Science Year 3 Level 20

Teacher: Date:

A Local Public School

Cross Curriculum Priorities

- Aboriginal and Torres Strait Islander histories and culture
- Asia and Australia's engagement with Asia
- Sustainability

General Capabilities

- Literacy
- Numeracy
- ICT Competence
- Critical and Creative Thinking
- Intercultural Understanding
- Personal and Social Competence
- Ethical Behaviour

YEAR 3 ACHIEVEMENT STANDARD

By the end of Year 3, students use their understanding of the movement of the Earth, materials and the behaviour of heat to suggest explanations for everyday observations They describe features common to living things. They describe how they can use science investigations to respond to questions and identify where people use science knowledge in their lives.

Students use their experiences to pose questions and predict the outcomes of investigations. They make formal measurements and follow procedures to collect and present observations in a way that helps to answer the investigation questions. Students suggest possible reasons for their findings. They describe how safety and fairness were considered in their investigations. They use diagrams and other representations to communicate their ideas.

Content Descriptors

SCIENCE UNDERSTANDING

Biological Sciences

Living things can be grouped on the basis of observable features and can be distinguished from non-living things *[ACSSU044]*

- recognising characteristics of living things such as growing, moving, sensitivity and reproducing
- recognising the range of different living things
- sorting living and non-living things based on characteristics
- exploring differences between living, once living and products of living things

Chemical Sciences

A change of state between solid and liquid can be caused by adding or removing heat *[ACSSU046]*

- 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
- predicting the effect of heat on different materials

Earth and Space Sciences

Earth's rotation on its axis causes regular changes, including night and day *[ACSSU048]*

- recognising the sun as a source of light
- constructing sundials and investigating how they work
- describing timescales for the rotation of the Earth
- modelling the relative sizes and movement of the sun, Earth and moon

Physical Sciences

Heat can be produced in many ways and can move from one object to another [ACSSU097]

- describing how heat can be produced such as through friction or motion, electricity or chemically (burning)
- identifying changes that occur in everyday situations due to heating and cooling
- exploring how heat can be transferred through conduction
- recognising that we can feel heat and measure its effects using a thermometer

SCIENCE AS A HUMAN ENDEAVOUR

Nature and Development of Science

Science involves making predictions and describing patterns and relationships *[ACSHE050]*

- making predictions about change and events in our environment
- researching how knowledge of astronomy has been used by some Aboriginal and Torres Strait Islander people
- considering how posing questions helps us plan for the future

Use and the Influence of Science

Science knowledge helps people to understand the effect of their actions [ACSHE051]

- considering how heating affects materials used in everyday life
- investigating how science helps people such as nurses, doctors, dentists, mechanics and gardeners
- considering how materials including solids and liquids affect the environment in different ways
- deciding what characteristics make a material a pollutant
- researching Aboriginal and Torres Strait Islander people's knowledge of the local natural environment, such as the characteristics of plants and animals

SCIENCE INQUIRY SKILLS

Questioning and Predicting

With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge *[ACSIS053]*

- choosing questions to investigate from a list of possibilities
- jointly constructing questions that may form the basis for investigation
- listing shared experiences as a whole class and identifying possible investigations
- working in groups to discuss things that might happen during an investigation

Planning and Conducting

Suggest ways to plan and conduct investigations to find answers to questions. *[ACSIS054]*

- working with teacher guidance to plan investigations to test simple cause-andeffect relationships
- discussing as a whole class ways to investigate questions and evaluating which ways might be most successful

Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate *[ACSIS055]*

- recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm)
- using a variety of tools to make observations, such as digital cameras, thermometers, rulers and scales
- discussing safety rules for equipment and procedures

Processing and Analysing Data and Information

Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends . *[ACSIS057]*

- using provided tables to organise materials and objects based on observable properties
- discussing how to graph data presented in a table
- identifying and discussing numerical and visual patterns in data collected from students' own investigations and from secondary sources

Compare results with predictions, suggesting possible reasons for findings *[ACSIS215]*

- discussing how well predictions matched results from an investigation and sharing ideas about what was learnt

Evaluating

Reflect on the investigation, including whether a test was fair or not . *[ACSIS058]*

- describing experiences of carrying out investigations to the teacher, small group or whole class
- discussing as a whole class the idea of fairness in testing

Communicating

Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple reports . *[ACSIS060]*

- communicating with other students carrying out similar investigations to share experiences and improve investigation skill
- exploring different ways to show processes and relationships through diagrams, models and role play
- using simple explanations and arguments, reports or graphical representations to communicate ideas to other students

Relevant Primary Connections Unit

- Feathers, Fur or Leaves? - Biological Sciences
- Melting Moments– Chemical Sciences (formerly known as Runny or Not?)
- Spinning in Space– Earth and Space Sciences (re-published unit available June 2012)
- Heating Up– Physical Sciences (new unit available September 2012)

Supplementary Resources

- BBC Bitesize Interactive activities
- Stretch Science– Pearson Education
- A-Z Science (books and news articles)
- National Digital Resources
- ABC Science
- BBC Schools Science Clips
- Brain Pop