Cyfoeth Naturiol Cymru
Natural Resources Wales

Animals & Habitats

// Activities & Games

CHILDREN, EDUCATION, LIFELONG LEARNING & SKILLS
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Context

This booklet highlights the importance of sustainably managing our natural resources, focusing on exploring how animals are adapted to their environment and what they need to live.

Natural Resources Wales' purpose is to pursue the sustainable management of natural resources in all of its work. This means looking after air, land, water, wildlife, plants and soil to improve Wales' well-being, and provide a better future for everyone.

Introduction

All the following activities and many more can be adapted for use in woodlands, coastal settings, local parks, school grounds, etc.

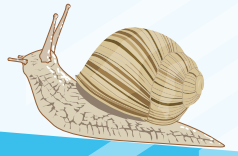
The activities have come from many different sources and have been altered and adapted over the years.

All the natural resources required to complete the activities listed are easily collectible from local nature spaces if your setting has none available.

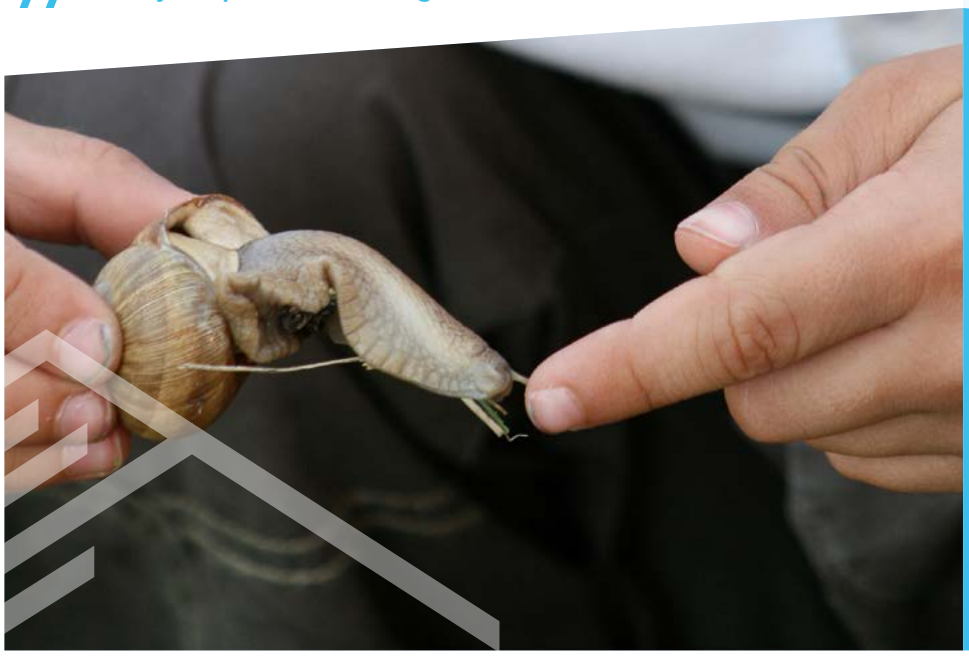
Please ensure that your activities are sustainably resourced and have minimal impact on the natural environment.

For example:

- Be aware of prickly, poisonous plants
- Guard any protected species on site
- Don't over use one area
- Leave nothing but footprints



// PICK AND CHOOSE from the following activities to explore the environment to further develop a sense of place, encourage physical activity and promote wellbeing.



AIM

To encourage everyone to spend time being in and connecting to nature through first-hand, positive experiences.

To aid the development of cross curricula knowledge and skills required to meet the four purposes of the Curriculum for Wales.

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ACTIVITY 1

OWL AND MOUSE

Overview

This activity looks at how animals use specialised tactics to hunt and avoid predators. In this case, how an owl uses acute hearing to locate food and how prey animals use stealth to avoid being eaten.

Supporting information & resources:

Blindfolds or similar

What to do...

1. Ask your learners to stand silently in a circle, facing inwards.
2. Select an 'owl' to be blindfolded and invite them to sit or stand in the middle of the circle.
3. Scatter some seeds or nuts, e.g. acorns, hazel nuts, conkers, etc. around the 'owl.'
4. Point to a 'mouse' within the circle.
5. Explain that the 'mouse' must creep forward to pick up some of the 'food,' without being heard by the 'owl' and return to the circle.
6. Choose another 'mouse' and repeat.
7. If the 'owl' hears the 'mouse' moving around, the 'owl' needs to point in the direction of the sound.
8. If correct, the caught 'mouse' becomes the 'owl'.

