

Science | Science fundamentals | Year 7 | Spring 2

Week 1	Week 2	Week 3
<ol style="list-style-type: none"> 1. What is a cell? 2. What are the main structures in a plant cell? 3. Which of those structures are shared with animal cells? 4. What is the function of the mitochondria? 5. What would we use to see cells clearly? 	<ol style="list-style-type: none"> 1. How are the particles arranged in a solid? 2. How are the particles arranged in a liquid? 3. How are the particles arranged in a gas? 4. What is the change of state from liquid to solid? 5. What is the change of state from liquid to gas? 	<ol style="list-style-type: none"> 1. What store of energy is full when an object moves? 2. What energy store is filled when an object is stretched? 3. What are the energy transfers involved in a book falling to the floor off a shelf? 4. What is the conservation of energy? 5. What energy store is filling when an object is rising up high?
Week 1 answers	Week 2 answers	Week 3 answers
<ol style="list-style-type: none"> 1. The basic building block of all life 2. Cytoplasm, chloroplasts, cell wall, cell membrane, nucleus, mitochondria, vacuole, ribosome 3. Cytoplasm, cell membrane, ribosomes, mitochondria 4. To carry out aerobic respiration 5. A microscope 	<ol style="list-style-type: none"> 1. Tightly packed in rows 2. Close together, but can flow and move over one another 3. Spread out far apart with lots of space between them 4. Freezing 5. Evaporating or boiling 	<ol style="list-style-type: none"> 1. Kinetic 2. Elastic potential 3. Energy is transferred from the gravitational potential energy store into the kinetic energy store as the book falls 4. Energy cannot be created or destroyed 5. Gravitational potential energy

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Week 4	Week 5	Week 6
<ol style="list-style-type: none"> Convert 30mm into μm Define diffusion What are the 7 life processes? (MRS GREN) Give 2 examples of single celled organisms How is a red blood cell specialised? 	<ol style="list-style-type: none"> List some examples of separation techniques Explain how filtration works What does it mean if something is soluble? What is the opposite of soluble? What are the solid and the liquid called in a solution? 	<ol style="list-style-type: none"> Describe convection Describe conduction List 3 fossil fuels Define what renewable means List 4 renewable energy resources
Week 4 answers	Week 5 answers	Week 6 answers
<ol style="list-style-type: none"> $30 \times 1000 = 30,000\mu\text{m}$ The movement of particles from high to low concentration. It is passive Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition Bacteria, amoeba, euglena It has no nucleus to make space for more oxygen, it is a bi-concave disc so it can fold into the small blood vessels 	<ol style="list-style-type: none"> Distillation, fractional distillation, chromatography, filtration, evaporation The holes in the filter paper can only let very small particles through, if they don't go through the particles are too big It dissolves Insoluble The solid is the solute, the liquid is the solvent 	<ol style="list-style-type: none"> Liquid or gas particles are heated and become less dense so they rise, they cool and then fall again creating a convection current Solid particles are heated and vibrate, they move more and vibrate the neighbouring particles, this means heat energy can travel through the solid Coal, oil, gas Renewable means the energy resource wont run out Wind, hydroelectric, solar, tidal, wave, geothermal