



Examples of Activities available for Key Stage one

Please note that the following sessions are a guide. We are able to offer bespoke sessions to suit the needs of your school. Please email science.centre@gmc.ac.uk to discuss your requirements.

Plants (including seasonal changes) Year 1

Parts of a plant

Working as a group, the children discuss the parts of the plant and their function. The children create a plate of food from plants identifying the part of the plant that the food is derived by sticking pictures with the correct labels.

What is the tree called?

Using 4 mature trees just outside the Science Centre the children match evidence they find on or below the tree with pictures so they can find out the name. The children can also do bark rubbings and leaf prints.

Measuring the spread and girth of one tree and comparing the height to surrounding buildings. Also thinking about the size of the seed and comparing this to the size of the mature tree.

Winter tree detectives

Using a simple key to work out four different trees from their twig bud arrangement/ colour and bark, and then using this information to study the actual trees.

Plant treasure hunt

Children to study the leaves from different plants in the science centre garden noting similarities and differences. Then they need to find specific plants from the garden using drawings and identification charts collecting a leaf and drawing the flower and noting the colour if in flower.

Studying the life cycle of a dandelion

For much of the year it is possible to find the life cycle stages of a dandelion. The experiment looks at the stages in the life cycle using dug up or specially grown plants. This allows all parts of the plants to be studied.

What's inside a winter bud?

Deciduous trees form buds in the previous year that will then produce new growth the following spring. In late winter the large buds of trees or shrubs e.g. Horse Chestnut and Magnolia are large enough to peel apart in layers like an onion to discover what is inside and studied with magnifying glasses and microscopes.

Seasonal changes Autumn/winter/spring

Looking at the plants in the Science centre garden and wider grounds as well as thinking about weather and soil conditions.

Plants year 2

Make a seed booklet

This allows the children to think about what a seed is and that it has all the information needed to start a new plant.

Growing new plants

Children to make paper pots and plant a flower seed, vegetable seed and an onion set. The children then grow these back at school.

Looking at germinating seeds

The children study sets of seeds that have started to germinate at staggered intervals and also ones that have been kept dark/light.

Looking at conditions needed for plant growth

As a class all the children plant seeds. Each group set up the seeds to be grown in specific conditions – e.g. dark/light, warm/cold, dry/ wet, type of soil. The seeds are then taken back to school to continue the experiment.

Summer seed search

After a group discussion about why plants make seeds the children use the Science Centre garden to find a plant that has made seeds. The seed head is picked and the seeds found and studied using hand lens/microscope. They may be able to see interesting features like the parachute structure attached to a dandelion seed and suggest reasons why the dandelion makes this.

If time a few of each type of seed can be planted and taken back to school to observe over time.

Animals (including humans)

'What do farm animals give us'

2 sets of cards: Farm animal pictures; products from farm animals. The cards are placed face down in sets and the children turn up a card from each set to see if they match.

Lucky dip vertebrates

Each child/pair of children has a class of vertebrate to assemble i.e. mammals, reptiles, birds, fish, and amphibians. The children take it in turns to dip into the bag and pull out a prop or picture. If it matches the class of vertebrates that they are collecting it is kept. The first to assemble all the features are the winners.

Sorting out vertebrates

The children then study pictures of vertebrates and have to sort out the pictures into the correct classes.

'Am I a pet, farm animal or a wild animal?'

3 large pictures: Countryside and wild space (for the wild animals); a Farm, and a House (for the pets) together with 12 animal pictures. Each group needs to decide where each animal usually belongs, whether there are any animals to be found in more than one group, what is the name of the home, put the animals into their correct home, match the young animal name with that of the parent, think of a collective name for a group of them and check the correct collective name of each group of animals with information in a table.

Animals and their environment

A group discussion as to what Pets, Farm animals and Wild animals need to thrive.

Understand what changes the natural environment making it more difficult for wildlife to survive. Walk around outside to see what QMC is doing to help wildlife and identify on a plan what you found that encourages all the wild creatures.

Herbivores and carnivores

Children sort out the pictures of vertebrates and non-vertebrates according to what they eat (Herbivores, Carnivores and Omnivores)

Look at examples of human food and identify which part of the plant it originated and how it may have been treated.

Vertebrate booklet

Skeleton models, x-rays and pictures are used to compare a familiar vertebrate from each class and how their differences relate to how they live.