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ACTIVITY 2

BEAR, SALMON, GNAT

Overview

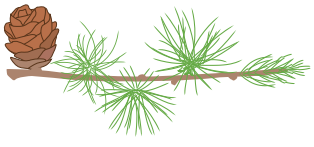
This food chain activity is based on the rock, paper, scissors game.

Supporting information & resources:

Base/home markers, e.g. lengths of rope, flags, chalk

What to do...

1. Select a suitable, flat space and make two 'base/home' markers, one at either end of the space, using rope, flags, chalk, etc.
2. Discuss the animal food chain of choice and make up actions and/or sounds for each one, e.g.
   - **BEAR = clawed hands over head and growling**
   - **SALMON = 'fishy' hand and mouth movements**
   - **GNAT = buzzing and wing movements**
3. Divide your learners into two even groups and send each one to stand at one of the base/home markers.
4. Instruct each group to work together to tactically choose one of the food chain creatures and invite them to meet each other in the centre of the space.
5. On the count of 3 ask each group to make the actions/sounds of their chosen group animal.
6. The higher food chain 'animals' then chase the other team back to their home line.
   - **BEARS eat salmon**
   - **SALMON eat gnats**
   - **GNATS bite bears**
7. Any of the fleeing team who get touched by the higher food chain animals during the run back to base, must swap to the other team.
8. Continue the game until everyone is in one team or the group have had enough.



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ACTIVITY 3

CREATURE FEATURES

Overview

This role play activity examines the physical characteristics of native creatures.

EXTEND THE ACTIVITY by looking at how the creature is adapted to its environment; build a model of the creature or create and name a fictional creature with special, adaptations and features.

Supporting information & resources:

Pictures of creature group e.g. insects, marine or woodland mammals (use the web, ID books or picture cards)

What to do...

1. Ask your learners to get into small groups and chose a creature from the picture set.
2. The group can now investigate the creature and identify the different body parts, e.g. head, thorax, tail, wings, etc.
3. Working together, each group can try to create the whole animal by each member acting as one of the separate body parts. Give time for the group to practice and adjust themselves.
4. In turn each group tries moving around the space as the creature.
5. Can the remaining groups work out which creature is being acted out?

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ACTIVITY 4

NEST BUILDING

Overview

This activity studies the design, materials and building of nests and the adaptations animals and birds require to accomplish this.

Supporting information & resources:

Natural materials such as fallen branches, drift wood, sand, mud and leaves and pictures of different types of nests.

OPTIONAL: socks, tweezers, hard boiled eggs and soft toys

What to do...

1. Discuss what kind of creatures build nests, e.g. birds, reptiles, squirrels and mythical creatures such as dragons.
2. What kind of creatures might build a nest at your location?
3. Where might you find a nest, e.g. at ground level, in a tree or mud bank?
4. Consider the purpose of a nest, e.g. for raising young and to provide shelter. Discuss the various names for nests e.g. a squirrel's nest is called a drey.
5. Share the pictures of different types of nest with you learners. Discuss the different types of nest designs.

LESS ABLE LEARNERS can work in pairs or small groups to create a nest using the natural materials on site. This can be supported by providing a specific species such as nest building for a bird and each group can be provided with a soft toy version to provide context.

MORE ABLE LEARNERS could choose their own creature to build a nest for; be given a set of standards to apply e.g. safe location, comfort, aesthetics, robustness of build and points applied for each characteristic to provide an overall best nest.

Each group can be given an egg to look after during the build and to test their nest building with. For example, to ensure the nest is level and the egg won't roll out.

For bird nest building, each learner can be asked to use only one hand (optional - with a sock applied), or to use a set of tweezers to represent a bird's bill as an animal's adaptation.

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ACTIVITY 5

ANIMAL HOMES

Overview

This activity studies the building behaviour of mammals, birds, insects and arachnids.

Supporting information & resources:

Natural materials such as drift/fallen twigs, sand, mud, leaves

OPTIONAL: soft toy animals

OPTIONAL: INFORMATION NOTE
- Habitat piles and stumperies

OPTIONAL: INFORMATION NOTE
- Otter holt challenge

What to do...

1. Discuss why animals construct their own habitats - for shelter, safety from predators, nesting purposes, to catch, store and even cultivate food.
2. Discuss what kind of animals might live in the local area.
3. Where do they make their homes, e.g. holes in the ground, in trees or built structures like otter holts?
4. Investigate animal home names such as a den, burrow, web, drey, nest, holt and dam.
5. What materials are used for making these homes and how are animals adapted to make them, e.g. moles have very large paws for shifting soil.
6. How are these homes constructed? By one animal or undertaken as a group e.g. ant nests.

