SCIENCENTRE AT QUEENSLAND MUSEUM

Australian Curriculum Links for Years P-2 - Term 3, 2017

Sciencentre exhibits link to the Australian National Science Curriculum specifically in the strands of Science Understanding and Science Inquiry Skills. Links to general capabilities and other learning areas may also be relevant.

Direct links below indicate content that is directly covered within the exhibition, while indirect links indicate content that is dependent on how people use and facilitate various exhibits.

General capabilities relevant to Sciencentre exhibits

Direct links	
Literacy Comprehending texts through listening, reading and viewing. **Numeracy** Recognise and using patterns and relationships.	**Critical and Creative Thinking** Inquiring – identifying, exploring and organising information and ideas. Generating ideas, possibilities and actions. Reflecting on thinking and processes. Analysing, synthesising and evaluating reasoning and procedures.

Action Stations - Sciencentre

Get hands-on with everyday science. Science is everywhere - at home, school, work and play. Discover what makes everyday things tick.

	Direct link	**Indirect link**	**Sample exhibits that support the curriculum**
Foundation	Physical sciences (ACSSU005) The way objects move depends on a variety of factors, including their size and shape.	Nature and development of science (ACSHE013) Science involves observing, asking questions about, and describing	• Slow Bubbles – different size bubbles will travel at different speeds. • Speedy Planets – different sized balls will move along a different path and travel at a different

	Chemical sciences (ACSSU003) Objects are made of materials that have observable properties.	changes in, objects and events. Questioning and predicting (ACSIS014) Pose and respond to questions about familiar objects and events. Planning and conducting (ACSIS011) Participate in guided investigations and make observations using the senses. Communicating (ACSIS012) Share observations and ideas.	speed. • Spinning Chair – how you spin will change depending on the position of your arms and legs. • Hand battery – what metals can you use to create electricity.
Year 1	Physical sciences (ACSSU020) Light and sound are produced by a range of sources and can be sensed.	Questioning and predicting (ACSIS024) Pose and respond to questions, and make predictions about familiar objects and events. Planning and conducting (ACSIS025) Participate in guided investigations to explore and answer questions.	• Create a current – turn a handle to create electricity and turn on a light. • Touch the Lighting – touch the giant plasma ball and move the spark. • Thongophone – create a song by vibrating air in tubes. • Chime pipes – strike different length tubes to create different sounds.
Year 2	Physical sciences (ACSSU033) A push or a pull affects how an object moves or changes shape.	Questioning and predicting (ACSIS037) Pose and respond to questions, and make predictions about familiar objects and events. Evaluating (ACSIS041) Compare observations with those of others.	• Feel the force – physically feel the push and pull between large magnets. • Newton's Cradle – explore push as large balls strike stationary balls. • Pulley yourself up – pull on a rope across multiple pulleys to lift yourself up.

Body Zone - Sciencentre

Your body - like you've never seen it before. Challenge it, move it, re-assemble it, confuse it. Collect your vital statistics. For a total hands-on, minds-on, body-on experience – jump in!

	Direct link	Indirect link	Sample exhibits that support the curriculum
Foundation	Physical sciences (ACSSU005) The way objects move depends on a variety of factors, including their size and shape. Chemical sciences (ACSSU003) Objects are made of materials that have observable properties.	Nature and development of science (ACSHE013) Science involves observing, asking questions about, and describing changes in, objects and events. Communicating (ACSIS012) Share observations and ideas.	• Biking with Boney – pedal a bike and watch a skeleton move alongside you. • Ten metre dash – move your body fast to get the fastest time. • Feel the difference – use your senses to feel what is inside the box. Different objects are made of different materials.
Year 1	Biological sciences (ACSSU017) Living things have a variety of external features. Physical sciences (ACSSU020) Light and sound are produced by a range of sources and can be sensed.	Questioning and predicting (ACSIS024) Pose and respond to questions, and make predictions about familiar objects and events. Planning and conducting (ACSIS025) Participate in guided investigations to explore and answer questions.	• Body Bits – a giant body jig-saw puzzle which focuses on internal and external human features. • Hundreds of Bones – explore bone size, shape and movement. • Hairs to hear with – see what happens inside your ear when you hear sounds (sense vibrations).
Year 2	Physical sciences (ACSSU033) A push or a pull affects how an object moves or changes shape.	Questioning and predicting (ACSIS037) Pose and respond to questions, and make predictions about familiar objects and events. Evaluating (ACSIS041) Compare observations with those of others.	• Bullseye – vary how you throw the ball and notice the change in speed and accuracy. • Biking with Boney – pedal a bike and watch a skeleton move alongside you.

