



- Success criteria form a list of key pieces of knowledge you need to know and understand for your assessments
- Each criterion is matched to a BGE Level: second, third or fourth
 - We hope almost all of you will feel confident with second level work
 - Most of you will feel confident with third level work
 - Some of you could even feel ready to start experiencing fourth level
- You should assess how confident you feel using the guide below

✓	I am confident that I understand this and can apply this to problems
?	I have some understanding but I need to revise this some more
✗	I do not understand this and I need help with it

- Any success criteria you are not sure of, you should speak to a classmate who feels they understand it or ask your teacher to explain it again or differently
- They can be used to make flash cards, form mind maps or short questions to test your knowledge

I will be successful if I can...		How well can you do this?
2 nd	Identify the circuit symbols for a bulb, switch, motor, bell, buzzer, wires, cell and battery	✓ ? x
2 nd	Describe the transfer of energy in each electrical component	✓ ? x
2 nd	Draw a diagram of a circuit	✓ ? x
2 nd	Design and build an electrical circuit	✓ ? x
3 rd	Explain what is meant by the current in an electrical circuit	✓ ? x
3 rd	State the unit of electrical current and describe how to measure the current in a circuit	✓ ? x
3 rd	Describe the flow of electrical current in a series circuit	✓ ? x
3 rd	Explain why bulbs connected in series can have the same brightness	✓ ? x
3 rd	Describe the flow of electrical current in a parallel circuit	✓ ? x
3 rd	Explain why bulbs connected in parallel may not have the same brightness	✓ ? x
3 rd	Explain what is meant by the voltage of an electrical circuit	✓ ? x
3 rd	State the unit of voltage and describe how to measure the voltage across a component	✓ ? x
3 rd	Explain why voltage is different across each component in a series circuit	✓ ? x

3 rd	Explain why voltage is the same across each component in a parallel circuit	✓ ? x
3 rd	Explain the advantages of a parallel circuit compared to a series circuit	✓ ? x
4 th	Describe the relationship between current, voltage and resistance	✓ ? x
4 th	Explain what is meant by electrical resistance in a circuit	✓ ? x
4 th	Describe how different electronic input devices such as variable resistors, light dependent resistors and thermistors can be used	✓ ? x
4 th	Describe how different electronic output devices such as bulbs, LEDs, motors and relays can be used	✓ ? x
4 th	Design and construct an electronic circuit to solve a problem	✓ ? x
3 rd	Describe the EM spectrum	✓ ? x
4 th	List the common and individual properties of the parts of the EM spectrum	✓ ? x
3 rd	Describe a use of radio waves, TV waves, infrared or microwaves	✓ ? x
3 rd	Give an advantage and a limitation when using radio waves, TV waves, infrared or microwaves	✓ ? x
2 nd	Describe the characteristics of solids, liquids and gases	✓ ? x
2 nd	Explain how the properties of a material changes during a physical change	✓ ? x
2 nd	Describe changes of state using the terms freezing, evaporating and condensing	✓ ? x
3 rd	Describe how heat is transferred between hot and cold objects	✓ ? x
3 rd	Explain how heat is transferred by conduction, convection and radiation	✓ ? x
3 rd	Give examples of thermal conductors and insulators	✓ ? x
3 rd	Describe the relationship between heat loss in a building and the temperature difference inside and outside of the building	✓ ? x
3 rd	Give examples of different ways heat can be lost from a home	✓ ? x
3 rd	Explain how materials can be used to reduce heat loss in a building	✓ ? x
2 nd	Identify the signs of a chemical reaction	✓ ? x
3 rd	Describe the indicators of a chemical reaction	✓ ? x
4 th	Describe the difference between an endothermic and an exothermic reaction	✓ ? x
2 nd	Explain why a chemical reaction is not easily reversed	✓ ? x
3 rd	Give examples of everyday chemical reactions and name the new substances which are produced	✓ ? x
3 rd	Describe the relationship between particle size, temperature, and concentration on the rate of a chemical reaction	✓ ? x
3 rd	Give examples of how the rate of everyday chemical reactions can be controlled	✓ ? x
3 rd	Describe the role of a catalyst in a chemical reaction	✓ ? x
3 rd	Explain how catalysts can be used to speed up chemical reactions	✓ ? x

3 rd	Give two examples of everyday uses of catalysts	✓	?	x
3 rd	Describe the colour changes of indicators when added to acids, alkalis, or neutral substances	✓	?	x
3 rd	Identify a substance as acidic, alkaline or neutral based on its pH value	✓	?	x
3 rd	Give examples of every day and laboratory acids and alkalis	✓	?	x
3 rd	Describe what happens to the pH of an acid when it is added to an alkali	✓	?	x
2 nd	Describe how to separate mixtures of solids of different sizes or properties	✓	?	x
3 rd	Describe what is meant by solubility	✓	?	x
2 nd	Explain what is meant by a soluble or an insoluble substances	✓	?	x
2 nd	Identify the solute, solvent and solution when a substances is dissolved in a liquid	✓	?	x
2 nd	Explain why a dissolved solid cannot be separated from the solvent by filtering but can be separated by evaporation	✓	?	x
2 nd	Describe the relationship between temperature, time, particle size, stirring and the quantity of a solvent and how much of a solute can dissolve	✓	?	x
3 rd	Give examples of different solvents which can be used to dissolve substances	✓	?	x
3 rd	Describe the relationship between the quantity of the solute or solvent and the concentration of the solution	✓	?	x
2 nd	Identify different types of microorganism and give an example of each type	✓	?	x
2 nd	Give everyday examples of where microorganisms can be found	✓	?	x
2 nd	Describe the role of microorganisms in digestion and decay	✓	?	x
2 nd	Calculate the number of microorganisms that would be present after a period of time	✓	?	x
3 rd	Describe conditions that microorganisms need to grow and reproduce	✓	?	x
3 rd	Describe the effect of temperature on the growth of microorganisms	✓	?	x
3 rd	Give everyday examples of chemicals which can prevent the growth of microorganisms	✓	?	x