LESS ABLE LEARNERS can work in small groups to create a home for a soft toy animal using natural materials.

MORE ABLE LEARNERS can work in pairs or small groups to build an appropriate home for a specific animal using natural materials.

On completion of the build, ask the learners to work together to develop a sales pitch on the unique design and features of their home as if they were estate agents, givng time for each group to 'sell' their home to the other groups. Which home was peer assessed as the best? Hold an 'auction' to find the most wanted home.

EXTEND THIS ACTIVITY by creating habitat piles or a stumpery to encourage creatures to your nature space.

Try out the OTTER HOLT CHALLENGE.

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ACTIVITY 6

WORM CHARMING

Overview

This food chain activity replicates how some birds predate worms.

What to do...

Ideally, this activity works best when the soil is a little wet and at either end of the day. Worms are sensitive to sound vibrations and will come to the surface if subjected to the right kind of noise. Birds tap their feet on grassy areas to attract worms to the surface, where they can then catch them for food.

1. In small or large groups ask your learners to act as birds and stamp their feet repetitively on a grassed area. It may take a little while, but worms should begin to come to the surface.
2. Be careful not to step on any that appear and count how many you can see.

ACTIVITY 7

WORMERY

Overview

Make a simple wormery to study worm behaviour.

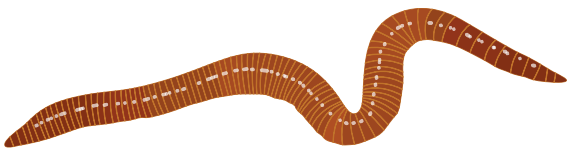
Supporting information & resources:

INFORMATION NOTE - Build a wormery

INFORMATION NOTE - Worms

What to do...

1. Follow the instructions to build short term, individual wormeries.
2. Keep the wormery in good condition and observe the worms' behaviour for a short period before releasing the worms back into their original collection area.



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Creature	Hibernates in winter	Doesn't hibernate in winter
Hedgehog	✔	
Red squirrel		✔
Bats	✔	
Grass snake	✔	
Dormice	✔	
Badger		✔
Grey squirrel		✔
Bumblebees	✔	
Newts	✔	
Mole	✔	
Adder	✔	
Red Admiral butterfly		✔
Ladybirds	✔	
Fox		✔
Frogs	✔	
Otter		✔
Peacock butterfly	✔	
Slow Worm	✔	

ACTIVITY 8

HIBERNATION GAME

Overview

This activity examines how some warm-blooded animals use hibernation as a survival tactic.

Supporting information & resources:

Small plastic bottles or similar

Small sticky shapes or pens

OPTIONAL: red food colouring

OPTIONAL: to hibernate or not to hibernate quiz (use the table opposite)

What to do...

1. Begin by asking your learners to draw the facial features of a mouse on their plastic bottle.
2. Fill the bottles with hot water and add a few drops of red food colouring. Make sure the lids are well secured.
3. The 'mice' need to stay warm over the winter, so ask your learners to each find a suitable place outside for their 'mouse' to hibernate. This might be under a pile of leaves, under a bush or in the trunk of a tree. Make each 'mouse' warm and cosy! Now leave the area for a set period, at least an hour.
4. This would be a good time to read a story about an animal that hibernates or find pictures of animals hidden around the area for a quick quiz on which animals hibernate, migrate or stay awake during the winter.
5. Check to see if the 'mice' have survived the winter. What has happened to the temperature of the water? Is it warm or has it cooled? What does a mouse have that the bottles don't? Do you think animals would really hibernate in the area?

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ACTIVITY 9

ANIMAL EXPERT

Overview

This activity can be played as a running game that matches animals to their homes.

Supporting information & resources:

RESOURCE CARDS - Animal match

What to do...

1. Cut up the Animal match resource cards and laminate if required. Mix up and spread as many sets of the resource cards as required, around a suitable area.
2. Divide learners into suitably sized groups and ask them to stand in a line at opposite ends of the playing area.
3. The activity can be played as a relay. The first learners run to the centre, pick up a card and take it back to the group before moving to the back of the line.

   The next learners go to find a card and so on.

   The group work as a team to sort the cards according to the right animal.

   Repeat until all the cards have been collected and sorted into a full set per animal (8 cards per animal).

   The first team to team to successfully match their Animal match resource cards wins.

EXTEND THE ACTIVITY by awarding points for each correctly named and homed animal. Ask quiz questions based on the cards to award extra points. Ask each group to study the information on one animal so they can act as the 'expert' and deliver a short presentation on their animal.