Children fill in a pre-prepared booklet that details the attributes for each class of vertebrate by circling the correct information, sticking in pictures and a representation of each of the skin types and colouring in pictures

Body organs

Using the body organs tabard, pictures and anatomical models the children locate the major organs and find out the main function of each.

Animals including humans year 2

How Humans grow

The children discuss the changes that they know from babyhood to adult hood.

Group activity – assemble the human. There are 5 ¾ life-size models of humans from babyhood to adulthood to be assembled using by Velcro. Can the children assemble the pieces (head, body, arms, legs correctly).

Once assembled discussion about how proportions change as the body grows.

Investigate how germs spread

Make a balloon sneeze glitter germs then monitor how the germs spread throughout the lesson.

Washing hands experiment to show why good hygiene is important and why it is important to use soap

Life stages of animals

An introductory discussion using pictures about how the young of many creatures may look very different to the adult form leads onto an activity where the children put the models of life cycle stages in the correct order for a number of vertebrates and invertebrates.

Cut and stick activity putting the human life cycle in order.

Measuring ourselves

Looking at growth variation within the class by collecting a series of 6 measurements of each child in the class for data handling activity back at school

What do animals need to survive

A group game: each child has a creature and counters representing shelter, life, food and water, air.

Children work through a set of scenario cards and gain or lose counters depending on how their creature is being affected by changes in habitat caused naturally or by humans.

Activity

The children choose an animal from a set of pictures. The animal is stuck to an A3 sheet and the children create a habitat round the animal which provides the correct food, a source of water and the correct type of shelter.

Living things and their habitats year 2

Habitat conditions needed for mini beasts

The experiment thinks about the microhabitats present in the science centre garden and determines the conditions present in each one and then tries to match specific mini beast requirements to these enable the children to predict the creatures that may be in the habitat and then to test the predictions.

Investigating the leaf heap

Carefully looking through the leaf heap to find as many different organisms as possible and understanding how these creatures find food and shelter. Close study of the organism with magnification to assist with identification

Wormery study

Children can see that it is possible to create an artificial habitat for a particular species and how the organisms are helping us.

Each group will make a small wormery to take back to school to observe over time.

Pond Dipping

6 small raised ponds in the Science Centre allow the children to pond dip safely. The children work in pairs to see what they can find and study their creatures using magnifying glasses, bug viewers. There is also an underwater camera that allows them to watch the creatures under the water.

Living, dead, never living

The children look at a variety materials and objects. They work as a group to determine which group each falls. This allows the teacher to observe team work skills, English and reasoning.

Food chains

An introductory activity allows the children to use masks to become the animal and think about what they might eat and who might eat who.

Children then work with model food examples and tubes of different diameters: each represents a different British animal. Tubes representing animals higher up the food chain get bigger in diameter so they can 'eat' their prey.

Everyday materials Year 2

Which type of paper should be used?

A series of investigations to compare the properties of kitchen roll paper, printer paper, and newsprint.

Observing the differences in texture and appearance using magnifying glasses and their sense of touch

Investigations:

- How well the paper absorbs oil
- How well the paper absorbs water
- Whether it is easy to draw on
- Whether it creases easily and retains the fold
- Whether it could be used to wrap a present.

Why are spoons made of different materials?

The same everyday object is often found made from different materials.

Children investigate teaspoons made from thin and thick plastic, metal and wood and see how this may relate to their use.

They carry out 4 investigations

- How quickly the handles get hot using thermo chromic paper to monitor the progression of the heat along the handle
- Compare the weight of similar sized spoons
- Compare the strength of the handle
- An adult demonstrates what happens when the spoons are put in boiling water

Once the results have been obtained the group discusses which spoon would be the best choice for a range of scenarios

Comparing balls made from different materials

There are many games that use a ball but the balls are made of different materials.

First the children are asked to match the set of 14 different balls to how the game is played. Does it use a bat, racket etc. or is it hit with a part of the body.

Once the balls have been grouped can the children work out any similarities between the sets of balls.

Can they suggest what the balls are made from and what might be inside?

Can they predict which balls will bounce and how high and then carry out a test to check their predictions

Extension investigation

Investigate how the balls roll on different surfaces.

Uses of everyday materials

Investigate a range of materials and rate them for a number of different uses.

Can they then discuss the advantages and disadvantages of materials with similar properties for a particular application e.g. which of the soft materials would be best for making a cushion?