



Science Assessment Rubrics: Yr8 Biology

(D: Developing, S: Secure, E, Extending)

Name:

| Mastery Indicator | D | S | E |
|---|---|---|---|
| Describe the nutrients required for a healthy diet and their function in the body | | | |
| Describe the effects of having a poor diet | | | |
| Explain why different energy requirements depend on levels of activity | | | |
| Describe how to measure the amount of energy released by different foods | | | |
| Describe the role of bacteria and enzymes in the digestive system | | | |
| Describe the effects of different types of drugs have on the body | | | |
| Describe the effect of alcohol on the body and the effect of drinking while pregnant | | | |
| Describe the effect of smoking on the body and the chemicals present in tobacco smoke | | | |
| Describe what a producer is in a food chain | | | |
| Describe the process of photosynthesis | | | |
| Describe the structure of plant leaves | | | |
| Explain how oxygen and carbon dioxide get in and out of leaves | | | |
| State the minerals plants need to be healthy | | | |
| Describe the symptoms of mineral deficiency in plants | | | |
| Describe the process of chemosynthesis and compare it to photosynthesis | | | |
| Describe the process of aerobic respiration | | | |
| Describe the process of anaerobic respiration and its use in fermentation | | | |
| Describe the difference between food chains and food webs | | | |
| Explain the principle of interdependence within food webs | | | |
| Describe some factors that can effect organism populations | | | |
| Explain how organisms co-exist by having niches | | | |
| Describe the resources that animals and plants compete for | | | |

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| Explain how organisms adapt to be successful competitors | | | | | | | |
| Explain the relationship between predators and their prey | | | | | | | |
| Describe how characteristics vary both within and between species | | | | | | | |
| Explain why variations are caused by the environment or the genes or a combination of both | | | | | | | |
| Describe whether variations are continuous or discontinuous | | | | | | | |
| Describe the role of DNA, chromosomes and genes in fertilisation and inheritance | | | | | | | |
| Describe how evolution occurs through natural selection | | | | | | | |
| Explain how fossils provide evidence for extinct species | | | | | | | |
| State what extinction means and describe how organisms become extinct | | | | | | | |
| Describe how scientists today try to prevent extinction | | | | | | | |
| Learning Review 1 (D,S,E) | | Learning Review 2 (D,S,E) | | Learning Review 3 (D,S,E) | | | |



Science Assessment Rubrics: Yr8 Chemistry

(D: Developing, S: Secure, E, Extending)

Name:

| Mastery Indicator | D | S | E |
|---|---|---|---|
| Describe the different properties and reactions of metals and non-metals | | | |
| Describe the trends seen in the groups and periods of the periodic table | | | |
| Describe the properties and reactions of group 1 elements | | | |
| Describe the properties and reactions of group 7 elements | | | |
| Describe the properties and reactions of group 0 elements | | | |
| Describe how mixtures and compounds are different | | | |
| Describe how pure substances can be identified | | | |
| State what dissolving is and describe the difference between solute, solvent and solution | | | |
| Describe what solubility is and how temperature can effect solubility | | | |
| Describe how filtration works and explain why it's useful | | | |
| Describe evaporation and distillation and how they can be used to make salts and separate solutions | | | |
| Describe how chromatography works and how it is used | | | |
| Describe the reactivity of metals with acid | | | |
| Describe how to test for presence of hydrogen | | | |
| Describe the reactivity of metals with oxygen | | | |
| Describe the reactivity of metals with water | | | |
| Describe displacement reactions and how to use the reactivity series to explain displacement reactions | | | |
| Describe how the reactivity series can be used to explain how metals are extracted from their ores using carbon | | | |
| Describe properties of ceramics and how these properties make ceramics useful | | | |
| Describe the properties of polymers and how these properties make polymers useful | | | |
| Describe the properties of composites and how these properties make composites useful | | | |
| Describe the different layers of the earth and the composition of the earth's atmosphere | | | |

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| Describe the properties of sedimentary rocks and how they are made | | | | | | | |
| Describe the properties of igneous rocks and how they are made | | | | | | | |
| Describe the properties of metamorphic rocks and how they are made | | | | | | | |
| Describe the rock cycle | | | | | | | |
| Describe the carbon cycle | | | | | | | |
| Explain how global warming occurs and describe its impact | | | | | | | |
| Describe how aluminium is recycled and the advantages and disadvantages of recycling | | | | | | | |
| Learning Review 1 (D,S,E) | | Learning Review 2 (D,S,E) | | Learning Review 3 (D,S,E) | | | |



Science Assessment Rubrics: Yr8 Physics

(D: Developing, S: Secure, E, Extending)

Name:

| Mastery Indicator | D | S | E |
|---|---|---|---|
| Describe how objects become charged | | | |
| Describe how charged objects interact | | | |
| Describe what is meant by an electric field | | | |
| Describe what is meant by current and describe how current is measured | | | |
| Describe what potential difference is and how to measure it | | | |
| Describe what is meant by the rating of a battery or a bulb | | | |
| Describe the difference between series and parallel circuits | | | |
| Describe how current and potential difference vary in series and parallel circuits | | | |
| Describe what is meant by resistance in a circuit | | | |
| Describe how to calculate the resistance of a component in a circuit | | | |
| Describe the difference between a conductor and an insulator | | | |
| Describe how magnets interact | | | |
| Describe how to represent magnetic fields and the earth's magnetic field | | | |
| Describe the uses of electromagnets and how simple electric motors works | | | |
| Describe how energy values vary in foods and fuels | | | |
| Describe how energy differs before and after a charge | | | |
| Describe the law of conservation of energy | | | |
| Describe the difference between energy and temperature | | | |
| Explain what happens when solids, liquids and gases are heated | | | |
| Describe what is meant by the term equilibrium | | | |
| Describe how energy is transferred by particles in conduction and convection | | | |
| Describe some sources of infra-red radiation and how energy is transferred by radiation | | | |
| Describe the difference between a renewable and the non-renewable energy source | | | |

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| Describe how electricity is generated in a power station | | | | | | | |
| Describe the difference between energy and power | | | | | | | |
| Explain the link between power, fuel use and the cost of domestic appliances | | | | | | | |
| Describe how to calculate work done and how to apply the conservation of energy to simple machines | | | | | | | |
| Describe how to calculate speed and relative motion | | | | | | | |
| Describe how to interpret distance-time graphs | | | | | | | |
| Describe the factors that affect gas pressure and how atmospheric pressure changes with height | | | | | | | |
| Describe how liquid pressure changes with depth and why some objects float whilst sink | | | | | | | |
| Describe how to calculate pressure | | | | | | | |
| Describe what a moment is and how to calculate the moment of a force | | | | | | | |
| Learning Review 1 (D,S,E) | | Learning Review 2 (D,S,E) | | Learning Review 3 (D,S,E) | | | |