Rivers Academy Age Related Expectations - Science

	End of KS2	Year 7	Year 8	Year 9	Year 10	Year 11
Biology Recall and Understanding	I can recall simple scientific facts.	I can recall some scientific facts in context.	I am able to recall scientific facts and apply scientific ideas.	I am able to demonstrate knowledge and understanding of scientific ideas.	I am able to demonstrate knowledge and understanding of scientific ideas.	I am able to apply knowledge and understanding of scientific ideas to unusual contexts.
	e.g. I can recall some simple facts about Photosynthesis such as chlorophyll and light needed.	e.g. I can link how Photosynthesis leads to carbohydrates and respiration.	e.g. I can predict the adaptations you would expect from plants to be able to Photosynthesis.	e.g. I can link the process of Photosynthesis to enzymes.	e.g. I can explain how a process such as Photosynthesis is applied and proven to explain other processes like Transpiration/ Carboncycle	e.g. I can apply Photosynthesis concepts, related to RPA's (required practicals) to prove the Science or Hypothesis formed from my knowledge of Photosynthesis.
Chemistry Recall and Understanding	I can recall simple scientific facts.	I can recall some scientific facts in context.	I am able to recall scientific facts and apply scientific ideas.	I am able to demonstrate knowledge and understanding of scientific ideas.	I am able to apply knowledge and understanding of scientific ideas.	I am able to apply knowledge and understanding of scientific ideas to unusual contexts.
	e.g. I can recall that all reactions have products and reactants.	e.g. I can state what factors affect reaction time.	e.g. I can state what a catalyst is and its specificity.	e.g. I can link the rate of reaction to the factor that affects it and explain why?	e.g. I can explain how factors affect reaction rate and prove/link it to practicals.	e.g. I can apply knowledge of Catalysts/Biological catalyst and factors affecting rates of reaction to explain other reactions e.g. Enzymes in Biology.

Rivers Academy Age Related Expectations - Science

Physics Recall and Understanding	I can recall simple scientific facts.	I can recall some scientific facts in context.	I am able to recall scientific facts and apply scientific ideas.	I am able to demonstrate knowledge and understanding of scientific ideas.	I am able to apply knowledge and understanding of scientific ideas.	I am able to apply knowledge and understanding of scientific ideas to unusual contexts.
	e.g. I can recall what conduction means and state examples of conductors and insulators.	e.g. I can describe why solids have better thermal conductivity than liquids and gasses.	e.g. I can describe how the thermal conductivity of a material will influence energy transfer.	e.g. I can link the concept of conductivity to a materials property like heat capacity.	e.g. I can explain the relationship between the specific heat capacity of a material and change in energy/mass of material.	e.g. I can apply knowledge of thermal conductivity in scenarios previously unknown to me.
Working Scientifically Application of understanding	I can take measurements and present data.	I am able to follow the method for a simple investigation, take measurements, present data and identify basic patterns and relationships.	I am able to demonstrate the ability to design a simple investigation, take measurements, present data and identify basic patterns and relationships.	I am able to demonstrate knowledge and understanding of scientific techniques and procedures.	I am able to apply knowledge and understanding of scientific enquiry, techniques and procedures.	I am able to apply and transfer knowledge and understanding of scientific enquiry, techniques and procedures to unusual contexts.
	e.g. I can measure temperature using a thermometer and present values on a table.	e.g. I can follow a simple method to investigate which material acts as good insulation and can identify based on values if temperature change increases/ decreases.	e.g. I can design an experiment to determine if there are any other factors that might affect conductivity such as number of layers used etc.	e.g. I am able to understand why safety procedures need to be followed, I am able to identify the independent, dependent and control variables in an experiment	e.g. I am able to apply my knowledge about the thermal insulation practical and determine conditions to make it a fair test, suggest improvements to get better results	e.g. I am able to apply my understanding from the lab experiment to how insulation can help save energy in houses