



Hot Stuff

Ambitious Capable Learners

- Set themselves high standards and seek and enjoy the temperature challenge
- Build up body of knowledge and skills in scientific investigations, identifying variables, making predictions, gathering data and representing it as well as making conclusions
- Using digital technologies creatively to collect and analyse data using digital temperature probes and data loggers
- Questioning in practical tasks such as Flaming Bunsens, sliding on surfaces and enjoy problem solving to explain the ideas and concepts they are learning about in their conclusions
- Can communicate effectively in their instruction text on the methods used in their investigations
- Can use number effectively in calculating an average and drawing different types of graphs

Healthy, confident individuals

- Building their mental and emotional well being by developing confidence and resilience through practical team building practical investigation tasks
- Take measured decisions and manage risk in practical tasks
- Form positive relationships based on trust and mutual respect in practical tasks
- Face and overcome challenges during investigations

Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks on Flaming Bunsens and sliding on surfaces as well as the Temperature investigation calibrating a blank thermometer
- Think creatively to reframe and solve problems such as calibrating the thermometer
- Connect and apply their knowledge and skills to create an accurate scale on their blank thermometer

Ethical informed citizens

- Find, evaluate and use evidence in forming conclusions in investigations
- Understand and consider the impact of their actions when making choices and acting during an investigation





Solids, liquids and Gases

Ambitious Capable Learners

- Set themselves high standards and seek and enjoy the Frosty the snowman challenge
- Build up body of knowledge on kinetic theory, properties of solids, liquids and gases and changes of state and skills in scientific investigations, identifying variables, making predictions, gathering data and representing it as well as making conclusions
- Questioning in practical tasks such as Frosty the snowman, and enjoy problem solving to explain the ideas and concepts they are learning about in their conclusions
- Can communicate effectively in their instruction text on the methods used in their investigations
- Can use number effectively in calculating an average and drawing different types of graphs

Healthy, confident individuals

- Building their mental and emotional well being by developing confidence and resilience through practical team building practical investigation tasks
- Take measured decisions and manage risk in practical tasks
- Form positive relationships based on trust and mutual respect in practical tasks
- Face and overcome challenges during investigations

Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks such as lighting the Bunsen, squeezing solids liquids and gases and expanding and contracting
- Think creatively to reframe and solve problems such as Frosty the snowman
- Connect and apply their knowledge and skills to everyday examples of changes of state and expansion and contraction

Ethical informed citizens

- Find, evaluate and use evidence in forming conclusions in investigations
- Understand and consider the impact of their actions when making choices and acting during an investigation





Energy

Ambitious Capable Learners

- Set themselves high standards and seek and enjoy the Car speed challenge
- Build up body of knowledge on types of energy and energy transfers and efficiency as well as skills in scientific investigations, identifying variables, making predictions, gathering data and representing it as well as making conclusions
- Questioning in practical tasks such as crazy kinetics and energy changes and GPE, and enjoy problem solving to explain the ideas and concepts they are learning about in their conclusions
- Can communicate effectively in their instruction text on the methods used in their investigation on the tennis ball drop
- Can use number effectively in calculating cost of electricity, percentage efficiency, calculating an average and drawing different types of graphs including Sankey diagrams

Healthy, confident individuals

- Building their mental and emotional well being by developing confidence and resilience through practical team building practical investigation tasks
- Take measured decisions and manage risk in practical tasks
- Form positive relationships based on trust and mutual respect in practical tasks
- Face and overcome challenges during investigations

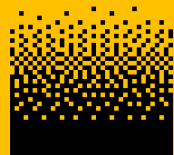
Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks such as the tennis ball drop investigation
- Think creatively to reframe and solve problems such as working out the speed of the car they made in D and T
- Connect and apply their knowledge and skills to everyday examples of energy changes

Ethical informed citizens

- Find, evaluate and use evidence in forming conclusions in investigations
- Understand and consider the impact of their actions when making choices and acting during an investigation





Dissolving & Separating

Ambitious Capable Learners

- Set themselves high standards and enjoy the Mrs Jolly and her Jelly and Mr Smellalot Investigation
- Build knowledge on what dissolves and how much, factors that speed up dissolving, solvents and separation techniques, as well as skills in scientific investigations, identifying variables, making predictions, gathering data and representing it as well as making conclusions
- Questioning in practical tasks such as Mrs Jolly and her jelly and enjoy problem solving to explain the ideas and concepts they are learning about in their conclusions
- Can communicate effectively in their instruction text on the methods used in their investigation on Mrs Jolly and her jelly and purifying salt from rock salt
- Can use number effectively in calculating surface area to volume ratio, calculating an average and drawing different types of graphs including Sankey diagrams

Healthy, confident individuals

- Building their mental and emotional well being by developing confidence and resilience through practical team building practical investigation tasks
- Take measured decisions and manage risk in practical tasks
- Form positive relationships based on trust and mutual respect in practical tasks
- Face and overcome challenges during investigations

Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks such as the Mrs Jolly and her jelly investigation
- Think creatively to reframe and solve problems such as Mr Smellalot to separate a mixture of sand, salt and iron filings
- Connect and apply their knowledge and skills to everyday examples of dissolving and separating mixtures

Ethical informed citizens

- Find, evaluate and use evidence in forming conclusions in investigations
- Understand and consider the impact of their actions when making choices and acting during an investigation
- Are knowledgeable on how sea water is distilled in some countries and the need to save water





Your world

Ambitious Capable Learners

- Build up body of knowledge on classification and apply to solving problems of classifying unknown organisms
- Undertake research on vertebrates and invertebrates and food chains using digital technologies creatively to communicate, find and analyse information
- Questioning in investigations - what do plants do with carbon dioxide? and what do plants make? in solving problems and explaining the ideas and concepts in their conclusions

Healthy, confident individuals

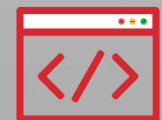
- Building their mental and emotional well being by developing confidence and resilience through practical team building practical investigation tasks
- Take measured decisions and manage risk in practical tasks
- Form positive relationships based on trust and mutual respect in practical tasks
- Face and overcome challenges during investigations

Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks on what do plants do with carbon dioxide? and what do they make? and on the field trip to Pwll Ddu
- Connect and apply their knowledge and skills to create an accurate bug in D and T

Ethical informed citizens

- Are knowledgeable about their community, and the world through studying different habitats and the environment
- Understand and consider the impact of their actions when making choices on the field trip





Living Things

Ambitious Capable Learners

- Build up body of knowledge on characteristics of living things, cells, tissues, organs and systems and apply to solving problems of identifying characteristics, plant and animal cells
- Undertake research on cells and flowering plant reproduction in pollen park using digital technologies creatively to communicate, find and analyse information
- Questioning in practical tasks using the microscope and enjoy problem solving to focus on specimens and identify structures
- Can communicate effectively in their recount text on the journey of the sperm
- Can use number effectively in calculating magnification and size of specimens

Healthy, confident individuals

- Have secure values and are establishing their ethical beliefs on organ donation and transplant tourism
- Know how to find information and support on sex organs and puberty as well as pregnancy

Enterprising, creative contributors

- Lead and play different roles in teams effectively and responsibly during practical tasks on the use of the microscope and the body organ apron game
- Connect and apply their knowledge and skills to create an accurate model cell of their choice

Ethical informed citizens

- Find, evaluate and use evidence in forming their views on organ donation engaging with contemporary issues in Wales on the opt out system for organ donation