LESS ABLE LEARNERS can work together to name the animal pictures and match them to their homes. Reduce the number of animal cards to a suitable number for the group.

MORE ABLE LEARNERS can research and create their own, additional animal match cards.

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ACTIVITY 10

ANIMAL SNIFF

Overview

This activity develops awareness of how creatures use their senses to live.

Supporting information & resources:

Several different flavouring essences (ideally colourless)

Cotton wool

What to do...

1. Create a set number of small cotton wool balls, e.g. 10.
2. Apply the different flavoured essences to each one, but replicate a couple.
3. Hide the cotton wool balls around your outside learning area.
4. Ask the learners to look for the cotton wool balls and smell each one without removing them from their location. How many different smells could they count?
5. Discuss how everyone has different levels of a sense of smell. How difficult or easy was it to identify the different scents? Was one easier to recognise than another? Describe the smells.
6. Another way to play this game is to have as many small cotton wool balls as learners. Divide them into as many groupings as you have essences and apply the essences to the cotton wool.
7. Hide the cotton wool balls around your outdoor learning area and invite each learner to find and pick up one cotton wool ball each.
8. Once everyone has found a cotton wool ball, ask your learners to use their sense of smell to seek out others holding a cotton wool ball with the same scent and to link arms on doing so.
9. Eventually, the learners should be in 'scent families'

EXTEND THE ACTIVITY By applying the same number of essences to a tree trunk or similar and then ask each 'scent family' to try to locate their 'home'. Investigate which animals and insects use their sense of smell and what for? For example, badgers use it to sniff out their prey in the dark and ants use scent trails to find their way home and to identify friend from foe.

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ACTIVITY 11

WHAT AM I?

Overview

This guess who activity develops knowledge of insect and animal features, behaviours and habitats.

Supporting information & resources:

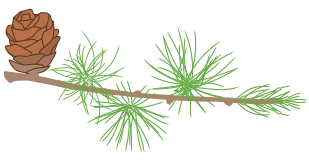
RESOURCE CARDS - Invertebrate who am I?

RESOURCE CARDS - Animal who am I?

What to do...

This activity can be played in a range of ways.

1. Read out the 'Who am I?' cards one at a time (or have learners do this) and see if anyone can guess the creature represented.
2. Divide your group into pairs and alternate between questioner and guesser.
3. Ask the group to sit in a circle. Give each learner a card, explaining that you do not want them to look at the card. When everyone has got a card, ask those with the picture cards to look at their card ensuring that no one else can see it. Choose a learner with an information card to read the clues out loud to the rest of the group. The rest of the group can then guess which creature the clues refer to. Once a pair is identified, peg them up next to each other on a line.
4. Peg a picture of an insect or animal onto the back of each learner so that it can be seen by the rest of the group but not by the individual. Working in pairs or small groups, learners take turns to ask questions about its creature features, getting yes or no responses from others. Can they work out what the creature is from the answers?



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ACTIVITY 12

BAT AND MOTH

Overview

This activity explores the use of echo-location by some animals to locate their prey.

Supporting information & resources:

Blindfolds

OPTIONAL: sets of bells

What to do...

1. Ask your learners to stand in a circle, holding hands.
2. Select one to be the bat (predator) and another to be the moth (prey).
3. Blindfold both learners and place away from the each other within the circle.
4. The object is for the 'bat' to try to locate and tag (eat) the 'moth'.
5. As the 'bat' cannot see where it is going it needs to use echo-location to find its food. Explain that bats emit high-pitched sounds which bounce off surrounding objects and give the bat a picture of its surroundings - including where its food is located.
6. To simulate echo-location, the 'bat' can clap or shake a bell intermittently.
7. Every time the 'bat' makes a noise, the 'moth' must repeat the same sound back within two seconds.
8. Both 'bat' and 'moth' must stay inside the circle. The other participants must remain quiet for the 'bat' and 'moth' to be able to hear. The game draws to a close when the 'bat' tags (eats) the 'moth'.
9. After playing a few rounds of the game, add in extra 'moths' and/or 'bats'.
10. You can also choose several learners to stand still in the circle acting as trees. These learners need to say 'tree, tree!' if the 'bat/moth' gets too close, so they avoid hitting a 'tree'.
11. Discuss what strategies moths might really use to escape a hungry bat.
12. This activity can be applied to other animal food chains, such as dolphins who also use echo-location.

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ACTIVITY 13

FOOD CHAIN DETECTIVES

Overview

This activity develops knowledge of insect/ animal features, behaviours and habitats.

