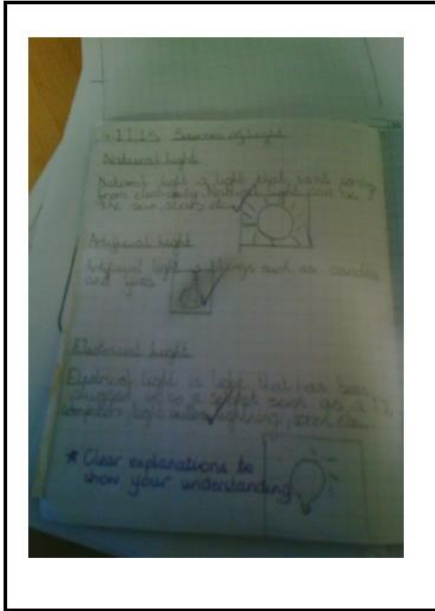
Learner Evidence

Experiences and Outcomes SCN 2-11b - By exploring reflections, the formation of shadows and the mixing of coloured lights, I can use my knowledge of the properties of light to show how it can be used in a creative way.

Early/First/Second Level		Lesson number 1	
Evidence of learning			
SAY	MAKE	WRITE	DO

Context for Learning
Sources of Light - (Introduction Lesson)
 Children were provided with some of the topic related vocabulary and discussed (in pairs) what they already knew about light sources around them. They watched a Tig Tag video which provided examples of light sources to reinforce understanding. Children were asked to display examples in their jotters, (selecting their own preferred format).

Teacher Voice
 The children were encouraged to use the key vocabulary that was provided on the board to support their discussion. During teacher observation and questioning, pupils 1 and 2 were able to make connections with their previous learning and categorize various sources of light under the appropriate headings. Verbal transactions and jotter worked provided evidence of success criteria being met.



Success criteria

- I can share my learning with others and can justify my choices.
- I can identify sources of light in the world around me.
- I can correctly use key scientific vocabulary.
- I can display my learning in a way that suits me.

Pupil Voice
 Class randomising tool was used to ask questions during plenary.
 Teacher question: What is the most important light source to us?
 Pupil 1: The most important is the sun because we need it to live and it helps us eat and sleep.

Experiences and Outcomes SCN 2-11b - By exploring reflections, the formation of shadows and the mixing of coloured lights, I can use my knowledge of the properties of light to show how it can be used in a creative way.

Early/First/Second Level		Lesson number 2	
Evidence of learning			
SAY	MAKE	WRITE	DO

Context for Learning
Investigating shadows
 Intro - Whole class discussion on why there are shadows.
 Children became 'Shadow Detectives' and searched the classroom to find shadows. They watched a Tig Tag video which detailed the properties of opaque, translucent and transparent materials. They continued their investigation and identified materials in the room. They recorded their learning in their jotters, selecting their own preferred format.
 To assess their understanding of new vocabulary, an 'alien' assessment sheet was given out as an entrance pass to the next lesson. This encouraged the children will use their own words to explain key vocabulary and ideas.

Teacher Voice
 The children were very enthusiastic when carrying out their investigation and verbally predicted what materials would create different shadows. The quality discussion that took place between learners provided an opportunity for the children to use their new vocabulary in context.



Success criteria

- I can correctly use key scientific vocabulary.
- I can make predictions about materials and their ability to create a shadow.
- I can investigate shadows in the world around me.
- I can investigate the behaviour of light on different surfaces.

Pupil Voice
 "An opaque object doesn't let any light through and makes a dark shadow"
 "I like being a detective, it makes learning really fun"
 "I didn't know that shadows change, I'm going to keep a close eye the next time the sun is out"

4.1.1.15 Sources of light

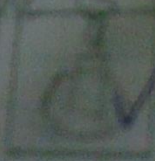
Natural light

Natural light is light that isn't coming from electricity. Natural light can be the sun, stars etc.