Mathamazing - Sciencentre

Until 3 September 2017

Mathamazing encourages students to playfully explore maths concepts through 22 hands-on exhibits, five floor-based Mega Maths Puzzles and sixty Puzzle Placemats. Each *Mathamazing* experience will inspire mathematical curiosity and confidence, and build greater understanding of mathematical concepts. These concepts all link to real world experiences. For example:

- Use a simple scale to compare objects of different masses. Which is lightest and which is heaviest?
- Build a strong catenary arch shape and discuss where we see this shape in buildings and in nature.
- Work together to build a giant cube out of different shapes. Can you make other shapes?
- Race two balls down a track. Which will win, the shortest path or the steepest?

Students will leave the exhibition thinking that there is a lot more to maths than previously thought!

This exhibition is targeted at students in year 6 and over, but can be enjoyed by all year levels.
Five floor-based Mega Maths Puzzles are built to an oversized scale, so they have strong visual impact and they offer highly interactive maths experiences for groups and individuals and/or younger students with their adults.

Mathamazing. Developed by Questacon – The National Science and Technology Centre, Canberra.

Fire and Ice Show - Sciencentre

School show topic 10 July – 8 December 2017

From supercool liquid nitrogen to fireworks, things are heating up in the Sciencentre with the Fire and Ice Science Theatre Show. We will bring the temperature down as we rapidly cool, freeze and condense liquids and gases with some unexpected results. Things won't stay cool forever, as we burn our way through chemical reactions and hot colourful flames. This cool show will fire your imagination as we explore the science of fire and ice.

The Fire and Ice Show supports investigation of concepts in the **Chemical** and **Physical Sciences** sub-strands in the Australian Curriculum. Students will also apply **Science Inquiry Skills**, including questioning, predicting, observing cause and effect relationships and explaining.

The Fire and Ice Show is an interactive show where student volunteers are part of the show and students are encouraged share their observations, answer and ask questions and share their explanations.

Concepts explored in a P-2 show include:	**Demonstrations and materials**
States of matter – exploring properties and behaviours of solids and liquids	• Water vs ice
States of matter – changing state from a solid to a liquid and liquid to solid	• Instant ice blocks and challenge (liquid nitrogen) • Frozen bubbles (liquid nitrogen)

States of matter – changing state from a liquid to a gas	• Tin can pop (liquid nitrogen)
Making changes to materials can be reversible or irreversible	• Paper moon rocket
Chemical reactions such as combustion	• Sparkler • Coloured flames

	Direct link	**Indirect link**
Foundation	Chemical sciences (ACSSU003) Objects are made of materials that have observable properties. Nature and development of science (ACSHE013) Science involves observing, asking questions about, and describing changes in, objects and events.	Questioning and predicting (ACSIS014) Pose and respond to questions about familiar objects and events. Planning and conducting (ACSIS011) Participate in guided investigations and make observations using the senses. Communicating (ACSIS012) Share observations and ideas.
Year 1	Chemical sciences (ACSSU018) Everyday materials can be physically changed in a variety of ways. Physical sciences (ACSSU020) Light and sound are produced by a range of sources and can be sensed. Nature and development of science (ACSHE021) Science involves observing, asking questions about, and describing changes in, objects and events.	Questioning and predicting (ACSIS024) Pose and respond to questions, and make predictions about familiar objects and events. Planning and conducting (ACSIS025) Participate in guided investigations to explore and answer questions. Communicating (ACSIS029) Represent and communicate observations and ideas in a variety of ways.
Year 2	Nature and development of science (ACSHE034) Science involves observing, asking questions about, and describing changes in, objects and events.	Chemical sciences (ACSSU031) Different materials can be combined for a particular purpose. Physical sciences (ACSSU033) A push or a pull affects how an object moves or changes shape. Questioning and predicting (ACSIS037) Pose and respond to

		questions, and make predictions about familiar objects and events. Communicating (ACSIS042) Represent and communicate observations and ideas in a variety of ways.