Supporting information & resources:

Clipboards, paper and pencils

Insect id sheets

What to do...

1. Begin by explaining that all living things need food to give them energy to move and grow. A food chain demonstrates how living things get their food by showing us what feeds on what in a habitat. It also shows how energy flows from one living thing to another.
2. Ask your learners about how they get their energy? Explain that every living thing needs energy to be able to survive and grow.
3. Explain that a food chain begins with the sun which passes energy onto plants.
4. Plants change light energy into chemical energy which they consume as food - plants can be called sun munchers or primary producers.
5. Animals, which eat only plants are called herbivores, plant munchers or primary consumers.
6. These animals in turn will become eaten by carnivores, animals which eat other animals - these are known as animal munchers or secondary consumers.
7. Some animals eat both meat and plants. They are called omnivores.
8. Explain to your group that they are going to be energy investigators searching for specimens/evidence of sun munchers, plant munchers and animal munchers (or use the technical terms).
9. Divide into four separate groups, with each group investigating different ecological layers of the area on a rotation basis.
10. Ask learners to predict which ecological layer they think they will find bugs or evidence of bugs in?
11. Provide the groups with bug hunting and writing equipment for investigation and collation of their findings.
12. After spending 15 minutes searching each layer, rotate to a different section.

    Ground layer – looking for plant munchers/animal munchers amongst the leaf litter - turning over sticks, stones and leaves.

    Shrub layer – looking for plant munchers/animal munchers amongst the shrub layer using sweeping nets or dustpans and brushes.

    Canopy layer – looking for plant munchers/animal munchers amongst the canopy layer by shaking tree branches onto a white sheet. Any inhabitants should fall onto the sheet for a closer inspection.

    All layers – Ask learners to look for evidence of sun munchers such as leaves, berries, bark, flowers.
13. Tally up what each group has found in each ecological and classify their specimens into plant munchers (herbivores), animal munchers (carnivores) or animal and plant munchers (omnivores).
14. Total the number of specimens found at each layer. What does this show about energy transfer?
15. Discuss whether predictions about which layer would contain the most number of minibeasts was correct.

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ACTIVITY 14

WEB OF LIFE

Overview

This activity explores food chains, interdependence and energy exchange.

Supporting information & resources:

String

RESOURCE CARDS - Web of life

What to do...

1. Ask the group to form a circle and give each learner a card.
2. Start with a picture of the sun (energy).
3. Give a ball of string to the learner holding this card and ask them to wrap the string around their hand before the next step.
4. Ask those with a sun muncher/primary producer card (picture of a plant) to put their hands up and invite the string holder to choose one of them to throw the ball of string to. Can the 'sun' explain its relationship to this primary producer? E.g. "I am the sun and I give energy to the tree".
5. Ask the learner now holding the ball of string to wrap it around their hand before throwing it on.
6. Ask those with a plant muncher/primary consumer/ herbivore card to hold up their hands and repeat steps 4 to 5.
7. The next learner can choose to pass the string onto either an animal muncher/secondary consumer/carnivore or back to a producer.
8. This continues until ideally everyone is connected and the string is tangled into a complex web.
9. Discuss a reason why one element may be removed. For example, a tarmac'd football area is built removing some of the plants. The learner holding this card sits down and gives a little tug to the string. Ask whoever feels the tug to sit down as well.
10. Discuss how damage to one element of the web can effect the whole web of life: -

    - Very wet summer
    - Invasive non-native species e.g. harlequin ladybird
    - A slug eats slug pellets

11. Repeat several times using different examples.
12. How does the removal of one element of the web effect the whole ecosystem?

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ACTIVITY 15

MAKE A FOOD CHAIN

Overview

This activity encourages understanding of energy flow within food chains.

Supporting information & resources:

String

RESOURCE CARDS - Food chains

What to do...

1. Spread the required number of cards around the area.
2. The cards are colour coded into one set per food chain.
3. Ask each learner to locate one card each, then find other learners with the same coloured cards.
4. Give time for discussion about what their cards represent. Are they a sun muncher, plant muncher or animal muncher?
5. Ask each group to arrange itself into a food chain, from the main source of energy to the end consumer.

ACTIVITY 16

SPIDERS WEB

Overview

This activity examines how spiders hunt and catch their prey.

Supporting information & resources:

Twine or string

8 wooden stakes, fence posts or trees

Blindfold

What to do...

