

Module 2: Light Reflection and Colour

Lesson 2: Understanding and Empathy

Class Level: 1st and 2nd class	
Strands: 1. Living things 2. Energy and forces 3. Environmental Awareness and Care	Strand Units: 1.1 myself 1.2 plants and animals 2.1 Light 3.1 caring for my locality

Safety: All material should be safe and found in your classroom or at home. Avoid selecting sharp items.

Background

In this lesson we will investigate the differences between moths and butterflies. Moths are **nocturnal** and butterflies are **diurnal** but they are closely related.

Here is some further information on butterflies and moths:

http://www.fingalbiodiversity.ie/resources/encouraging_garden_wildlife/Garden%20Butterflies.pdf

Key Learning

Moths and butterflies are related and have many things in common, but also have major differences. Butterflies are active in the day (diurnal) and moths are active at night (nocturnal). Moths are well adapted to night-time and have structures in their eyes that stop reflective glare. Butterflies are very colourful.

Resources

- Lollipop sticks, scissors, glue
- Videos
 - <https://youtu.be/uiqDniB8T6A> first 1.20 of video excerpt moths and butterflies
 - <https://youtu.be/7nXHOIhhu70> first 1.36 stop at the minibeast hunt (or you can continue on the video and have the children watch this)

SunPilot Resources:

- Stick puppets of butterfly and moth (one per student – children can cut out and make)
- Information sheets on the moth and butterfly used in this lesson (1 page per team) cut out before class.

Key Vocabulary

- Reflective
- Anti-reflective
- Diurnal

Learning Objectives/Outcomes		
Science	Literacy	Other
<p>1.1.1 become aware of the role of each sense in detecting information about the environment and in protecting the body</p> <p>1.2.1 group and sort living things into sets according to certain characteristics (day/night i.e. nocturnal/diurnal)</p> <p>2.1.1 recognise that light is needed in order to see</p> <p>3.1.1 observe similarities and differences among plants and animals in different local habitats</p>	<p>Oral language</p> <p>- express personal opinions, ask and answer questions to get information, develop understanding and to clarify and extend thinking in relation to animal characteristics</p> <p>-use sophisticated oral vocabulary (subject specific)</p> <p>-describe, predict & reflect on events and processes relating to moths and butterflies</p> <p>Reading</p> <p>-recognise and manipulate syllables in new vocabulary words</p> <p>Writing</p> <p>-explore and use the typical text structure and language features associated with the recount genre (diary)</p>	<p>SPHE: 1. Myself (feelings and emotions): 1.1 self-identify 1.1.1 making decisions. 1.1.2 being a friend 2. Myself and others (relating to others) 2.1 my friends and other people 2.1.1 discuss and examine aspects of friendship 2.1.2 relating to others.</p> <p>Drama: 1. Drama to explore feelings, knowledge and ideas, leading to understanding 1.1 Exploring and making drama 1.2 Co-operating and communicating in making drama</p>

Lesson Outline

Introduction:

Slide 2, 3



In the last lesson we learned that animals that are awake at night are called **nocturnal**, Animals that sleep at night are called **diurnal**.

We discovered that we don't see colour in very low light and that nocturnal animals can have a reflective layer in their eyes to help them see better a night. What other differences can you see between the diurnal and nocturnal animals in these pictures?

Lead the students towards the observation that diurnal animals are more colourful.

Here are some suggestions for discussion:

- How does that tie in with what we discovered about our eyes in low light?
Prompt: When light is bright enough, colour is visible, we can play with light and reflect different colours.
- Today we will look at the butterfly and its cousin the moth.
- Watch videos:
 - <https://youtu.be/uiqDniB8T6A> first 1.20 of video excerpt moths and butterflies
 - <https://youtu.be/7nXH0Ihhu70> first 1.36 stop at before the minibeast hunt

Activity 1: groups of 2

Slides 4 -6



Give each team the information cards about the moths and butterfly. Read the cards out loud with the students. Discuss new vocabulary and identify the things that moths have in common with butterflies as well as the differences.



Activity 2: Drama – teacher hot seating

All the children pretend to be moths. The teacher is a butterfly lost amongst the moths at night-time.

Teacher asks them:

What time is it? why are you awake? I can hardly see, what colour are you? What happened to my beautiful blue colour? Why are your eyes so dark? Can I play with you after breakfast? Why not?



Activity 3: drama alleyway. Group preparation then groups of 2.

Students cut out the puppet for the moth or butterfly and glue on lollipop sticks to make stick puppets.

Have the students line up in pairs – moths on one side, butterflies on the other (holding their stick puppets). Discuss and debate –Can they be friends? Let the two interact with each other and develop a play.



Wrap up (whole class discussion)

Can they be friends? Take a vote. Use post-its to draw a happy face if they can be friends or a frowning face if they don't think they can be friends. Have them place this stacked on the white board to make a bar chart. Give students the opportunity to debate their answers.



Activity 4: writing practice

Slide 7

Have each student write in a diary as the moth or butterfly about their adventure, who they met, what they have in common and how they are different? Have them talk about being friends. Teacher should model what a diary entry looks like.

Modification

- Activity 1 can be done as a whole class using slides 4, 5 and 6, students can read along or discuss the vocabulary as the teachers reads the phrases.

Extension Activities

- Have the students take photos or draw a story about their interactions with each other
- Have the students write a story about an adventure that the moth and butterfly go on.

Assessment

- Teacher observation
- Written work - diary

Information Sheets

Cut these out and give one to each student. They will work in pairs – One moth, one butterfly. Slides 3 and 4

Hi, I am the European common blue butterfly



- I am awake during the day, so I am **Diurnal**
- I drink nectar from flowers
- I live in grassy places like gardens and farmland
- I like to fly a lot on sunny days
- I love my blue wings! They are blue because of light reflection, they are not painted blue. Many diurnal animals are very colourful.
- I do not need to blend in at night when I am sleeping, since no one can see my colour.

Hi, I am the Common rustic moth



- I am awake at night, so I am **Nocturnal**
- I drink nectar from flowers
- I live in grassy places like gardens and farmland
- I sleep on tree trunks during the day
- My eyes are very dark, they absorb lots of light so I can see better at night. Many nocturnal animals have special eyes for night time.
- I need to blend in during the day when I am sleeping, so my wings are brown, the colour of a tree trunk!

Images for Stick Puppets

