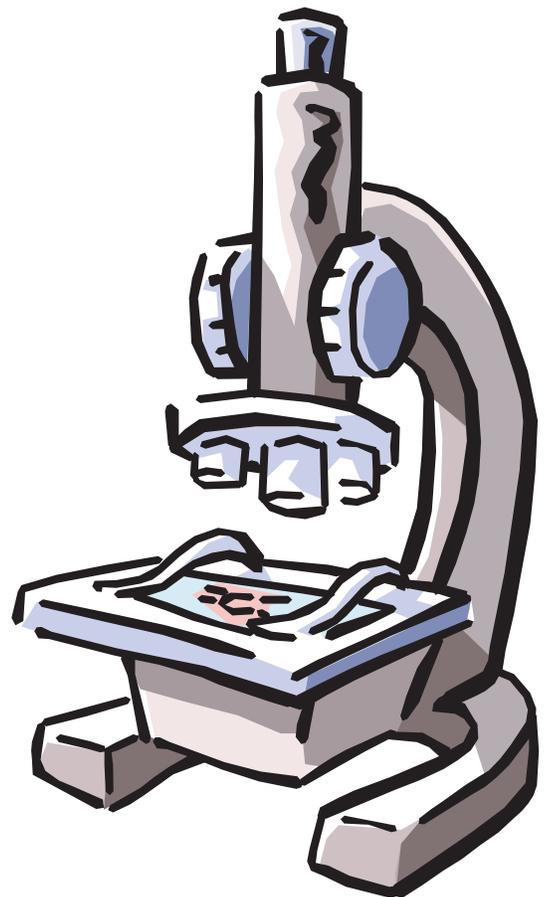


Do You Want to Live Forever?

The World Around Us

ICL: Wonderful World
Year 6/7



Cross Curricular Skills developed/displayed in this assessment activity

Communication	- Talking and Listening
Thinking Skills and Personal Capabilities displayed/developed in this assessment task:	Managing Information Thinking Problem Solving and Decision Making Being Creative - Working with others Self Management

What It's About

Aubrey de Grey, a British scientist, claims that people will eventually be able to live to 1000 years of age. He states that scientists have already found ways to alter cells and genes to regulate the ageing process and expects that in the next 20 years extending life in this way will be a possibility.

Where It Fits

Interdependence

- Interdependence between people and the environment
- The effect of people on the natural and built environment over time

Key Questions

- Who are we?
- What are we?
- How do living things interact with each other in the environment?

Suggested Learning Intentions

- To explore and develop ideas and respond to others' points of view.
- To communicate and explain information, ideas and opinions with increasing clarity.
- To collaborate with peers to begin to reach agreement/manage disagreement.
- To understand that changes to one living thing in a food chain can affect other living things within the same food chain.
- To understand how learning in science relates to news in the world around us.

Discussion Starters

When the children are reviewing the first activity:

- Do you think that all new scientific developments are useful?
- Why might people have different views on a new scientific idea?
- Who do you think should decide how a new scientific idea is used?

When the children are thinking about the food chains:

- What do you think the arrows in a food chain show?
- Why do you think there are green plants at the start of each food chain?

Running the Activities

1. Use the introductory paragraph on page 1 as a stimulus for the task. Discuss what is meant by a 'green' and 'red' scientist, and ask the children to decide which type they wish to represent. Ideally the class would be best split into two relatively equal teams.
2. Ask the children to consider in smaller groups what types of views they, as scientists, may have. Ask them to consider the questions. Explain to the children that they will play the role of the team of scientists that they represent, sharing and expressing the views that this group of scientists might have. Challenge the teams to identify ideas and arguments that support their point of view. The illustrations on page 2 can be used as a stimulus for this process, either by showing the whole sheet to the children or by cutting up the sheet up into individual 'impact question' cards and handing them to smaller groups of children.
3. After the children have had time to discuss their ideas, ask each team to choose a spokesperson. Each spokesperson will outline the team's opinions to the rest of the class at the start of a class debate.
4. As teacher, facilitate the debate, referring if necessary to the stimulus ideas on page 2. Bring the debate to a close, possibly by involving the children in a 'free vote' to get an overall class view on the issue.
5. Use page 3 to introduce a further task that looks specifically at the effect of increased human life span on populations and food chains. Ask the children to work either individually or in small groups arranging the cards to construct a food chain. They should think about and, if possible, describe what their food chain shows.