1. Cut the twine/string into 4 very long pieces and use to weave and tie to the stakes, posts or trees to create a giant web.
2. Make sure you end up with the 4 loose ends of the twine/string at the same end point. Make sure that the lines are not too close or too low as the group will realise that they can crawl under.
3. Choose one learner to act as the spider. He/she is blindfolded and has the 4 twine/string ends in their hand.
4. Silently choose another learner to act as a fly, who must try to move through the web without touching it.
5. If the web is touched, the 'fly' must 'stick' and vibrate the line. The 'spider' must now decide which one of the 4 lines to follow to find the fly and return with it to its den. Repeat using different 'spiders' and 'flies'.

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ACTIVITY 17

ENERGY FLOW

Overview

This activity builds on Make a Food Chain.

Supporting information & resources:

2 buckets

Water measurer, e.g. ruler, measuring container

Containers, e.g. flower pots
(tape over some of the holes if there are a lot)

What to do...

Energy is transferred along food chains from one stage to the next but not all the energy available to organisms at one stage can be absorbed by organisms at the next one. The amount of available energy decreases from one stage to the next. Some of the available energy goes into growth and the production of offspring.

This energy becomes available to the next stage, but most of the available energy is used up in other ways including:

- energy is released when creatures move and sweat
- energy is lost in waste materials such as faeces

For example, sun munchers have a lot of energy as they are at the start of the food chain.

- Energy from the sun will be used to create 750,000 leaves on a mature oak tree.
- The 750,000 leaves may be providing food (energy) for 1,000 caterpillars.
- The 1,000 caterpillars may provide food for 25 bluetits.
- The 25 bluetits may be potential prey for one sparrow hawk.

1. To give a practical demonstration of the reduction of energy as it passes through a food chain select 1 member of the group to represent each of the following: the sun, a plant, a herbivore and a carnivore. You can add an omnivore if required.
2. Start by lining up your chosen learners in order. Place a second bucket at the end of the line.
3. Give the 'sun' a bucket and fill it with a measured amount of water which represents the sun's energy.
4. Explain that the object of the activity is to pass the 'energy' along the food chain as quickly as possible.
5. The 'sun' needs to transfer the water from the bucket into the 'plant's' flower pot, who then transfers the water into the herbivore's container and so on until the last learner transfers the remaining water into the 2nd bucket placed at the end of the line.
6. Measure the amount of water in the final bucket.
7. How much 'energy' has been lost?
8. Point out that the level of water at the end of the food chain is less than what there was at the start and that is why there are lots of sun munchers (producers) and fewer animal munchers (carnivores).
9. Repeat the activity with another group of learners to add a level of competition.

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ACTIVITY 18

HABITAT EXPLORERS

Overview

This activity compares different habitats and the creatures that live in them.

Supporting information & resources:

ID sheets
Collecting trays
OPTIONAL: light meter, pH meter and quadrats

What to do...

1. Ask your group about where they live.
2. Discuss the different types of habitats. What are they and who lives in them?
3. For the best outcome select 2 different types of habitat to investigate such as broadleaf woodland and conifer woodland; sand dunes and shrub land; public park and wild area.
4. Discuss how most things can become a habitat, such as a dry-stone wall, a tree stump, drift wood, rock pools or areas of moss.
5. Discuss what might affect a habitat e.g. light, wind, humans, temperature, the sea or rain.
6. Encourage your learners to investigate habitat 1.
7. Look closely at the type of plants in the area – optional use of a quadrat, ID guides.
8. How many different plants can they find?
9. Is it dark or light – optional use of a light meter.
10. Discuss what kind of creatures may live there, e.g. insects, mammals, birds etc? Optional - use of bug pots, collecting trays and ID sheets.
11. Can you find any evidence of animal activity? For example, an eaten nut shells, leaves that have been chewed or foot prints.
12. What kind of soil is there? Try out a pH kit.
13. Repeat in habitat 2 and then compare findings. What were the main differences between the two habitats?
14. Which habitat has the most biodiversity and why might that be?

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ACTIVITY 19

POND AND STREAM DIP

Overview

This activity explores water-based habitats and the creatures that live in them.

Supporting information & resources:

INFORMATION NOTE - Water safety

Pond nets, trays (white), sheets, bug pots, magnifying glasses, white plastic spoons, freshwater ID sheets

What to do...