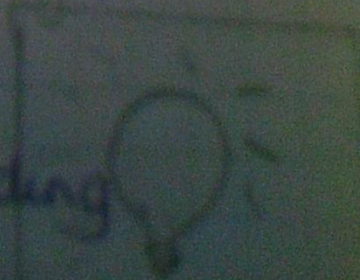
Artificial light

Artificial light is things such as candles and fires

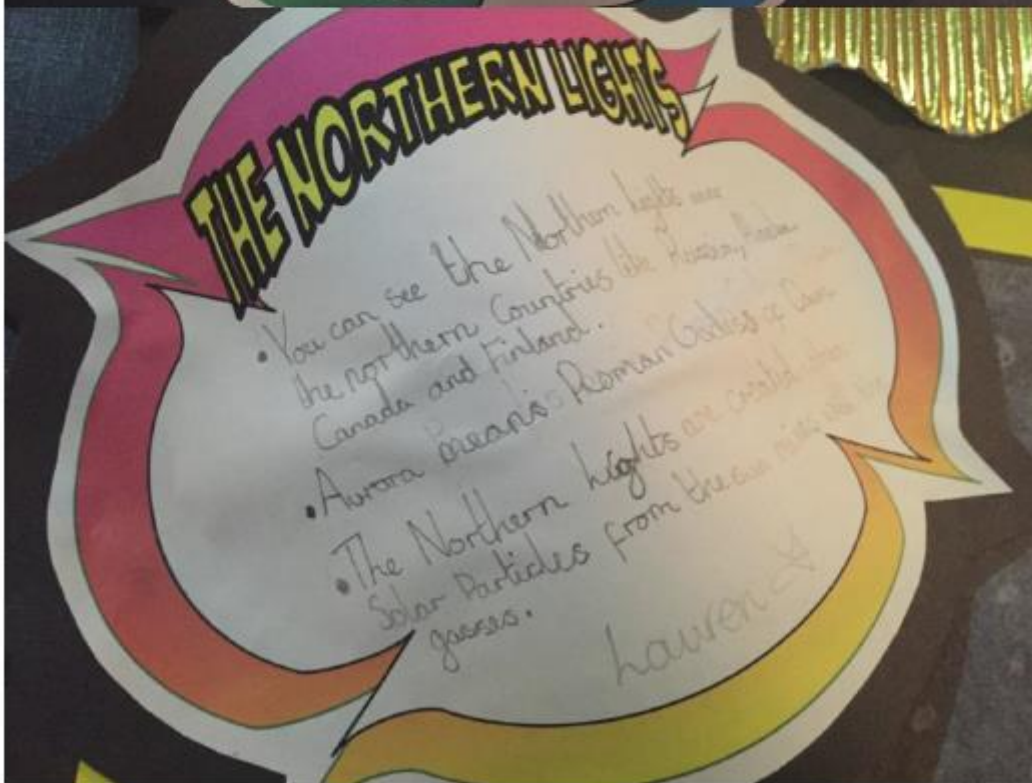
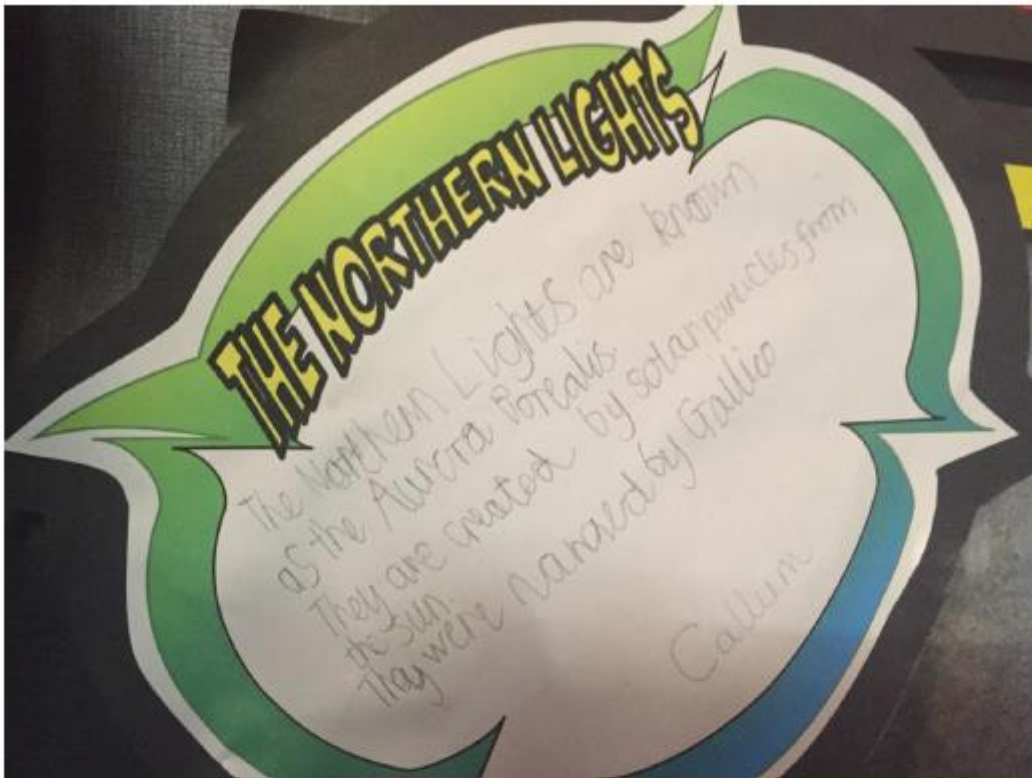


Electrical light

Electrical light is light that has been changed, it is a light such as a TV, computer, light bulb, lighting, etc.



* Clear explanations to show your understanding







Practitioner Moderation Template

Learner Evidence

Experiences and Outcomes SCN 2-11b - By exploring reflections, the formation of shadows and the mixing of coloured lights, I can use my knowledge of the properties of light to show how it can be used in a creative way.

Early/First/Second Level		Lesson number 3	
Evidence of learning			
SAY	MAKE	WRITE	DO

Context for Learning

Solar Eclipse

In pairs, children discussed prior learning and made connections to their real life experiences of a Solar Eclipse. They watched a Tig Tag video clip providing a visual explanation detailing the key learning points. Individual children were randomly selected to share key points using lollipop sticks.

A sun was drawn on the board and the children took part in a role play activity where they had to recreate a Solar Eclipse using paper.



Success criteria

- I can discuss that shadows form when a light source is blocked (in daily life and in a Solar Eclipse).
- I can explain how distance contributes to a solar eclipse.
- I can take part in role play activities to help me understand.

Teacher Voice

The children found it difficult to understand that even though the sun is a much bigger planet its light could still be blocked by the moon. By 'becoming a solar eclipse' the children grasped the concept and could discuss the impact the distance between each planet had.



Pupil Voice

The children used the thumb tool to demonstrate that they were confident and understood how a solar eclipse took place.

"The further away I stand the less of the sun I can see, it's blocked"