

Little Growers

Location

Ground floor, Our World exhibition

In a nutshell

Watch the life of a plant in fast forward

Plants are able to turn sunlight and nutrients into sugars to help them grow. Animals, including humans, then eat and absorb the plant helping them to grow. Eventually even the consumer at the top of the chain will die and be recycled by the agents of decay.



What to do

Use the spin browser to travel backwards and forwards in time viewing plants growing from seed to full size.

Time Required

KS3 & KS4 4 minutes per student.

What's happening?

Seeds contain the ingredients and instructions to make a plant. When water enters a seed it activates stored energy within the seed and the plant begins to grow. Until the plant has leaves, the seed is its only available energy source.

Plants make their food using the energy from sunlight, carbon dioxide in the air and water in the soil. A chemical reaction called photosynthesis takes place in their leaves which produces sugars for the plant to grow. Plants release water and oxygen back into the atmosphere as by-products of photosynthesis

Bacteria, fungi and many small creepy crawlies live in the soil using dead plant material for food and energy. They are essential as they release nutrients such as nitrogen, calcium and phosphorous which plants need to grow. Plant roots transport these nutrients and water from the soil to the stems and leaves.

Curriculum links

KS3	<p>Science - Photosynthesis</p> <ul style="list-style-type: none"> - the reactants in, and products of, photosynthesis, and a word summary for photosynthesis - the dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere <p>English - Reading</p> <ul style="list-style-type: none"> - learning new vocabulary, relating it explicitly to known vocabulary and understanding it with the help of context and dictionaries <p>Geography</p> <ul style="list-style-type: none"> - understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems
KS4	<p>Science - Importance of photosynthesis</p> <ul style="list-style-type: none"> - describe the process of photosynthesis and describe photosynthesis as an endothermic reaction - describe photosynthetic organisms as the main producers of food and therefore biomass for life on Earth - explain the effect of temperature, light intensity and carbon dioxide concentration on the rate of photosynthesis explain the interaction of these factors in limiting the rate of photosynthesis <p>Science - Transport systems in plants</p> <ul style="list-style-type: none"> - explain how water and mineral ions are taken up by plants, relating the structure of the root hair cells to their function - explain the effect of a variety of environmental factors on the rate of water uptake by a plant, to include light intensity, air movement and temperature <p>Science - Agricultural productivity and the use of nitrogen, phosphorus and potassium based fertilisers</p> <ul style="list-style-type: none"> - recall the importance of nitrogen, phosphorus and potassium compounds in agricultural production

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none"> • Catching the sun (KS3 & KS4) • System Earth (KS3 & KS4) 	<ul style="list-style-type: none"> • Blue Marvel (Planetarium, all ages) 		<ul style="list-style-type: none"> • Changing world • Ecosphere • Little Rotters • Water cycle

