

Greenfields Academy (Secondary) - Long Term Planning – SCIENCE

Academic Year Overview 2020/21 – YEAR/CLASS/GROUP

Term	Autumn		Spring		Summer	
	1	2	3	4	5	6
TRANSITION FROM.... → →	Food and digestion	Atoms and elements	Compounds and mixtures	Respiration	Light	Rock Cycle
	Microbes and disease	Heating and cooling	Magnets	Ecology	Sound	Rocks and Weathering
Weekly Sequence	KEY: N – New Learning & Knowledge, KQ – Key Question, WSF – Whole School Focus (eg. Computing Week, Language Day)					
1	N – What's in food? A balanced diet. KQ – What is used to test a food for starch? What is the job of fibre? Why do we need protein in our food? WSF –	N – The elements KQ – How many chemical elements are there in the world? What is the smallest part of an element called? WSF –	N – Compounds all around KQ – What is an atom? Molecule? How many different elements are there in the compound with the formula NH ₃ ? WSF –	N – Food for energy. KQ – What is digested food used for in our bodies? What is the name of the process that releases energy in our bodies? In what ways is burning similar to respiration? WSF –	N – Seeing light and which ray? KQ – Can you name three different light sources? How are shadows formed? What is an opaque object? WSF –	N – Hard and cool rocks KQ – Can you name examples of sedimentary rock? What does the word 'limestone' refer to? WSF –

<p>2</p>	<p>N – Healthy or not? Total breakdown of food. KQ – Can you name the main chemicals used to digest food? The enzymes in humans work best at body temperature. What temperature is this WSF –</p>	<p>N – How elements differ. KQ – What are the three typical properties of metal? Where are metallic elements found in the periodic table? WSF –</p>	<p>N – Reacting compounds KQ – What are the substances called you get at the end of a chemical reaction? Can you give an example of a chemical reaction? WSF –</p>	<p>N – Everything respire. Breathe in and out. KQ – Can you name the route air takes through the lungs? The movement of particles from an area where they are in a high concentration to an area where they are in a lower concentration is called? WSF –</p>	<p>N – Travelling through and coloured light. KQ – what is a plane mirror? What is refraction? WSF –</p>	<p>N – Rock on KQ – What does the word metamorphic mean? How are metamorphic rocks formed? WSF –</p>
<p>3</p>	<p>N – Taking it in. Chewing it over. KQ – Which system is digested food is carried around the body in? What job does an artery do? WSF –</p>	<p>N – Reacting elements. KQ – what is the name of the compound that you get when magnesium burns in oxygen? How many elements are there in the compound iron sulphide? WSF –</p>	<p>N – What’s In it? The air around us. KQ – Why is orange squash a mixture? How can the different gases in the air be separated? If you add impurities to a substance, what happens to the melting and boiling points? WSF –</p>	<p>N – A transport system. KQ – How is oxygen transported around the body? How is carbon dioxide transported around the body? Mucus lines the air passages and traps dirt and tiny organisms called microbes. It is moved up and out of the lungs by tiny hairs called? WSF –</p>	<p>N – Combinations of light. KQ – Can you name the three primary colours of light? Why do blue objects look blue? WSF –</p>	<p>N – Classifying rocks KQ – How are igneous rocks formed? Can you explain the rock cycle? How are rocks weathered? WSF –</p>
<p>4</p>	<p>N – Going on growing. Defence systems. KQ – Can you name two different sets of microbes? Why do some people think that viruses are not living things? Which microbe is used to make bread rise?</p>	<p>N – Temperature and energy KQ – What is another name for heat energy? What are the units for measuring heat energy? WSF –</p>	<p>N – Magnetic fields KQ – Which materials will block magnetism? Can you name a pair of magnetic material? WSF –</p>	<p>N – Plant groups. KQ – What is an arthropod? Which vessel helps plants move water to their leaves? WSF –</p>	<p>N – Good vibrations KQ – How does sound travel through air? How is sound caused? WSF –</p>	<p>N – Rock breaking and disappearing rocks. KQ – Why are some rocks porous? What is acid rain? How does freeze-thaw action damage rocks? WSF –</p>

