Autumn Block 2

Data collection A

White Rose
SCIENCE

Small steps

Step 1	Data collection A

Step 2	Analyse data

Data collection A

Notes and guidance

In this small step, children begin an observation over time enquiry to name and identify living things in their local area. Children collect data throughout the year to gain a deeper understanding of how seasonal changes influence plant and animal life. They should use their knowledge of plants and animals from Block 1 to help them identify familiar species.

Children should repeat this process in autumn, spring and summer to gather and record data over the course of a year.

Children should decide how to record the data they collect in this step. They may use tables, tally charts or grouping plants and animals based on similarities.

Key questions

- How will you record the data?
- What plants and animals are there in our local area?
- How many vertebrates and invertebrates did you identify?
- How many flowering plants did you identify?
- How many non-flowering plants did you identify?

Enquiry question

- What living things do we have in our local area and how does this change over the year?

Things to look out for

- Children may struggle to identify unfamiliar plants in their local area. They could use knowledge from Block 1 or free apps that scan and identify plants and animals.
- Children may need to be reminded that invertebrates are animals and should be included in their data collection.
- Children may need to recap maths skills such as using tally marks accurately to record data.

National curriculum links

- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
- **Working scientifically** – Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.

Data collection A

Key vocabulary

- **Vertebrate** – An animal with a spine.

- **Invertebrate** – An animal without a spine.

- **Flowering plant** – A plant that produces flowers and fruit.

- **Non-flowering plant** – A plant that does not produce flowers and fruit.

Practical ideas

- Ask children to work in small groups.

  Discuss the enquiry question with the class, "What living things do we have in our local area and how does this change over the year?"

  Encourage children to think of ways they could collect data to answer this question.

  Children should go out into their local area to identify plants and animals in autumn and record this data.

Factual knowledge

- Deciduous trees lose their leaves annually.

- Evergreen trees keep their leaves all year round.

- Vertebrates are animals with a spine.

- Invertebrates are animals without a spine.

Analyse data

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Notes and guidance

In the previous step, children began an enquiry to identify living things in their local area. By completing this enquiry, children gain a deeper understanding of how seasonal changes influence plant and animal life.

In this small step, children work scientifically to analyse the data they collected. Children could present their data through pictograms, bar graphs, labelled diagrams or data tables.

Children compare data and look for patterns and trends. They should identify their key findings from this data collection. Children should make predictions whether their data will be similar or different in data collection B and suggest reasons why.

Key questions

- What vertebrates/invertebrates did you identify?
- What flowering/non-flowering plants did you identify?
- What was the most/least common animal?
- What was the most/least common plant?
- What patterns can you spot in your data?
- Do you predict your data will be similar or different in spring? Why?

Enquiry question

- What living things do we have in our local area and how does this change over the year?

Things to look out for

- Children may need support with maths skills such as drawing pictograms and bar graphs. They may need this modelling before completing their own examples.
- If children need further support with recording data, they could create a physical representation of a block diagram using cubes.

National curriculum links

- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
- **Working scientifically** – Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
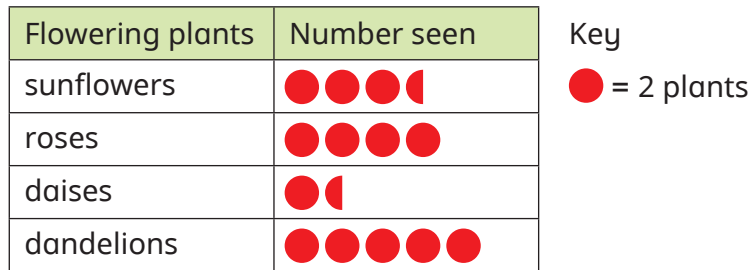
Analyse data

Key vocabulary

- **Vertebrate** – An animal with a spine.

- **Invertebrate** – An animal without a spine.

- **Bar chart** – A graphical display of data using bars.

- **Pictogram** – A chart that uses pictures to represent data.

Flowering plants	Number seen	Key
sunflowers	🔴🔴🔴◖	🔴 = 2 plants
roses	🔴🔴🔴🔴	
daises	🔴◖	
dandelions	🔴🔴🔴🔴🔴	

- **Data** – Information collected, such as facts, observations or numbers.

Practical ideas

- Ask children to work in small groups.

  Discuss with children how they can present their data through pictograms, bar graphs, labelled diagrams or data tables.

  Allow children to present their data in a range of ways.

  Children can then present their findings to the rest of the group.

  Ask the children to explain the patterns they identified in their data.

Vertebrate	Number seen	Key
magpie	🔴🔴	🔴 = 2 animals
pigeon	🔴🔴🔴	
squirrel	🔴	
cat	◖	
dog	🔴◖	

Factual knowledge

- Bar charts and pictograms are used to present data.

- Presenting data in bar charts or pictograms helps to spot patterns or trends easily.

- Data can be used to make conclusions and predictions for further investigations.