

year 2

BIA Science Term
by Term Scheme
of Work



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BRITISH ISLAMIC
ACADEMY

Term by Term Objectives

year 2

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Summer	Living Things and Their Habitats Habitats			Living Things and Their Habitats Habitats			Living Things and Their Habitats Gardens and Allotments			Living Things and Their Habitats Gardens and Allotments		

(1) Subject to change. Please visit the website or call-in for regular updates.

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Term by Term Objectives

week	1	Term	Summer 1
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Year 2 Living Things and Their Habitats : Habitats

Dead or alive!

Objectives

Look at a live spider, a dead spider and a toy spider. What are some of the differences between the live spider and the dead one? And the dead spider and the toy one? How can we work out what's alive and not alive? Is it sometimes difficult to tell? Armed with all these questions, go outside and collect something alive, something dead and something that was never alive. Sort these specimens into three categories.

Science Objectives

- i) Explore/compare the differences between things that are living, dead, and things that have never been alive.
- ii) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Identify and classify.

Use their observations and ideas to suggest answers to questions.



year 2

You Will Need

Provided Resources

- Looking for living and dead things resource.

Additional Resources

- Fairy lights
- Clear plastic lidded container boxes
- Overhead projector
- Dead spiders and toy spiders
- Magnifying glasses and microscopes
- Cameras
- Torches
- Sketch books and pencils
- Paint brushes
- Freezer bags
- Collecting pots

week	1	Term	Summer 1
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Year 2 Living Things and Their Habitats : Habitats

Dead or alive!

Teaching and Activities

Teaching

- Explore outside, and through observation, the differences between things that are living, dead, and have never been alive.
- Discuss the features of those things that are living, dead and have never been alive.
- Find, classify and label specimens into categories.
- Engage in further discussion and thought around these questions: A robot can move, so why is it not alive? If a robot magically came to life, how could we test to make sure this were true?

Activities

- Understand the differences between things that are living, dead, and things that have never been alive.
- Understand the key features of things that are living, as opposed to dead.
- Be able to categorise specimens according to their features.

Investigation - exploring, sorting, classifying and identifying, problem solving

Explore outside, and through observation, the differences between things that are living, dead, and things that have never been alive.

Find specimens and explain how they know they are alive or otherwise.

Vocabulary

Living, dead, never been alive, categories, classification, needs air, feeds, grows, reproduces, gets rid of waste.

Term by Term Objectives

week	2	Term	Summer 1
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Year 2 Living Things and Their Habitats : Habitats

Microhabitats

Objectives

Explore the school grounds on the hunt for microhabitats. Zoom in on the tiny world of these habitats and draw or photograph what is going on there. Consider and draw conclusions about what lives in these microhabitats and why.

Science Objectives

- i) Explore/compare the differences between things that are living, dead, and things that have never been alive.
- ii) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.



year 2

You Will Need

Additional Resources

- Pads or other tablets
- Clip-on macro lenses (Amazon, under £10)
- Investigating microhabitats resource
- Clip boards
- Sketch books
- Pencils
- Magnifying glasses or bug boxes with magnifying lids

Sticky notes

week	2	Term	Summer 1
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Year 2 Living Things and Their Habitats : Habitats

Microhabitats

Teaching and Activities

Teaching

- Explore microhabitats in the school grounds, making and recording observations.
- Understand that most of the living things they observed live in those microhabitats because they are suited to them.
- Understand that different habitats provide for the basic needs of different kinds of animals and plants and try and answer these questions: What microhabitat is best for moss to grow? What living things can be found in muddy microhabitats? Which microhabitats had the biggest variety of living things?

Activities

- Observe microhabitats and their inhabitants and understand why they live there.
- Understand that different habitats provide for the basic needs of different kinds of living things.
- Understand that there are a varied amount of microhabitats with different features and conditions.

Investigation - exploring over time

- Photograph or draw the micro-habitats in the school grounds, adding five adjectives to describe them (damp/wet/dry, dark/light).

Vocabulary

Microhabitat, damp/wet/dry, dark/light, features

Term by Term Objectives

week	3	Term	Spring 1
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Year 2 Living Things and Their Habitats : Habitats

Go large!

Objectives

Research creatures in larger habitats and ask: why do these living things live there? Create dioramas of different habitats and label with research information.

Science Objectives

i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Use their observations and ideas to suggest answers to questions.



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You Will Need

Provided Resources

- Large habitats and small inhabitants resource
- Habitat diorama ideas resource

Additional Resources

- Shoe boxes and materials for habitat dioramas (for example: pipe cleaners, straws, tissue paper, felt)
- Plastic animal toys
- Devices and access to the Internet

Term by Term Objectives

week	3	Term	Spring 1
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Go large!

