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|  | Working towards the skills and knowledge needed | Acquiring the skills and knowledge needed | On track with the skills and knowledge needed | Advancing the skills and knowledge needed | Extending the skills and knowledge needed |
| 1. Unicellular organisms
 | State the different types of microbes | Explain the differences between unicellular and multicellular organisms. | Describe how yeast reproduce and their limiting factors | Describe how bacteria reproduceDescribe how an enzymes worksIdentify the difference between pyramids of number and biomass | Outline the variables that affect enzyme action.Explain how a toxin can pass along a food chain |
| 1. Food and Nutrition
 | Recall the nutrients needed in a diet.Recall tests for starch and fatRecall the parts of the digestive system and their function | Describe what each nutrient does in the bodyDescribe the benefits of a balanced diet | Explain why varying professions have different energy needsExplain the different types of malnutrition and their effects | Interpret nutrition information labelsOutline how diffusion occurs in the small intestine | Identify how verbs and adjectives can add bias to certain dietsOutline the importance of surface area in relation to digestion |
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| 1. Breathing and respiration
 | Recall what happens in aerobic respirationRecall the functions of organs in the respiratory system  | Describe the functions of the main parts of the human gaseous exchange system.Describe how muscles attached to ribs and the diaphragm produce breathing movements.Describe what happens during gas exchange. | Use a knowledge of respiration and ventilation to explain why inhaled air differs from exhaled air.Use a model to explain how lungs expand and contract.Suggest the effects of [diseases that affect, damage] the [gaseous exchange, breathing] system. Suggest the effects of differences (e.g. in size or organs) between the gaseous exchange systems in different people. | Use a pressure model to explain ventilation. Suggest reasons for differences in [lung capacity, tidal volume, vital capacity].Compare the human gaseous exchange system with those of other animals. | Suggest how problems with the [gaseous exchange, breathing] system could be [overcome, treated]. |
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| 1. Rocks
 | Recall some uses of rocks | Describe the textures of different rocksDescribe how igneous and metamorphic rocks are formedDescribe the different forms of weathering | Explain how the properties of some rocks relate to their textureExplain how cooling affects grain size in igneous rocksExplain how sedimentary rocks are formed | Identify rocks based on their properties | Use the rock cycle to show how all three rocks are linked |
| 1. Metals
 | State what a property isState some common properties of metals and non-metals | Describe some common properties of metalsDescribe what happens during metal corrosion and rustingDescribe the reactions of metals with acids | Produce word equations for the reactions of metals and non-metalsExplain how metals can be protected from corrosionPlace metals in order of their reactivity | Identify products and symbols using symbol equations | Produce balanced symbol equations to represent chemical reactions |
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| 1. Periodic table and combustion
 | State what an element and compound areState what makes up the fire triangle | Describe physical properties of elementsIdentify chemical symbols of elementsExplain what a hydrocarbon is | Explain the difference between chemical and physical changesExplain what oxidation is Use the fire triangle to identify how to put out fires | Outline the evidence proving the mass of a substance increases when it is heatedExplain how pollutants have led to the greenhouse effects | Use atomic theory to outline what takes place during a chemical reactionOutline the long term consequences of global warming |
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| 1. Fluids
 | State some properties of solids, liquids and gasesState what is meant by densityRecall a substance does not change temperature whilst it is changing stateState what up thrust is | Describe the properties of different states of matterDescribe what happens to particles during changes of stateDescribe how gas pressure can be increasedDescribe what drag is and the factors that affects it | Explain the properties of different states of matter using the particle modelExplain how temperature affects a materialUse the formula to calculate densityExplain factors that can affect up thrust | Rearrange the density formulae to calculate volume and mass | Outline the variables and their effects on air pressure |
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| 8. Light | Recognise and state some properties of light and sound wavesRecall some uses of lensesRecall the parts of a camera and the eye and state their functions | Describe how to show light travels in straight linesDescribe how mirrors and rough surfaces reflect light and how an image is formed in a mirrorDescribe how refraction occurs | Compare light and sound wavesExplain refraction in terms of particles and densityDescribe how to make a spectrum | Produce accurate ray diagrams using light equipmentCompare and contrast the human eye to a cameraExplain why coloured objects appear the way they do | Use a model to explain how lenses work |
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| 1. Energy Transfers
 | Identify the direction that energy will be transferredRecall ways of reducing energy transfersInterpret Sankey diagrams State what payback time is | Describe how energy is transferred by radiation, convection and conductionDescribe what power and efficiency meanWork out payback time | Explain how internal energy and temperature are differentExplain what happens to particles when they evaporateCalculate energy efficiencyExplain how energy companies charge for payback times | Use the particle model to explain energy transfers if matterCalculate payback time | Explain in terms of particles why energy is never lost or formed |