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Principal: Mrs C Stanyer

Subject: Science

Year 7 Curriculum Map 2024 - 25

Week Commencing	Topic (including links to additional resources)	Assessment Window
Staff INSET 02/09 Students Return 03/09		
09/09/2024	Introduction to Science (6 lessons) <ul style="list-style-type: none"> ✓ Pupils can identify the health and safety issues within a laboratory. ✓ Pupils are asked to identify hazards in a lab and to recognise the common hazard symbols found on chemicals in a lab. ✓ Pupils are encouraged to list some health and safety rules to be used in the lab. 	
16/09/2024	Introduction to Science (6 lessons) <ul style="list-style-type: none"> ✓ Pupils should be able to identify some scientific equipment found in a laboratory, both diagrams and scientific pictures. ✓ Pupils should practise drawing some common scientific equipment. ✓ Pupils can identify the parts of a Bunsen burner. ✓ Pupils can describe the difference between the safety flame and the roaring flame on a Bunsen burner. ✓ Pupils can describe how to use a Bunsen burner safely. 	
23/09/2024	Introduction to Science (6 lessons) <ul style="list-style-type: none"> ✓ Pupils can identify independent, dependent and control variable in an investigation. ✓ Pupils can write a hypothesis for an experiment. ✓ Pupils can write a scientific method. ✓ Pupils can collect data in a results table and calculate a mean. ✓ Pupils can select the best way to present data. ✓ Pupils can plot a line graph. ✓ Pupils can draw conclusions from data. 	Learning Checkpoint
30/09/2024	Matter 1 (14 lessons) <ul style="list-style-type: none"> ✓ Recognise solids, liquids and gases from simple particle model diagrams. ✓ Describe the movement of particles in a solid as closely spaced and vibrating. ✓ Describe the movement of particles in a liquid as in random motion but in contact. ✓ Describe the movement of particles in a gas as n random motion and widely spaced. ✓ Define gas pressure as being caused by collisions of particles with the walls of a container. 	
07/10/2024	Matter 1 (14 lessons) <ul style="list-style-type: none"> ✓ Describe how an input of energy causes particles to move more, leading to a change in state. ✓ Identify the change of state from a solid to a liquid as melting. ✓ Identify the change of state from a liquid to a gas as evaporation. ✓ Identify the change of state from a gas to a liquid as condensation. ✓ Identify the change of state from a liquid to a solid as freezing. 	
14/10/2024	Matter 1 (14 lessons) <ul style="list-style-type: none"> ✓ Identify that some substances turn straight from a solid into a gas in a process called sublimation. ✓ Define melting point and boiling point as the temperature at which a solid turn into a liquid, and a liquid turns into a gas. ✓ Use melting point and boiling point data to predict the state of matter a substance will be at a specific temperature. 	

Ormiston Meridian Academy is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment.



	✓ Explain unfamiliar observations about gas pressure in terms of particles.	
21/10/2024		
October Half Term		
04/11/2024		Achievement Round 1
11/11/2024		Achievement Round 1
18/11/2024	Matter 1 (14 lessons) <ul style="list-style-type: none"> ✓ Explain the properties of solids, liquids and gases based on the arrangement and movement of their particles. ✓ Explain changes in states in terms of changes to the energy of particles. ✓ Draw before and after diagrams of particles to explain observations about changes of state, gas pressure and diffusion 	Learning Checkpoint
25/11/2024	Buffer	
02/12/2024	Cells 1 (10 lessons) <ul style="list-style-type: none"> ✓ State that cell diagrams are examples of scientific models. ✓ Identify on an image of a non-specialist animal cell the nucleus, cytoplasm, and membrane. ✓ Identify red blood cells, sperm cells and muscle cells as examples of specialised animal cells. ✓ Identify the nucleus, chloroplast, vacuole, cell wall, cell membrane and cytoplasm in a plant cell. ✓ Identify the differences and similarities of animal and plant cells, where nucleus, cell membrane and cytoplasm 	
09/12/2024	Cells 1 (10 lessons) <ul style="list-style-type: none"> ✓ Identify the separate parts of a light microscope, limited to objective lens, eye piece, focus wheel, stage, and light source. ✓ Describe how to resolve focus by using the focus wheel. ✓ Describe how to set up a light microscope from the lowest magnification to the greatest. ✓ Describe the field of view as the "total image we see through the eyepiece". ✓ Place cells, tissues, organs, organ systems and organisms in order of magnitude. 	
16/12/2024	Cells 1 (10 lessons) <ul style="list-style-type: none"> ✓ Identify respiratory and digestive systems as examples of organ systems. ✓ Identify major bones in the human skeleton on a diagram. ✓ Identify ball and socket and hinge joints in the human body. ✓ Describe why ball and socket joints can be problematic to repair. 	Learning Checkpoint
Christmas Break		
06/01/2025	Forces and Space 1 (11 lessons) <ul style="list-style-type: none"> ✓ State the unit of measure for force. ✓ Identify the main forces acting on a stationary object. ✓ Represent forces in familiar context using FBFD. ✓ Represent forces in unfamiliar context using FBFD ✓ State the units of measure for weight and mass. ✓ Describe how weight and mass are different. ✓ Explain the effect of gravity on weight. ✓ Recall the units of measure for mass and weight ✓ Determine the weight of an object using the formula $w = m \times g$ ✓ Compare your weight of different planets 	
13/01/2025	Forces and Space 1 (11 lessons) <ul style="list-style-type: none"> ✓ Recall the equation that links weight, mass and GSF. ✓ Suggest a relationship between the force of gravity and distance from the body. 	

