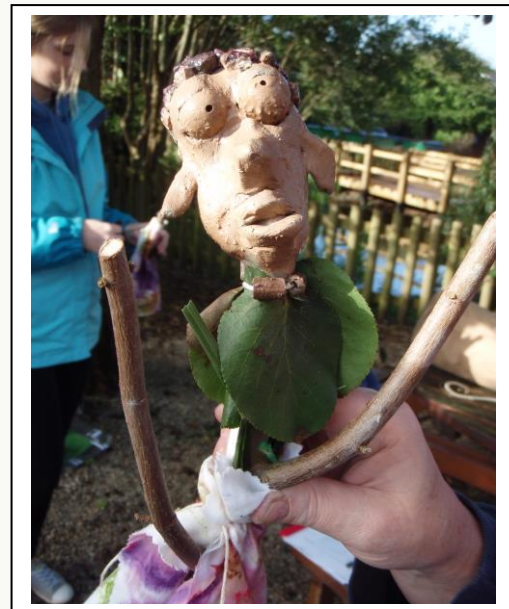


LESSON PLAN

CREATED FOR TEACHERS BY EDEN'S EDUCATION TEAM

Lesson plan: Darkness Dwellers

Children are asked to imagine the world without any light. Drawing from nature for ideas and inspiration, they design 'stick people' with special features and powers to live in a world of darkness.



Who is this lesson for? Key Stage 2

How long? 2 hours

Where? This lesson is best done in a woodland or other natural environment.

Objectives and Curriculum Links

This lesson enables students to:

- Explore how nocturnal animals are adapted to live in their dark environment.
- Consider how humans, in the absence of light, may use their other senses to navigate and understand the world.
- Demonstrate their learning in their design and creation of a Darkness Dweller

We've designed the lesson to help teachers cover the following subject areas:

LESSON PLAN

CREATED FOR TEACHERS BY EDEN'S EDUCATION TEAM

Year 3 Plants

- identify and describe the functions of different parts of plants
- explore the requirements of plants for life and growth.

Year 3 Light

- recognise that they need light in order to see things and that dark is the absence of light
- recognise that shadows are formed when the light from a light source is blocked by an opaque object
- find patterns in the way that the size of shadows change.

Year 6 Evolution and Inheritance

- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Resources

- Wiggly worms (lots of short pieces of coloured wool – some bright, some dark/dull)
- Blindfolds (we use strips of cut up fleece)
- A long rope (if you are doing the blindfold trail)
- Sticks – cut to 30 cm lengths of about 3 cm diameter
- Loppers (to cut up your sticks in advance)
- Clay
- Pipe cleaners
- Elastic bands
- Colouring pens
- A 'come back' signal. At Eden we have two signals. Children are instructed that the duck caller means 'time is up, start heading back now'; while the whistle is 'something has happened, drop everything and come back now' – for use only in emergencies.

Attachments

Safety in a woodland environment
Stick people inspiration sheet

LESSON PLAN

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Getting started

30 minutes

These starter activities are a fun way of exploring how light enables humans to use our eyes to see, navigate and explore; and what happens to our sight and other senses when there is no light.

Step 1: Wiggly worm hunt

This is a good running around hunting game. First mark out an area as your 'field' and scatter around lots different coloured pieces of wool (have some bright and some dark and dull colours).

One child volunteers to be the farmer. The others are birds. At your signal, their challenge is to run into the field and grab a wiggly worm before the farmer catches them. Those that are caught are 'out' – the game is played until all the birds are caught, or all the worms are gone.

You will notice that the brighter, less camouflaged pieces of wool will get picked up first.

Step 2: Explore a world without any light

Find a Tree

Children work in pairs. One of the children will be blindfolded; the other will be a guide. When the activity is completed, they will swap roles and do it again.

Children choose who will be blindfolded first. The guide looks around for a tree and carefully leads their friend on a journey – taking some twists and turns, and stepping over obstacles to reach it. Still blindfolded the child explores the tree – feeling it all over to notice its shape, the texture of the bark, any lumps, bumps or distinguishing marks. They could also smell it. The guide leads their friend back, gently turns them around a few times to confuse their sense of direction, before taking the blindfold off. Can they find the tree they were taken to?

(Note: it is a good idea to first demonstrate how guides can slowly and safely lead their non-seeing partner; this is best done by holding hands, or for the blindfolded person to put their hand on their guides shoulder.

And/or...

Blindfold Trail

Use a long rope to create a trail – up and down, around obstacles, and under and over obstacles. Wrap the rope around trees to secure it at about waist height.

LESSON PLAN

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Children work in pairs and take it in turns to wear a blindfold. The blindfolded child holds the rope and follows it along the route. The guide gives verbal instructions (e.g. 'there is a log coming up that you will need to step over', or the 'rope is wrapped around this tree') but must try not to touch their partner unless they have to.

It is useful to have an adult helper at the start of the trail and one at the end. One adult should stay with the group. At the start of the trail, allow a gap between each pair. When the activity has been completed, the children swap roles and complete the task in reverse.

It is worth taking the time to set this up - the children will love it. If you want to get the most out of it, why not try some variations and challenges? For example, do the trail a second time with no guide – feeling your way carefully along the route with hands, feet and senses. Or try to complete the trail silently.

Step 3: Discussion

- Did you find your tree? If you couldn't see, how did you manage it?
- What it was like to be blindfolded? How did you feel? How did your feet feel?
- What happened to their other senses?
- Children will say it was 'freaky' or 'scary' – encourage them to explain why.

Main Activity

'The Darkness Dwellers' Challenge

45 minutes

Imagine a world without any light. What would it be like to live in?

Human Beings have evolved as hunters in a world of light -eyes that look forward, ears at the side of our heads, upright bodies for running with our arms free. If we had evolved to live in the dark, how might our bodies look different and what special abilities might we have evolved?

Your challenge is to create a 'Darkness Dweller' – a human with special features and powers to live in the dark.

Think about animals that live in the dark and their adaptations – big eyes to capture any light (owls), whiskers and antennae (moles, mice), big ears and clever navigation (bats), stealth and silence to avoid being heard. Think about special powers we might have – infrared vision, special hunting mechanisms...

LESSON PLAN

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Show children their resources:

- Each child can choose a stick – this is the body.
- Children will 'dress' this stick to make their darkness dweller character.
- Either draw a face, or create a head out of clay.
- Find natural things – berries, cones, feathers, leaves, other sticks, moss, and bark – to create eyes, antennae, armour, and ears.
- Pipe cleaners and elastic bands are brilliant for attaching things – show children how to twist pipe cleaners.
- Small pieces of clay can act as 'glue'

Plenary

Invite children to share their creations with the group – describing and explaining at least two special features that help their Darkness Dweller to survive in a world without any light.

Children will enjoy playing with their characters in the woods. It is interesting to allow time for this free play and to listen to the stories that evolve as children play with their understanding of the concepts covered in this session.

Extension work back in the Classroom

The Darkness Dwellers can be used back in the classroom for further work on light; in particular exploring how light travels from a source and cannot pass through some materials, and how this leads to the formation of shadows.

Use a bright light to create shadows and silhouettes of the Darkness Dwellers. Experiment with moving the light to create bigger and smaller shadows.