



SCIENCE @ ST PIUS
TERM 2
CHEMICAL SCIENCES

PRE-PRIMARY

Throughout Term Two, students will understand that objects are made of materials with observable properties. Students will be investigating different forms of clothing used for different activities, comparing the traditional materials used for clothing from around the world, sorting and grouping materials on the basis of observable properties such as colour, texture and flexibility, thinking about how the materials used in buildings and shelters are suited to the local environment

Some of the questions that will be considered include:

What are objects made from?

What do objects that are made from wood, glass, metal or rubber look, smell and feel like?

What do objects that are made from paper, cardboard or plastic look, smell and feel like?

What do objects that are made from different fabrics look, smell and feel like?

What types of materials are used to make houses?

What types of materials are used to make clothing?

YEAR 1

Throughout Term Two, students will understand that everyday materials can be physically changed in a variety of ways. Students will be predicting and comparing how the shapes of objects made from different materials can be physically changed through actions such as bending, stretching and twisting, exploring how materials such as water, chocolate or play dough change when warmed or cooled, exploring how Aboriginal and Torres Strait Islander Peoples apply physical changes to natural materials to render them useful for particular purposes.

Some of the questions that will be considered include:

What are materials and how do they change?

How can the shape of an object be changed?

Does it change back to its original shape?

What happens when some materials are heated?

What happens when some materials are cooled?

What other physical changes can be made to an object?

Does an object go back to its original shape after a change has been made or does it stay changed?

How do materials change when cooking?

YEAR 2

Throughout Term Two, students will understand that different materials can be combined for a particular purpose. Students will be exploring the local environment to observe a variety of materials and describing ways in which materials are used, investigating the effects of mixing materials together, suggesting why different parts of everyday objects such as toys and clothes are made from different materials, identifying materials such as paper that can be changed and remade or recycled into new products, investigating the ways in which Aboriginal and Torres Strait Islander Peoples combine different materials to produce utensils (hafting, weaving, sewing and gluing)

Some of the questions that will be considered include:

What are materials and what properties do they have?

What materials are found in the local environment and what are their properties? How are they used?

What happens when materials are mixed and does this make their properties change?

What different materials are toys made from and why?

What happens to the property of materials when they are used to create mixtures?

How does paper recycling involve mixing materials?

YEAR 3

Throughout Term Two, students will understand that a change of state between solids and liquids can be caused by adding or removing heat. Students will be predicting the effect of heat on different materials, investigating how liquids and solids respond to changes in temperature, for example water changing to ice, or melting chocolate, exploring how changes from solid to liquid and liquid to solid can help us recycle materials, investigating how changes of state in materials used by Aboriginal and Torres Strait Islander Peoples, such as beeswax or resins, are important for their use.

Some of the questions that will be considered include:

What do we know about solids, liquids and gases?

Can liquid become a solid?

Can solid become a liquid?

What makes solid ice change into a liquid?

What causes melting?

Does the amount of heat affect the time it takes for ice to melt?

What other solids melt?

Does the size of the solid affect the time it takes to melt?

What makes a liquid change into a solid?

What effect does freezing have on a liquid?

Can a solid change to a liquid and then back to a solid?

What is a reversible change?

How is changing between solid and liquid useful for recycling?

YEAR 4

Throughout Term Two, students will understand that natural and processed materials have a range of physical properties that can influence their use. Students will be describing a range of common materials, such as metals or plastics, and their uses, investigating a particular property across a range of materials, selecting materials for uses based on their properties, considering how the properties of materials affect the management of waste or can lead to pollution, considering how Aboriginal and Torres Strait Islander Peoples use natural and processed materials for different purposes, such as tools, clothing and shelter, based on their properties, considering how Aboriginal and Torres Strait Islander Peoples' knowledge of natural and processed materials informs the preparation of effective, vibrant and long-lasting paints.

Some of the questions that will be considered include:

What are natural and processed materials?

What are the properties and uses of natural and processed materials like wool?

What are the properties and uses of a synthetic material like polyester? How does this compare to the properties and uses of a natural material like cotton?

What are the properties and uses of other materials?

What is biodegradable material and why is it important to waste management?

How does plastic contribute to ocean pollution? What properties make plastic harmful?

YEAR 5

Throughout Term Two, students will understand that solids, liquids and gases have different observable properties and behave in different ways based on these properties. Students will be recognising that substances exist in different states depending on the temperature, observing that gases have mass and take up space, demonstrated by using balloons or bubbles, exploring the way solids, liquids and gases change under different situations such as heating and cooling, recognising that not all substances can be easily classified on the basis of their observable properties, recognising Aboriginal and Torres Strait Islander Peoples' knowledge and understanding of evaporation and how the effect of evaporation can be reduced to conserve water, such as by covering surfaces, recognising Aboriginal and Torres Strait Islander Peoples' knowledge and understanding of solids, liquids, gases

Some of the questions that will be considered include:

What are the common properties of each state of matter?

Can liquids stack on top of each other like solids?

Can solids flow from one container to another like liquids?

Does a gas have mass like liquids?

How does matter change states?

Can all matter be classified as either a solid, liquid or a gas?

YEAR 6

Throughout Term Two, students will understand that changes to materials can be reversible or irreversible. Students will be describing what happens when materials are mixed, investigating the solubility of common materials in water, investigating the change in state caused by heating and cooling of a familiar substance, investigating irreversible changes such as rusting, burning and cooking, exploring how reversible changes can be used to recycle materials, investigate reversible reactions such as melting, freezing and evaporating, investigating Aboriginal and Torres Strait Islander Peoples' knowledge of reversible processes, such as the application of adhesives, and of irreversible processes, such as the use of fuels for torches

Some of the questions that will be considered include:

What are reversible and irreversible changes?

What methods are used to change the state of water? Are these changes reversible or irreversible?

What changes occur when a substance is dissolved to form a solution? Is this change reversible or irreversible?

What changes occur when you bake biscuits? Are these changes reversible or irreversible?

What is burning? Is it a reversible or irreversible change?

What is rusting? Is it a reversible or irreversible change?