	<ul style="list-style-type: none"> ✓ Explain what is meant by the Event Horizon. ✓ List the different types of bodies that compose out solar system ✓ Order the planets from the sun ✓ Describe the relationship between a solar system, galaxy and universe ✓ Recall the order of planets ✓ Compare different methods used to observe our solar system and beyond ✓ Suggest why deep space travel is so challenging 	
20/01/2025	<p>Forces and Space 1 (11 lessons)</p> <ul style="list-style-type: none"> ✓ Recall the bodies that make up our solar system ✓ Describe the relationship between the earth and the moon, ✓ Identify the phases of the moon ✓ Evaluate the impact of the space race on global relationships ✓ Recall the phases of the moon ✓ Describe the relationship between the earth and the sun ✓ Explain why we get different seasons ✓ State what is meant by a model ✓ Use a model to represent the relative distance of planets from the sun ✓ Design and evaluate a model ✓ State what is meant by a light year ✓ Describe why we use light years ✓ Determine the time it would take to travel to distant objects from light year data, 	Learning Checkpoint
27/01/2025	<p>Reactions 1 (8 lessons)</p> <ul style="list-style-type: none"> ✓ Describe the relationship between pH of a solution and the strength of an acid. ✓ Recall that pH is measured on a scale. ✓ State the pH ranges of strong acids, weak acid, neutral solution, weak alkali and strong alkalis. ✓ Identify the products when an acid reacts with an alkali. ✓ Name this type of reaction. ✓ Predict the products from an unknown reaction of this type. ✓ Define the terms "corrosive" and "irritant". ✓ Identify that acids and alkalis can be corrosive or irritant. ✓ Describe how to safely handle acids and alkalis in a laboratory <p>Reactions 1 (8 lessons)</p> <ul style="list-style-type: none"> ✓ Recognise that some acids can be described as strong, but others can be described as weak. ✓ Categorise acids as being strong or weak from a description. ✓ Explain the strength of an acid by referring to dissociation. ✓ Define concentration, by referring to particles and volume. ✓ Describe how concentration and strength are different. ✓ Use ideas about strength and concentration to assess risk of everyday uses of acids and alkalis. ✓ Describe how to measure the pH of a solution. ✓ Identify the best indicator to distinguish between solutions of different pH. ✓ Use data and observations to determine the pH of a solution and explain what this shows 	
03/02/2025	<p>Reactions 1 (8 lessons)</p> <ul style="list-style-type: none"> ✓ Describe how neutralisation reaction are used in a range of situations. ✓ Describe a method for how to make a neutral solution from an acid and an alkali. ✓ Given the name of an acid and an alkali, work out the name of the salt produced when they react. 	Learning Checkpoint
10/02/2025		Achievement Round 2
February Half Term		
24/02/2025		Achievement Round 2
03/03/2025	<p>Energy 1 (7 lessons)</p> <ul style="list-style-type: none"> ✓ State the 8 stores of energy ✓ Describe situations where energy stores decrease ✓ Explain what is meant by the conservation of energy ✓ Recall the 8 stores of energy ✓ State the units of measure for energy ✓ Describe energy as useful, wasted or dissipated ✓ Calculate changes in energy ✓ state what is meant by KJ ✓ Convert between J and KJ ✓ Define the term calorie ✓ Compare the different ways food labels present information calories 	