Tip: Drawing other food chains that have humans in them

This could be organised as a small group discussion activity with the new food chains drawn on small white boards so that they can be displayed and amended after discussion. Ask the children to think about and put forward their ideas about how increased numbers of humans could affect each food

chain. For each living thing in the food chains they should try to say if their numbers would go up or down and explain why this might happen.

Web Links

www.bbc.co.uk/schools/revisewise/science/living/

A look at a range of science topics exploring the different facts children would like to know about living things, including food chains. There are activities, fact sheets and quizzes on food chains for children.

www.vtaide.com/png/foodchains.htm

Teacher background information about food chains which allows you to create food chains and webs on screen.

Assessment for Learning Smart Grid*

Use the Smart Grid to help the class review their learning. For additional information about how to use a Smart Grid view the 'How to use' guide.

Thumbs Up	We were great at the task because...	<p>we came up with some ideas about why making humans live much longer could be a good thing or could cause problems, for example..</p> <p>we worked as a team to develop and explain our ideas.</p> <p>we were able to describe and explain what food chains show, one example is . .</p> <p>we were able to draw some other examples of food chains.</p> <p>we could explain what might happen to the other living things in a food chain if humans lived longer for example...</p>	<p>Next time we will...</p>
Thumbs Sideways	We were good at the task because...		
Thumbs Down	We were OK at the task because...		

* Smart Grids are part of the Smart Science series developed by the Centre for Science Education, Sheffield Hallam University

Science at your Fingertips

What would happen if there were more humans living longer?

We can't be sure in detail what the impact of humans living longer would be but some possibilities include:

Impact on space: more houses would be needed could mean that more high-rise buildings were seen, with less green space in built up areas and less countryside being left intact.

Impact on food supplies: if more farming couldn't supply all the food people need then they might have to grow more of their own food.

Impact on jobs: more jobs would be created in the areas which involved looking after other people but people would just probably need to work longer.

Impact on energy supplies: increased numbers of people would mean that energy resources such as gas and oil would be used up more quickly. There could be an increased use of alternative energy such as solar and wind power.

Impact on transport: with more people moving about pollution levels could increase if we still use petrol and oil etc.. Cleaner alternatives such as electric vehicles could help reduce pollution but it is likely that there would be more vehicles on the road and airplanes in the sky.

What is a food chain?

Food chains are diagrams that show how one living thing relates to another in terms of food supply.

Why is there usually a green plant at the bottom of a food chain?

Green plants are often at the bottom of a food chain, because they trap the energy in sunlight and use it to make food. Animals can then eat the plant and use this food to live and grow themselves.

What do the arrows in a food chain represent?

In food chain diagrams the arrows show how energy flows up the food chain but we can think of it in terms of showing the direction in which the 'food' is passed on.

Is it easy to get a food chain diagram wrong?

It can be. Remember when drawing food chains to think about the source of the food item, for example, draw wheat instead of a loaf of bread, or draw a chicken not a chicken sandwich!

Connecting the Learning

Imagine

Imagine yourself at 1000 years of age, what would the world be like? What would you have liked to have stayed the same? What would you have liked to see changed?

A chance to find out more

Interview some members of the community and find out what they think about the idea of living to 1000 years of age. Collate their responses to show what they all think.

How long do we live?

Research how long, on average, people live for. Is this the same all over the world? Which countries seem to have people living for longer? Why do you think this is? Can you identify anything in their culture that may help them live longer?

Why do we live longer?

The average human life span has increased considerably in the last 100 years. How long could people have expected to live for at the end of the 19th century? What do you think are some of the main reasons why people can now live so much longer?

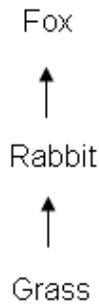
Changes in a lifetime

Imagine the changes you might see if you live to be 100 years old. Which changes do you think would be important to your life? Talk to an older person about the changes they have seen and find out which ones they think have made a difference to them.

Overlapping food chains

In any habitat there are often several food chains that can overlap. This pattern is called a food web.

Think about the food chain shown below. What other animal could eat the rabbit? What else would the fox eat? What other plants might be growing with the grass? Can you add other plants and animals to this food chain to make it into a food web?



What the food web might look like. The example below shows a possible food web built up from the food chain. Other living things could be added as well. In this example the sparrow would probably be eating plant seeds rather than the whole plant. The plants and animals in this web could be put onto cards that children could sort to form their food web.