1. Check the area around pond/stream to make sure it is clear of obstructions and not too muddy.
2. If any doubt about conditions/depth/speed of water do not carry out the activity.
3. Before starting the activity discuss how to keep safe around the water, demo how to use the nets and move around the area safely.
4. With learners in small groups, provide a set of equipment - one tray, bug pot, magnifying glass, spoon and ID sheet per group.
5. After gently swishing the net in a figure 8 movement, drop the contents into a pre-filled tray (use water from the waterbody you are dipping in).
6. Review the contents of the tray after each dip giving time for the water to settle.
7. Use ID sheets to work out what creatures have been found.
8. Using the magnifying glasses, observe how the creatures move, number of legs, colour, mouthparts, etc.
9. Make sure you return all the creatures carefully to the watercourse at the end of the activity.

EXTEND THE ACTIVITY by finding out interesting facts about the creatures. Can a food chain be created?

Create a tally of the amounts of species found.

What do the creatures found mean in relation to the water quality? Conduct a biotic index survey.

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ACTIVITY 20

MICRO MINIBEAST SAFARI

Overview

This activity encourages investigating habitats through different perspectives and scales.

Supporting information & resources:

Lengths of string up to a maximum of 1 metre

Magnifying glasses

What to do...

1. Give out the string and magnifiers – one per learner.
2. Ask your learners to drape the string over the most interesting area they can find.
3. With a magnifying glass, ask them to imagine that they have shrunk to the size of an ant.
4. Encourage them to move the magnifying glass very slowly along the string 'safari road' as if they were an ant travelling along it.
5. Use prompt questions to stimulate imaginations. What they can see? Where might they go? What might they encounter along the way? How does it feel to be an ant and have an ant's perspective of the area?

EXTEND THE ACTIVITY by using the experience as inspiration for some creative writing, poetry or art work.

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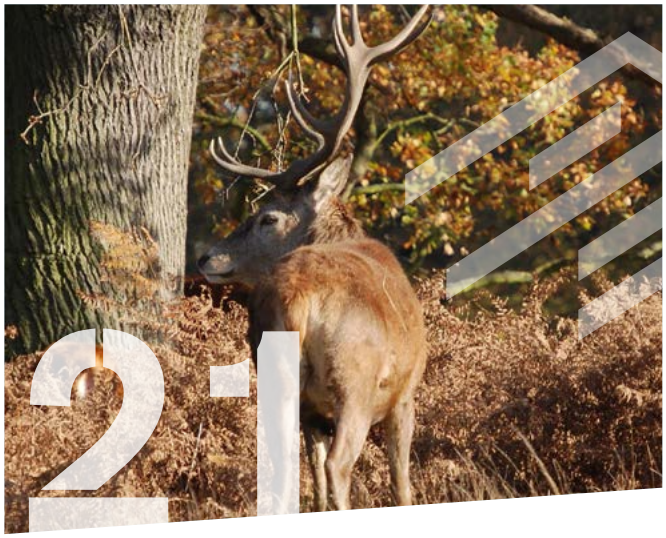


ACTIVITY 21

OH DEER!

Overview

This activity investigates population factors that affect wildlife.

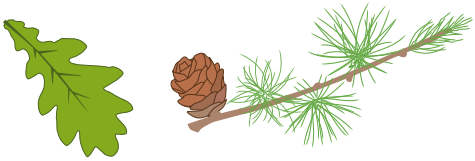
Supporting information & resources:

An area large enough for learners to run about

Small white board or clipboard, paper and pencil

What to do...

A variety of factors affect the ability of wildlife to successfully reproduce and maintain their populations over time – disease, predators, food, relationships, weather, pollution, habitat destruction and degradation. Some factors are natural and others are created by man to limit wildlife populations from exceeding their habitat's support capacity.



Limiting factors can lead to elimination of a whole species.

- good habitat is the key to survival
- a population will continue to increase in size until limiting factors are imposed
- limiting factors contribute to fluctuations in wildlife populations
- nature is never in balance and is constantly changing

1. Divide your learners into 4 equal groups. Send 3 groups to one end of your outdoor learning area.
2. The remaining group are to act as the deer.
3. They need to find either food, water or an environment to live in.
4. They will need to use their arms to symbolise what they need to stay alive and healthy:

   Food – hands over stomach
   Water – hands over mouth
   Environment – hands clasped over their heads
5. The remaining groups spread out around the area to represent habitat components – either food, water or environment using the same hand signals.
6. Before each round of the game the 'deer' decide which component they need to find and the three other groups decide which component they are going to symbolise - they mustn't change during the round.
7. All players start with their backs to each other.
8. At the word go all of the groups turn around, the 'deer' signal their chosen need and the other groups symbolise their chosen component. Everyone runs around symbolising their need or component.
9. Each deer needs to catch a member of the component group (only one each) and hold onto their match.
10. Any deer that fails to find their need dies and is recycled to become part of the environment group.
11. Paired deer and components become new separate deer for the next round.
12. Play approximately 15 rounds of the game, with component groups changing if required.

