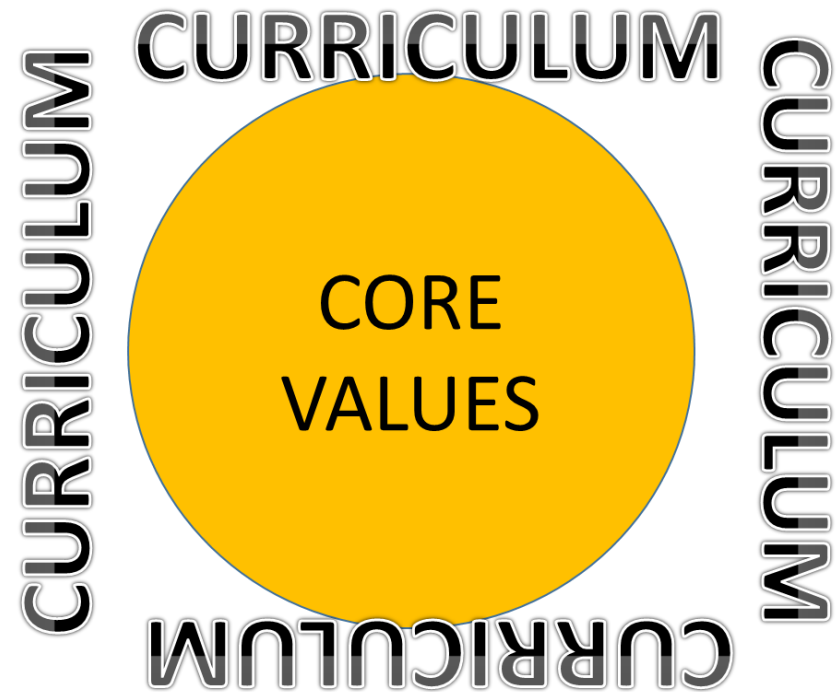


Year 8 Grade Descriptors

SCIENCE



EMERGING

Descriptor	Examples
Students use their knowledge to recognise and describe scientific ideas using appropriate key terminology and link to observations . They can use their scientific knowledge to design an investigation which enables to collection of valid and reliable data	<ul style="list-style-type: none"> • In Biology students can identify organs of the body and different types of microorganism. • In Chemistry, students can identify atoms and compounds from diagrams. • In Physics, students can identify forces in force diagrams. They can identify the differences between series and parallel circuits.

DEVELOPING

Descriptor	Examples
Students use their scientific knowledge to link cause and effect in a selection of observations. They use their knowledge and understanding to describe and explain some scientific processes.	<ul style="list-style-type: none"> • In Biology students link specialised cells to tissues, organs and organ systems and relate adaptation to function. They can describe differences between microbes. • In Chemistry, students can use chemical formulae to identify the number and types of elements in a compound. • In Physics, students can explain processes such as the length of the day or a year and explain why objects have different weights on different planets.

SECURE

Descriptor	Examples
Students use their knowledge and understanding to describe and explain some scientific processes. They use abstract ideas and apply their knowledge in unfamiliar situations using given formulae. They can develop a hypothesis from an observation and design investigation to test the hypothesis. They can describe trends and patterns within results using examples from the data; describe the possible cause of anomalies	<ul style="list-style-type: none"> • In Biology students can explain that blood and oxygen molecules move and are transported throughout the body in biological processes. Students can describe the differences between communicable and noncommunicable disease with examples. • In Chemistry, students can write formulae from diagrams or models and write simple word equations for reactions. • In Physics, students can explain the effect of balanced forces on the motion of objects and explain the differences between series and parallel circuits using terms such as potential difference and current. They can calculate quantities such as pressure and resistance with given formula.

MASTERY

Descriptor	Examples
<p>Students describe a wide range of processes and phenomena relating to Science, using abstract ideas, quantitative methods, and appropriate terminology and sequencing a number of points. Students can recall and apply equations with consistent units.</p> <p>They use scientific knowledge to design an investigation which enables the collection of valid and reliable data</p> <p>Describe in detail trends and patterns within results displayed in both tables and graphs; comment on anomalous results and possible sources of errors within the experiment; explain impact of these errors</p> <p>Calculate</p>	<ul style="list-style-type: none"> • In Biology students can use the process of diffusion to explain the movement of substances throughout the body and link two systems together. • In Chemistry, students can write simple balanced chemical equations with given formulae for the reactions covered in Year 8. • In Physics, students can explain the differences between series and parallel circuits using calculations of power. Students recall and use equations to calculate pressure, power and resistance.

EXCEPTIONAL PERFORMANCE

Descriptor	Examples
<p>Students display an extensive knowledge and understanding. They use this and apply this effectively in their descriptions and explanations, identifying links between topics. Students can recall and rearrange relationships</p> <p>They can independently use a variety of sources to design an investigation which will enable collection of valid and reliable data; fine detail of range and intervals are independently decided</p> <p>Students can explain outcome of the experiment; explain the impact of errors on the results and how we could address these; use a range of data to support conclusions.</p>	<ul style="list-style-type: none"> • In Biology students can explain the difference between aerobic and anaerobic respiration using word and symbol equations effectively. They can explain how the overuse of antibiotics can lead to antibiotic resistance. • In Chemistry, students can use experimental quantitative data to explain empirical formulae. • In Physics, students can explain how a DC motor works linking ideas relating to the magnetic effect of a current carrying wire in a magnetic field. Students are able to recall, rearrange and use the pressure, resistance and power equations