VALID Science 8 Levels and Reporting Strands

The descriptions are indicative of the knowledge, understanding and skills that students would likely demonstrate at each level.

Level	Knowing and understanding	Problem solving and communicating	Planning, designing, and conducting
6	Relate relevant concepts from Stage 4 science to create explanations and logical scientific argument, eg, • behaviour of matter, • force and energy, • cultural contributions to science, • food webs, • cellular functions, respiration, and photosynthesis	Critically analyse texts about science and solve complex problems, eg, • identify scientific relationships, • use scientific understanding to draw conclusions, • show a relationship between scientific concepts linked by an unfamiliar context	Critically analyse scientific investigations, eg, • describing the relationship between accuracy and validity and a fair test, • describing a logical, controlled investigation
5	Describe or apply multiple ideas from Stage 4 science, eg, • separation and mixtures, • weathering and erosion, • density, • seasons, • fossilisation process, • cellular organisation, • food chains	Efficiently use a range of skills and strategies to communicate and solve problems in science, eg, • explain using cause and effect, • use numerical calculations, • apply a concept to a different context, • describe a trend in data from a graph	Efficiently use a range of skills and strategies when planning and conducting an investigation, eg, • sequence steps in an investigation, • give reasons for controlling variables
4	Identify or apply a concept from Stage 4 science, eg, • features of spheres, • common examples of friction, • common elements and compounds, • role of plant part	Apply provided scientific information to communicate or solve problems in science, eg, • extract information from complex text or diagrams, • make an inference from a table or graph	Draw on an increasing range of skills and strategies when planning and conducting an investigation, eg, • suggest improvements to steps in an investigations, • identify ways to improve reliability or accuracy
3	Construct commonsense explanations in a scientific context, eg, • day and night, • duration of orbit, • simple classification of animals, • simple models in science, • change of state, • effect of gravity	Summarise a variety of texts about science and solve simple problems, eg, • locate directly stated information, • infer from a graph, • extract information from a diagram	Demonstrate developing skills and strategies when conducting an investigation, eg, • identify an appropriate investigation type, • outline a logical procedure, • identify the aim/purpose of experiment
2	Identify multiple generic ideas in science, eg, • human body systems, • energy transformations	Use basic communication techniques to find related pieces of information, eg, • identify a point on a line graph, • present simple ideas, • enter data in a table	Use generic strategies or ideas when conducting an investigation, eg, • identify safety equipment and precautions, • make and record a measurement
1	Identify a generic idea in science eg, • everyday use of common materials • structural features of organisms	Use simple communication and problem solving techniques eg, • use a simple key, • identify a familiar problem-solving strategy • select a column heading	Use a generic strategy or idea when conducting an investigation eg, • identify common equipment, • match a quantity and unit of measurement