

Living Things and Their Habitats

Lesson 5: Changing habitats

Science KS2 Year 4



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Science

Key Stage 2 Year 4

Learning aims

- Recap on what we have learned about classification of living things
- Identify the different seasons throughout the year
- Find out about seasonal weather/temperature differences and how this leads to changes in our habitat
- Find out how humans can cause negative changes in a habitat
- Identify ways we can make positive changes in our habitat to allow the plants and animals which live there to survive and flourish.
- Think about other habitats and how they differ from our habitat. Can we classify the living things in this habitat? Are humans changing this habitat in a negative way? How can we protect it?

Curriculum objective

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things

Working scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.



Reading links

A list of reading links is supplied on pages 4 and 5 of this PDF.

Keywords

Season. Summer. Winter. Autumn. Spring. Negative. Positive. Climate Change. Pollution. Deforestation. Impact. Hibernation. Migration.

These can also be found at the end of this PDF and can be placed on a learning wall as they are discussed during the lesson.



Equipment

You will need:

- Pens and pencils
- Plain paper
- “Changing Seasons Activity” worksheet on pages 9 and 10 of this PDF.
- “Climate Action Now” worksheet on page 8 of this PDF.
- “My Second Habitat” worksheet on page 11 of this PDF.



Reading links:

Books for learning about how to save our planet.

1. **“What is Climate Change?”** by Gail Herman. The earth is definitely getting warmer. There’s no argument about that, but who or what is the cause? And why has climate change become a political issue? Are humans at fault? Is this just a natural development? While the vast majority of scientists who study the environment agree that humans play a large part in climate change, there is a counterargument. Author Gail Herman presents both sides of the debate in this fact-based, fair-minded, and well-researched book that looks at the subject from many perspectives, including scientific, social, and political.
2. **“How You Can Save the Planet”** by Hendrikus van Hensbergen. Packed with reassuring step by step actions and easy to follow DIY activities, How You Can Save The Planet is the perfect gift for young activists who want to make a difference. With simple explanations, practical tips and stories from children across the world, this guide is ideal for young people who are worried about climate change and want to help our planet! Crafted by Hendrikus van Hensbergen, whose work is featured on BBC Bitesize(JP2), this inspiring read is perfect for children at KS2.
3. **“Stuff: Curious everyday STUFF that helps our planet”** by Maddie Moate. Did you know that you can make paper out of elephant poo? And plastic packaging out of seaweed? And did you know that if you throw away an old T-shirt, it can take 200 years to break down? This book is full of mind-bursting facts and EXTRAORDINARY stories of the ingenious ways people around the world, and across history, have made, used and reused the stuff around them. Packed with incredible facts about everyday objects, this book will keep young readers busy for hours!
4. **“The Extraordinary Life of Greta Thunberg”** by Jina Devika. Greta Thunberg is an activist best known for calling attention to the devastating effects of climate change on our planet. A bold voice even against people that want to silence her, Greta has become a source of inspiration for millions of people who want to work towards tackling the climate crisis. From taking part in school strikes and owning that her Asperger syndrome is her superpower, to crossing the Atlantic Ocean in a powerful stand against carbon emissions, this is the incredible story of a schoolgirl who is changing the world.
5. **“The Happy Hedgerow”** – By Elena Mannion - Somewhere in the folds of the countryside, Old Oak lives content and fulfilled in his hedgerow by the barley field. When the farmer pulls up the Far Hedgerow one day, Old Oak is dismayed. Can he care for all the fleeing birds? The field is now too open, and the wind and rain are carrying away the soil! Hope is finally returned when a new farmer comes to plant saplings one cold winter’s morning.



6. **“Song of the River”** by Gill Lewis. Times are tough for Cari and her mum: a violent storm has flooded the valley where they live, destroying their home and café business. Things seem bleak - but hope appears in the form of a plan to reintroduce beavers into the area, as the changes that these amazing animals make to the waterways might prevent another flood. Cari knows that she has to get involved. But with the project facing resistance from locals, can she convince them to give the beavers a chance - and will it be enough to save her home from being destroyed for a second time?
7. **“What a wonderful world”** by Leisa Stewart-Sharpe. From the author of the BBC's children's book Blue Planet II, this book takes you on a breath-taking tour of our planet - from towering mountaintops, through grasslands, jungles, rivers, deserts, polar wildernesses and into the blue ocean - to discover the incredible variety of life that calls it home. Along the way, read the stories of 35 inspiring Earth Shakers - children and adults, from tree-planters to scientists, from all around the world - who have taken action to protect it. Plus, there are lots of practical tips and handy resources inside that give you the tools to make a positive change today. Every budding young activist will be inspired to make a change for a better future.
8. **“The Rabbits”** by Shaun Tan. A hauntingly beautiful picture book from the acclaimed Shaun Tan, winner of the Kate Greenaway Medal 2020, Academy Award and Astrid Lindgren Memorial Award, The Rabbits is a thought-provoking allegorical fable about colonisation and the effect of man on the environment. Told from the perspective of the colonised, an unseen narrator describes the coming of the 'rabbits'. An encounter that is at first friendly and curious, but later darkens... Sparse, strange and stunningly beautiful, The Rabbits is a truly unique picture book
9. **“100 Things to Know About Saving the Planet”** - How could plastic-eating bacteria help reduce waste? Can a river be given human rights? Could we generate all the power we need from the sun and the wind? How do woolly sweaters help penguins in peril? Would building a giant sunshade in space stop the world from overheating? Find the answers to these questions and more in this bold, graphic and exciting book, full of big, small and unexpected ways to save the planet.



