

SEAL - Science Links - Years 5 and 6

New Beginnings

Objectives: As for QCA Unit 5B Life cycles

Children consider new beginnings by researching life cycles and represent the information in different ways - for example, PowerPoint presentation, role-play.

Seal objectives:

- To appreciate and celebrate differences and similarities
- To appreciate that diversity enriches the natural world of which we are part
- To explore some of the feelings associated with new beginnings and endings
- To recognise the importance and rewards of supporting, and caring about, each other

Science objectives:

- To know about the life cycle of flowering plants
- To know that adults have young and that these grow into adults which in turn produce young
- To know that human young are dependent on adults for a relatively long period

Activity 1 (adapted from QCA Unit 5B Life cycles)

Part 1

Quick quiz (perhaps using an electronic whiteboard) or card game to review knowledge of plant structure and function.

Part 2

Ask the children to describe the life of a plant from when the seed is covered by soil until the plant dies, including flowering and setting seed. Introduce the term 'life cycle' and ask children to choose a familiar plant and create an A4 poster to illustrate its life cycle.

Part 3

Ask individuals/groups to show and explain their posters to each other/the class. Compare the life cycles of different plants using the children's posters. (This activity could link to work on creation in music, art or drama. Children could imagine what it is like under the soil. How dark will it be? Will it be cold or warm? Imagine bursting through the soil into the bright world above...)

Activity 2

Part 1

Make the link to earlier work on animals and their young with a quick matching game of adult and baby. Include a variety of animals such as mammals (including humans), birds, fish, amphibians, reptiles, insects etc. to cover different kinds of life cycle.

Part 2

Talk with the children about the growth and development of humans and discuss different stages - for example, *babyhood, childhood, adolescence, adulthood*. Ask the children to prepare an illustrated timeline to show stages in the growth and development of humans.

Part 3

Ask children to say how their timeline is similar to the life cycle they drew for their plant, and how it is different.

Activity 3

Part 1

Link the timeline they drew in the last activity to Theme 1 *New beginnings*. Where are the new beginnings in the timeline? Are they big changes or small changes? (This could be linked to Theme 7 *Changes* either now or later.) Who provides care and support for us when we experience new beginnings? Why are care and support important when we experience new beginnings?

Part 2

Ask small groups of children to research how long a particular stage is for different animals using secondary sources - for example, *gestation period, duration of parental care*. How much do the young depend on their parents when they are newly born? Which parent does most of the caring or do they share it equally? What are the implications of these differences? Include animals other than mammals and birds - African mouth brooding fish; seahorses (which are also fish); crocodiles; rainforest frogs whose eggs are carried on their backs in tiny, individual, fluid-filled pockets etc.; point out that quite often it is dad who does the caring.

Part 3

Each group makes a short presentation to the rest of the class about their findings.

Getting on and falling out

A number of QCA science units lend themselves to a focus on the skills of working together in groups.

Objectives: As for the relevant QCA unit. *QCA Unit 5A section 9 Keeping healthy*

Children create a PowerPoint presentation about the dangers of smoking. They work together to collect different information from a variety of sources, and create different parts of the PowerPoint. They need to decide which aspects different people in the group will research and create, taking on board the role of 'critical friend' to work towards a polished final product.

QCA Unit 5D section 9 Changing state

Children use computer sensors to measure the temperature change when water heats up when placed over a night-light, and how the hot water cools. They need to make their own rules about health and safety and ensure that each person abides by the group's rules.

QCA Unit 6A section 6 Interdependence and adaptation

Children could create a food chain game for younger children to play. They have to think about what younger children need and work together to produce a game that would engage and teach younger children. They should be critical of their own work, taking the role of 'critical friend'.

QCA Unit 6C section 4 More about dissolving

Children share ideas in a small group about what kind of things will affect how something dissolves, for example amount of substance, temperature of water. They make a group decision on which aspect to investigate and, independent of the teacher, they plan and carry out their fair test as a coherent group. They should be able to delegate jobs without argument, reflect on what they have done, evaluate good points and areas that need to be improved.

Going for goals

In Keeping healthy (QCA Science Unit 5A, Keeping healthy, section 8 Exercise and pulse rate), goals could be linked to measuring heart rate/exercise programmes. Investigative work provides opportunities for working on goal setting (e.g. to produce an investigation that someone else could replicate).

Children could study the work of scientists such as Louis Pasteur, or the Curies (Pierre and Marie), who had to persist with their hypotheses and experiments and who achieved remarkable breakthroughs as a result.

Good to be me

Relationships

Begin to explore the embarrassment that can go with the body changes children may be experiencing as they move into adolescence.

Changes

QCA Unit 5A Keeping healthy, section 4 Exercising and section 8 Exercising and pulse rate: Investigate changes brought about by exercise, for example, breathing and pulse rate, representing this data in a variety of ways, using ICT where appropriate. Ask children to consider people who experience imposed change due to ill-health or disability and the similarities/differences in lifestyle that result.

Unit 6A QCA Interdependence and adaptation: How do humans change the environment? What are the repercussions for the environment? Research and collect data, representing this data in a variety of ways, using ICT where appropriate.