	<ul style="list-style-type: none"> ✓ Recall the meaning of useful, wasted and dissipated ✓ Compare the energy in food (investigation) ✓ Select the most appropriate way to present data 	
10/03/2025	Energy 1 (7 lessons) <ul style="list-style-type: none"> ✓ Recall the meaning of calorie ✓ Describe the link between energy and mass (in relation to body weight) ✓ State what is meant by evidence ✓ Suggest the link between bias, evidence, and social media. In respect of weight loss programs. ✓ State the meaning of "domestic use" ✓ Name the 3 fossil fuels ✓ Identify the different components of a FF power station ✓ Describe the function of each component ✓ Describe the changes in energy stores in a fossil fuel power station ✓ Identify energy resources as renewable or non-renewable ✓ Compare the impact of renewable and non-renewable source of energy 	Learning Checkpoint
17/03/2025	Health and Reproduction 1 (9 lessons) <ul style="list-style-type: none"> ✓ State the main nutrient groups ✓ Give examples of each nutrient group ✓ State the function of each nutrient group ✓ State what is meant by a balanced diet ✓ Compare the diets of different demographics ✓ Interpret data on dietary requirements ✓ State what is meant by a calorie ✓ Compare the energy in food ✓ Explain how your results could be made more reliable 	
24/03/2023	Health and Reproduction 1 (9 lessons) <ul style="list-style-type: none"> ✓ Name common vitamins and minerals and state their use in the body ✓ Give examples of deficiency diseases ✓ State what is meant by the traffic light system ✓ Compare different methods used to present nutritional information ✓ Explain what is meant by Bias ✓ Label the main structures of the male reproductive system ✓ Describe their function 	
31/03/2025	Health and Reproduction 1 (9 lessons) <ul style="list-style-type: none"> ✓ Label the main structures of the female reproductive organ ✓ Describe their function ✓ State what is meant by gestation period ✓ Describe how different structure support the development of a foetus ✓ Compare and contrast the gestation periods for different organisms ✓ Identify the reproductive organs of a plant ✓ Describe how plants reproduce sexually ✓ Explain the role of pollinators in commercial plant reproduction ✓ Recall the different parts of a plants reproductive system ✓ Describe the different adaptation plants have for dispersing seeds ✓ Compare the structures of wind and insects pollinated plants 	Learning Checkpoint
07/04/2025	Buffer	
Easter Break		
28/04/2025	Waves 1 (13 lessons) <ul style="list-style-type: none"> ✓ Recall the units of measure for energy ✓ Recall the 4 energy pathways ✓ Recall the changes that take place in energy stores when a devise is used ✓ Define the term wave ✓ State what is meant by a mechanical wave ✓ Describe the interaction of sound waves with different medium (reflection, absorbing, echoes) ✓ Explain why sound waves travels faster in solids. ✓ recall the term "wave" ✓ identify sound as either transverse or longitudinal ✓ describe how the human ear works ✓ Compare the Auditory ranges of different animals. ✓ Identify the pitch and volume of a sound wave from a trace ✓ Describe the relationship between frequency and pitch ✓ And between amplitude and volume ✓ Determine frequency from a trace 	

	<ul style="list-style-type: none"> ✓ Compare the different uses of Ultra sound technology 	
05/05/25	Waves 1 (13 lessons) <ul style="list-style-type: none"> ✓ Recall the meaning of a mechanical wave ✓ Compare the behaviour of transverse and longitudinal waves ✓ Compare the properties of mechanical waves and light waves ✓ Explain why light, not sound can reach us from deep space ✓ Order the colours of light by frequency 	
12/05/2025	<ul style="list-style-type: none"> ✓ Label the incident, reflected and normal line on a ray diagram for reflection ✓ n ✓ Determine the angle of reflection using a protractor ✓ Compare diffuse scattering with specular reflection ✓ Describe how a mirror works 	
19/05/2025	<ul style="list-style-type: none"> ✓ Describe the effect of prisms on white light ✓ Explain why rainbows occur ✓ Label the incident, reflected and normal line on a ray diagram for refraction ✓ Determine the angle of refraction using a protractor ✓ Compare the refraction of light for different materials, and account for any differences. 	Learning Checkpoint
May Half Term		
02/06/2025	Ecology 1 (7 lessons) <ul style="list-style-type: none"> ✓ Recall MRS GREN ✓ state what is meant by a population, community and ecosystem ✓ Compare different types of ecosystems ✓ State what is meant by a sample ✓ Use random sampling to estimate population size ✓ State what is meant by a producer and consumer ✓ State what is passed on in a food chain (what do the arrows represent?) ✓ Construct food chains with 4 trophic levels ✓ Construct a food web from food chains ✓ Interpret food webs ✓ Explain the effect of interdependence on a food web 	
09/06/2025	Ecology 1 (7 lessons) <ul style="list-style-type: none"> ✓ Draw pyramids of number ✓ Interpret pyramids of number ✓ describe predator prey relationships ✓ name some factors that will affect a Predator prey relationship ✓ explain the effect of predator/prey relationship State what an adaptation is ✓ Describe how animals may be adapted for hot climates ✓ Explain how animals are adapted for cold climates 	Learning Checkpoint
16/06/2025		Achievement Round 3
23/06/2025		Achievement Round 3
30/06/2025		Achievement Round 3
07/07/2025	Year 7 Enrichment Trip to Wirral Country Park Project	
14/07/2025	Year 7 Enrichment Trip to Wirral Country Park Project	

21/07/2025	Year 7 Enrichment Trip to Wirral Country Park Project	
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