Year 2 Living Things and Their Habitats : Habitats



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Teaching and Activities

Teaching

- Understand that habitats can be small and local but also very extensive.
- Play 'Pin the Living Thing on the Habitat' using small images of familiar creatures and large images of habitats.
- Consider what makes each creature perfectly adapted to their habitat and imagine what would happen if living things wandered into other habitats (lion in the ocean, for example).
- Create shoebox dioramas for plastic animal toys or laminated images of living things.
- Annotate the dioramas with researched information.

Activities

- Understand that habitats can be small and local but also very extensive.
- Understand that creatures are adapted for their own habitats.
- Research and consider a specific habitat and recreate it in a shoebox diorama.

Investigation - researching and analysing secondary sources

- Create shoebox dioramas for plastic animal toys or laminated images of living things.
- Annotate the dioramas with researched information.

Vocabulary

Habitat, savannah, rainforest, tundra, microhabitat, features

Term by Term Objectives

week

4

Term

Spring 1

Year 2 Living Things and Their Habitats : Habitats

Food chains

Objectives

Role play food chains in the hall. Understand that, in a healthy habitat, all living things depend on each other in different ways.

Science Objectives

i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.



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You Will Need

Provided Resources

- Food chain game resource sheet

Additional Resources

- Magnifying glasses
- Clipboards
- Sketch books and pencils
- Internet access and devices



week	4	Term	Spring 1
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Year 2 Living Things and Their Habitats : Habitats

Food chains

Teaching and Activities

Teaching

- Understand what is meant by a food chain.
- Understand that living things need other living things to survive.
- Role play the interdependence of a food chain and consider what part each plays in its survival.
- Explore the school grounds, looking for examples of food chains (living things eating leaves, for example).
- With a magnifying glass and sketchbook, record what they discover when exploring outside.

Activities

- Understand what is meant by a food chain.
- Understand that living things need other living things to survive.
- Observe parts of food chains in the school grounds and discuss what would happen in the rest of the food chain.

Investigation - exploring

Role play the interdependence of a food chain and consider what part each plays in its survival.

Explore the school grounds, looking for examples of food chains (living things eating leaves, for example).

Vocabulary

Food chain, predator, habitats, dependence

Term by Term Objectives

week	5	Term	Spring 1
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Year 2 Living Things and Their Habitats : Habitats

Designing a bug hotel

Objectives

Drawing on your knowledge of habitats, design a bug hotel! Incorporate many different microhabitats to encourage a variety of guests.

Science Objectives

- i) Explore and compare the differences between things that are living, dead, and things that have never been alive.
- ii) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

You Will Need

Provided Resources

- Bug Hotels resource

Additional Resources

- Internet access and devices
- Sheets of paper
- Large sheets of cardboard

week	5	Term	Spring 1
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Year 2 Living Things and Their Habitats : Habitats

Designing a bug hotel

Teaching and Activities

- Understand that creating different micro-habitats will encourage a variety of creatures.
- Understand that some invertebrates like cool, damp conditions and some prefer the sun, so the bug hotel will need to be located to incorporate both conditions.
- Research the making of bug hotels, the type of habitats included in them and what they might attract.
- In groups, design a layer of the bug hotel. Incorporate specific micro-habitats agreed for that group by the class.

Activities

- Understand that creating different microhabitats will encourage a variety of creatures.
- Understand that microhabitats need to vary according to their inhabitants' needs.
- Design a 'room' (microhabitat) of the bug hotel.

Investigation - problem solving

- In groups, design a layer of the bug hotel, incorporate specific micro-habitats agreed for that group by the class. Build a bug hotel according to the group designs.

Vocabulary

Micro-habitats, light, dark, shady, damp, dry, seasons, sun

Term by Term Objectives

week

6

Term

Spring 1

Year 2 Living Things and Their Habitats : Habitats

Making a bug hotel

Objectives

Using the group designs, build a bug hotel in the school grounds. Create microhabitats layers using found materials: for example, sticks, leaves, tubes, moss.

Science Objectives

- i) Explore and compare the differences between things that are living, dead, and things that have never been alive.
- ii) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.



year 2

You Will Need

Additional Resources

- Bug Hotel rooms designs from previous session
- List of materials needed by each group
- Gloves and old clothes for the children (or overalls)
- Materials for bug hotel building (pallets, old canes, flower pots)



week

6

Term

Spring 1

Year 2 Living Things and Their Habitats : Habitats

Teaching and Activities

Making a bug hotel

Teaching

- Build a bug hotel according to the group designs.

Photograph and record the results of the build.

Predict what each microhabitat will attract and annotate the photographs with these predictions.

Observe over time what happens to the bug hotel.