EXTEND THE ACTIVITY by tallying the changes in deer numbers against the rounds played.

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ACTIVITY 22

SQUIRREL CACHE

Overview

This activity looks at how some animals store food for the winter.

Supporting information & resources:

Squirrel food – nuts, acorns or conkers

What to do...

1. Ask the group what they know about squirrels – What do they eat? Where do they live? How do they climb trees? Do they hibernate?
2. Explain that squirrels do not hibernate but struggle to find food in the winter, so they store (cache) food in different places during the autumn to eat during the cold season.
3. Ask each learner to act as a squirrel during the autumn.
4. Give out a set number of squirrel food items, e.g. 3 pieces to each member of the group.
5. Ask them to find 3 different places to hide them for the winter.
6. They must hide the food well because they don't want other squirrels to find their stash.
7. Now leave the area to do a different activity.
8. On your return to the area ask the learners to find their squirrel food.
9. It is likely that only around 30 – 60% will be retrieved.
10. What happens to the items squirrels bury but don't eat?
11. This demonstrates how many trees are 'planted' by squirrels.

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ACTIVITY 23

SHRINKING ICE

Overview

This activity looks at the effects of global warming on frozen habitats.

Supporting information & resources:

Small Tarpaulin

What to do...

1. Lay the tarp on a grassed area.
2. Explain to the group that this represents the ice floe (a sheet of floating ice) habitat that some creatures live on.
3. Discuss what these creatures might be. How do they stay warm?
4. Explain that the group is going to act as penguins who swim in the sea around the ice looking for food to eat – ask the group to run around the designated area.
5. Either choose a learner to act as a predator – polar bear, or take the role yourself.
6. Explain that when the 'polar bear' shouts 'hunting for food' every 'penguin' must jump quickly onto the ice floe to escape.
7. Unfortunately, due to global warming the ice keeps shrinking – fold the tarp in half then repeat the swimming, hunting and shrinking step.
8. Eventually the 'penguins' will need to use team work (stand on one leg, link arms) to get as many of themselves as possible on to the tarp as the ice decreases in surface area.
9. 'Penguins' that can't get on are 'eaten' by the predator and can form their own group to one side.

EXTEND THE ACTIVITY by tasking the 'penguins' to try to turn the tarp over without getting off it.

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ACTIVITY 24

TREES AND BIRDS

Overview

This activity examines how some birds use trees as an roosting resource.

What to do...

1. Choose one learner to act as a forester and around a third of the group to act as trees, standing with their arms outstretched.
2. The remaining learners are to act as birds 'flying' around the area.
3. At a chosen signal from you the 'birds' need to find a tree, showing that they are roosting by touching the tree's 'branches' (arms and shoulders).
4. The 'forester' - this can be you or a learner - uses an imaginary axe to chop trees down. Once a tree has been felled the 'tree' should crouch to the floor, leaving just a 'tree stump'.
5. This 'forester' can then stand to one side while the 'birds' begin to move around again.
6. The 'forester' continues to cut down a 'tree' at a time until just 1 is left.
7. Are all the 'birds' able to roost on just one 'tree'?
8. This activity illustrates that trees are important habitats for many birds and that each tree can only support so many birds.
9. Ask what the forester could do to help the birds? Plant more trees!

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ACTIVITY 25

MINIBEAST BINGO

Overview

This activity develops recognition of invertebrates.

Supporting information & resources:

RESOURCE CARDS - Minibeast bingo

What to do...

1. Divide your learners into small groups and give out a minibeast bingo card to each group.
2. Randomly call out the name of one of the creatures from the cards.
3. If a group has the creature on their bingo card they can mark it by placing a natural object such as a stone or pine cone on the picture.
4. Discuss the creature and provide as many interesting facts as possible about it.
5. Then repeat.
6. The winner is the first group to collect all the creatures on their card.
7. Alternatively, play as a running game by cutting up sufficient sets of the bingo cards and spread them around the area.
8. In small groups, ask your learners to order themselves into a line.
9. The first in the line will run to collect the first creature, the next in line will run to collect the second creature, etc.
10. Say 'ready, steady, go!' and call out one of the creatures.
11. The running learners need to collect the correct creature and take it back to their group.
12. Repeat until the whole set of minibeasts have been collected with the winning team being the first to have a full set.

EXTEND THE ACTIVITY by adding in name cards for the creatures, with learners having to collect matching pairs of pictures and names. Give out points for correct pairs. Have quiz questions focussing on the creatures for bonus points.