



It's not fair or is it?

Learning Outcome:

Design a fair experiment.

Resources:

- Fair testing board
- Orange Post-it notes
- Green Post-it notes

What to do:

1. Ask a broad question for the investigation, e.g. "What will affect the height of a plant?"
2. Using the orange post-it notes, list the things that could be changed and add to the poster.
3. Using the green post-it notes, list the things that could be measured or observed. "If we change one of the above things, what can we measure or observe to see if it's made a difference?"
4. Choose one thing to change and one to measure or observe.
5. "What do we need to keep the same to make it a fair test?" Move these post its down as they are listed.
6. Make a prediction and hypothesise.



It's not fair or is it?

I can help to design experiments to find what plants need in order to grow and develop. I can observe and record my findings and from what I have learned I can grow healthy plants in school.

SCN 1-03a

- *Observes, collects and measures the outcomes from growing plants in different conditions, for example, by varying levels of light, water, air, soil/nutrients and heat.*
- *Structures a presentation or report, with support, to present findings on how plants grow.*

I have collaborated in the design of an investigation into the effects of fertilisers on the growth of plants. I can express an informed view of the risks and benefits of their use. **SCN 2-03a**

- *Collaborates with others to present a reasoned argument, based on evidence, of the risks and benefits of using fertilisers, demonstrating understanding of the underlying scientific concepts.*



Don't be a bore, go explore!

Learning Outcome:

Use key characteristics to describe plants and animals.

Resources:

- Objects
- Object cards
- Poster paper and pens

What to do:

1. Look at the object cards and search the room to find the matching objects
2. Examine each object then make up your own names for them according to what they look like or what they do.
3. Record these names on the poster under each object card
4. These can then be sorted on different properties including living, non-living, once living.



Don't be a bore, go explore!

I can distinguish between living and non-living things. I can sort living things into groups and explain my decisions. **SCN 1-01a**

- *Explains the difference between living and non-living things, taking into consideration movement, reproduction, sensitivity, growth, excretion and feeding.*
- *Creates criteria for sorting living things and justifies decisions.*
- *Sorts living things into plant, animal and other groups using a variety of features.*

I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.

SCN 2-01a

- *Classifies living things into plants (flowering and non-flowering), animals (vertebrates and invertebrates) and other groups through knowledge of their characteristics.*
- *Begins to construct and use simple branched keys which can be used to identify particular plants or animals.*
- *Identifies characteristics of living things and their environment which have contributed to the survival or extinction of a species.*
- *Describes how some plants and animals have adapted to their environment, for example, for drought or by using flight.*



MRS GREN

Learning Outcome:

Use key characteristics to distinguish whether something is living or non-living.

Resources:

- MRS GREN cards
- Living and non-living cards

What to do:

1. Mix up the living and non-living cards.
2. Select a card.
3. Use the MRS GREN cards to decide whether or not the object card is a living or non-living thing.
4. Justify your answer.



MRS GREN

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Rock, Paper, Prey

Part 1

Learning Outcome:

Construct a food web and label appropriately.

Resources:

- Paper & pens
- Vocabulary cards
- Animal cards

What to do:

1. Choose a set of animal cards.
2. Sort the animals by what they are e.g. consumer, predator etc.
3. Organise the animal cards into a food web. Draw lines to link the animals together.
4. Label the animals and explain your food web.



Rock, Paper, Prey

Part 1

I can explore examples of food chains and show an appreciation of how animals and plants depend on each other for food.

SCN 1-02a

- *Demonstrates awareness of how energy from the sun can be taken in by plants to provide the major source of food for all living things.*
- *Interprets and constructs a simple food chain, using vocabulary such as 'producer', 'consumer', 'predator' and 'prey'.*
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I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area. **SCN 2-02a**

- *Describes how energy flows between plants and animals in more complex food chains and webs and ecosystems, using vocabulary such as 'producers', 'consumers' and 'herbivore'.*



Rock, Paper, Prey

Part 2

Learning Outcome:

Constructs a simple food chain including producers, consumers, predators and prey.

Resources:

- Food chain image cards for actions
- Large space or classroom

What to do:

1. Practice the actions for each food chain card and explain that the game represents energy transfer in a food chain.
2. Find a partner to play with.
3. Both start as a plant and make the action. Play rock, paper, scissors.
4. Winner chooses a consumer card and makes the action. Both make new action and play rock, paper, scissors again.
5. Winner chooses another consumer card or predator further up the food chain. Both make new action and play rock, paper, scissors again.
6. Continue playing until completed the food chain and are the top predator.



Rock, Paper, Prey

Part 2

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Curate Kelvingrove

Learning Outcome:

Identify living, non living and once living things.

Resources:

- Environment images
- Identifier magnifying glasses
- Sorting sheet
- Magnifying glasses (optional)

What to do:

1. Select an environment image.
2. Place identifier magnifying glasses over the living, non-living and once living things in the image.
3. With a partner justify your choices.



Curate Kelvingrove

I can distinguish between living and non-living things. I can sort living things into groups and explain my decisions. **SCN 1-01a**

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- *Creates criteria for sorting living things and justifies decisions.*
- *Sorts living things into plant, animal and other groups using a variety of features.*



Photosynthesis

Learning Outcome:

Create an experiment to show how energy from the sun can be taken in by plants to provide a food and oxygen source

Resources:

- Beaker
- Baking soda
- Test tube
- Aquatic plant or spinach leaves
- Water
- Plastic funnel

What to do:

1. Put an aquatic plant in the bottom of a beaker and cover with a funnel.
2. Make a solution of baking soda and water using one teaspoon of baking soda per approximately 250ml.
3. Pour the solution into the beaker till nearly full.
4. Fill the test tube with water and cover the open end with a thumb.
5. Keep your thumb covering the top of the test tube and submerge it in the beaker upside down.
6. Keep the test tube submerged and position over the spout of the funnel.
7. Leave near a light source and watch O₂ bubbles form on the plant and displace the water in the test tube. This is photosynthesis- the plant is producing oxygen and it's own food source.



Photosynthesis

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