Consider evaluative questions such as: Do any of the microhabitats need adapting? Are they being successful? How do we know? Does the weather or do the seasons make a difference to the occupancy of the bug hotel? Do we predict it will be more or less popular when it is raining? Or in the summer?

Activities

- Build a bug hotel according to the group designs.

- Make some predictions about what each microhabitat will attract and how different weather conditions and seasons might change their features.

- Begin to form questions and make plans to observe and evaluate the microhabitats over time.

Investigation - problem solving

- In groups, design a layer of the bug hotel, incorporate specific micro-habitats agreed for that group by the class. Build a bug hotel according to the group designs.

Vocabulary

Micro-habitats, light, dark, shady, damp, dry, seasons, sun

week

7

Term

Spring 2

Science year 2 Gardens and Allotments

Making a playground allotment

Objectives

Take large tubs and tyres into the playground and plant edible plants! Learn about the right conditions for growth and attracting the right mini-beasts to the allotment.

Science Objectives

- i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- ii) Identify and name a variety of plants and animals in their habitats, including microhabitats.
- iii) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Working Scientifically

- Create a tub allotment in the playground and plant edible plants.
- Make bird-scaring sculptures with found and recycled materials.
- Understand that allotments are habitats and that they will attract mini-beasts.
- Understand that growing conditions need to be right for plants to grow.

You Will Need

Provided Resources

- Bird scarers resource

Additional Resources

- Plant labels describing the best habitats for allotment planting
- Tyres or large tubs
- Compost & trowels
- Gloves for children
- Sketch books & clipboards
- Strips of plastic (milk bottle) and permanent marker pen to make labels
- Young allotment/salad vegetables
- Flowering plants
- Sticks & string
- Old forks and spoons
- Old CDs & old musical instruments
- Pieces of smooth metal

week	7	Term	Spring 2
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Science year 2 Gardens and Allotments

Making a playground allotment

Teaching and Activities

Teaching

- Design, plan and create a playground allotment.
- Understand that allotments are habitats that may attract some mini-beasts.
- Understand the growing conditions needed for plants to grow.

Activities

- Create a tub allotment in the playground and plant edible plants.
- Make bird-scaring sculptures with found and recycled materials.
- Understand that allotments are habitats and that they will attract mini-beasts.
- Understand that growing conditions need to be right for plants to grow.

Investigation - exploring, problem solving, researching and analysing secondary sources

- Take large tubs or tyres into the selected area of the playground and fill with compost to make a playground allotment.

Plant edible plants (lettuces, etc.).

- Make bird scaring sculptures with found and recycled materials.

Vocabulary

Growth, germination, planting, edible, mini-beasts, habitat

Term by Term Objectives



year 2

week

8

Term

Spring 2

Science year 2 Gardens and Allotments

Making a micro-habitat

Objectives

Tend to the allotment and review the plant growth. Are there any mini-beasts the allotment habitat would benefit from? How will you attract them? Make micro-habitats to encourage them to live in the allotment.

Science Objectives

- i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- ii) Identify and name a variety of plants and animals in their habitats, including microhabitats.
- iii) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

You Will Need

Provided Resources

- 'Good insects for our allotment sheet'

Additional Resources

- Magnifying glasses
- Clipboards
- Paper
- Cameras
- Materials for making bug habitats - pine cones, dried leaves, sticks and twigs
- Crates or wooden boxes
- Plastic bottles

Term by Term Objectives



year 2

week

8

Term

Spring 2

Science year 2 Gardens and Allotments

Making a micro-habitat

Teaching and Activities

Teaching

- Observe living things in their habitat, consider why they are there and how they are surviving.
- Review the allotment and consider if there are any other mini-beasts the allotment would benefit from and why. Consider how to create micro-habitats to encourage these mini-beasts.
- Understand that different habitats provide for the basic needs of different kinds of mini-beasts and plants and that they depend on each other.
- Plan and create micro-habitats with the right conditions to attract specific living things.

Activities

- Review and observe the allotment, looking for mini-beasts and making micro-habitats for them.
- Understand that different habitats provide for the basic needs of different kinds of mini-beasts and plants and that they depend on each other.

Investigation - exploring pattern seeking

- Weed and tend to the allotment, understanding why the weeds need to be pulled out. Identify the weeds. Make flap pictures of the micro-habitat they have made and the mini-beast they hope it will attract.

Vocabulary

Growth, germination, planting, edible, mini-beasts, habitats

week

9

Term

Spring 2

Science year 2 Gardens and Allotments

Farming and food chains

Objectives

Find out more about farming first-hand and play farms in the classroom. Understand why farms are so important to the food chain and why farmers think protecting the environment is so important.

Science Objectives

- i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- ii) Identify and name a variety of plants and animals in their habitats, including microhabitats.
- iii) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Working Scientifically

Ask simple questions and recognise that they can be answered in different ways.

- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

You Will Need

Provided Resources

- 'Visiting a Farm' sheet
- Matching game
- Match the Food Chain game

Additional Resources

- Photocopies of a local map (make sure it includes a farm)
- Small world farm toys
- Tuff tray
- Several sets of wellies and overalls
- Hat (for farmer role play)
- Green apron and doctor's kit for vet role play
- Bandages
- Toys
- Egg boxes
- Bags
- Telephone
- Order pad and price lists
- Plastic foods
- Till with money
- 'What the Ladybird Heard' by Julia Donaldson

week

9

Term

Spring 2

Science year 2 Gardens and Allotments

Farming and food chains

Teaching and Activities

Teaching

- Look at a map of the area and identify any farm nearby.
- Visit a farm or have a farmer visit the school. Understand the jobs a farmer has to do and why.
- Understand the role farms play in the food chain and why they are important .
- Set up and use role-play farms in the classroom.

Activities

- Become familiar with a farm near the location of their school.
- Visit a farm or have a farmer visit the school and gain an understanding of farming.
- Understand the role farms play in the food chain and why they are important.
- Undertake several role plays of different jobs associated with farming.

Investigation - exploring, researching and analysing secondary sources

- Visit a farm or have a farmer visit the school. Understand the jobs a farmer has to do and why. Play farms with the small world play and set up a role-play farm in the classroom.

Vocabulary

Growth, germination, planting, edible, mini-beasts, habitats

week

10

Term

Spring 2

Science year 2 Gardens and Allotments

Food chain game

Objectives

Think about some simple food chains and make a food chain using laminated cards and string. Challenge each other to string them up in the right order.

Science Objectives

- i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- ii) Identify and name a variety of plants and animals in their habitats, including microhabitats.
- iii) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

You Will Need

Additional Resources

- Magnifying glasses
- Clipboards
- Sketch books
- Cameras
- Square blank cards
- Laminator
- Hole punch
- String

week	10	Term	Spring 2
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Science year 2 Gardens and Allotments

Food chain game

Teaching and Activities

Teaching

- Understand what is meant by a food chain.
- Understand that living things need other living things to survive.
- Explore the school grounds, looking for examples of food chains (e.g. living things eating leaves).
- Create and check a food chain example.

Activities

- Explore the school grounds, looking for examples of food chains (living things eating leaves, for example).
- Understand what is meant by a food chain and that living things need other living things to survive.
- Make a food chain using laminated cards and string. Challenge each other to string them up in the right order.

Investigation - exploring, researching and analysing secondary sources

- Make a food chain game using cups with photographs attached. Challenge another class to complete the food chains.

Vocabulary

Habitats, food chain, energy, transfer, predators

week

11

Term

Spring 2

Science year 2 Gardens and Allotments

Transfer of energy

Objectives

Think further about food chains and look at the transfer of energy from the sun, through the members of the food chain, and back into the ground. Can you represent this cycle in a dance?

Science Objectives

- i) Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- ii) Identify and name a variety of plants and animals in their habitats, including microhabitats.
- iii) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

You Will Need

Provided Resources

- Mask template

Additional Resources

- Laminated cards from previous session
- Torches
- Card masks
- String
- Crayons etc for decorating masks
- Music to dance to
- Video recording device



week	11	Term	Spring 2
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Science year 2 Gardens and Allotments

Transfer of energy

Teaching and Activities

Teaching

- Be able to describe how some animals obtain their food from plants and other animals.
- Look more closely at what happens in a food chain. Understand that the sun's energy travels through a food chain and then back into the ground.
- Interpret the transfer of energy in a food chain through a dance, using masks and torches.

Activities

- Understand that the sun's energy travels through a food chain and that this is called a 'transfer of energy'.
- Interpret the transfer of energy in a food chain through a dance, using masks and torches.

Investigation - researching and analysing secondary sources

- Look more closely at what happens in a food chain. Understand that the sun's energy travels through a food chain and then back into the ground. Interpret the transfer of energy in a food chain through a dance, using masks and torches.

Vocabulary

Habitats, food chain, energy, transfer, predators

Term by Term Objectives



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Term

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Science year 2 Gardens and Allotments

Eating the spoils

Teaching and Activities

Teaching

- Explain learning about energy, food chains and the co-dependence of plants and animals
- Harvest the edible foods grown in the allotments and study them carefully.
- Review their gardening skills

Activities

- Perform the food chain dance to an audience
- Articulate their understanding of energy, food chains and the co-dependence of plants and animals
- Harvest the edible foods they have grown, eat and review their gardening skills

Vocabulary

Harvest, grow, allotment, produce, soil, wash, cook, energy, food chain