PowerPoint presentation

The accompanying PowerPoint presentation has 37 slides with the following learning points. At intervals throughout the lesson, we suggest asking the children what questions they might have. These can be collected throughout the unit of learning and added to the slide at the end of the lesson.

- Slides 1 and 2 introduce the lesson.
- Slide 3: Recap on what we have learned so far in grouping together plants and animals.
- Slide 4: Asks what the children know about the seasons, and which months do they fall in? For these purposes, we've used meteorological seasons (i.e., beginning on the first day of the month). The PowerPoint features websites which you can use to introduce the children to the idea of seasons and changes which happen to the plants and animals in each season.
- Slide 5: Asks the children how the winter weather changes the habitat they used in their "Classification Challenge".
- Slides 6 to 9: Reveal the answers and discuss the changes which happen to the plants, invertebrates and vertebrates during winter.
- Slide 9: Asks the children how the spring weather changes the habitat they used in their "Classification Challenge". Discuss with the children what might happen if it was colder for longer? The water would freeze, it might make it difficult for animals like deer to drink which might affect their survival. It would mean animals would have to hibernate for longer, and plants would be dormant for longer; would they have enough reserves to keep them going?
- Slides 10 to 12: Reveal the answers and discuss the changes which happen to the plants, invertebrates and vertebrates during spring.
- Slide 13: Asks the children how the summer weather changes the habitat they used for their "Classification Challenge". Discuss what would happen to the habitat if there were a heat wave. All living things need water to survive. Some plants and animals might die and this would affect the food chain.
- Slides 14 to 16: Reveal the answers and discuss the changes which happen to the plants, invertebrates and vertebrates during summer.
- Slide 17: Asks the children how the autumn weather changes the habitat they used for their "Classification challenge". Discuss what would happen to the habitat if there were strong gales. Trees with weaker roots might be blown over or uprooted. Animals may be hit by debris or lose their homes.
- Slides 18 to 20: Reveal the answers and discuss the changes which happen to the plants, invertebrates and vertebrates during autumn.



“Changing Seasons” Activity (slides 21 and 22)

- Slides 21 and 22: Ask the children to pick a plant, invertebrate and vertebrate from their habitat. The slides feature an example of tree, butterfly and bird. Ask the children to draw a picture to show how the changing weather effects their living creatures for each season. Children will use their “Changing Seasons Activity” worksheet to complete this work.
- Slide 23: Looks at the negative ways humans can change a habitat. Can the children spot them all? Discuss what the word “impact” means (i.e., in this context it is the effect human-made changes will have on the animals and plants who live in that habitat).
- Slide 24: Asks if the children got all the answers. The websites featured at the end of the PowerPoint can help the children find out more about the impact of humans on the environment.
- Slide 25: Look at the picture and see if the children can spot ways that we can prevent these negative changes happening.
- Slide 26: Did they get them all right?

“Climate Action Now Challenge” (slides 27 and 28)

- Slide 27: Task the children to come up with an action plan of how to protect the plants and animals in their habitat. They must complete the “Climate Action Now!” worksheet.
- Slide 28: The children create a poster to tell other children in the school what they should and shouldn’t be doing to protect the habitat in their school.

“My Second Habitat” (slides 29 and 30)

- Slide 29: Ask the children to think of other habitats. The slide features a rainforest, a rockpool, a coral reef and the North Pole.
- Slide 30: Ask the children to pick one of these habitats, research the living things found there and try to group them together based on what they have learned in previous lessons. They can also look at how the negative actions of humans are changing these habitats. What can we do to stop it happening? The websites featured at the end of the PowerPoint will help with this research.

Quiz (slides 31 to 33)

- Slide 31 to 33: Quiz! What have the children learned about changing habitats?
- Slide 34: This slide is kept blank for the children’s questions.
- Slides 35 to 36: Useful links
- Slide 37: End of presentation.



Climate Action Now!

Complete the table below with your actions to protect the habitats in your school.
Put a tick or cross when you have completed them.

Things we will do (tick when we have done them)	✓	Things we will stop doing (put a cross when we have stopped doing them)	✗



Changing seasons activity

Remember your “**Classification Challenge**”. Pick a plant, vertebrate and invertebrate from your list of living things. Draw how they change from season to season, and make sure you show how the weather and temperature change.

WINTER

SPRING



Changing seasons activity

SUMMER

AUTUMN



My Second Habitat



Rainforest



Rockpool



Coral reef



North pole

My second habitat is: _____

The living things in my habitat are:

Plants	Invertebrates	Vertebrates



My Second Habitat

How are humans changing this habitat in a negative way?

How can we protect this habitat?



Living Things and Their Habitats: Keywords Flashcards



Season

Summer

Winter

Autumn

Spring

Negative

Positive

**Climate
Change**

Pollution





Deforestation

Impact

Hibernation

Migration



Season



Summer



Winter



Autumn



Spring



Negative



Positive



Climate Change



Pollution



Impact



Deforestation



Hibernation



Migration

