

SCIENCENTRE AT MUSEUM OF TROPICAL QUEENSLAND

Australian Curriculum Links

Sciencentre exhibits link to the Australian Curriculum across the learning areas of science, mathematics and technologies, as well as directly linking to the general capabilities of literacy, numeracy, and critical and creative thinking. Links to the different learning areas for particular year levels are listed below, with example exhibits that align with the content descriptions.

Further information about **Sciencentre**, including exhibit highlights and museum links is available in the **Exhibition Guide**.

General Capabilities

Literacy

Comprehending texts through listening, reading and viewing

Text, word and visual knowledge

Numeracy

Recognise and using patterns and relationships

Using spatial reasoning

Using measurement

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

Foundation – Year 2

Science

Science Understanding	Example Exhibits
<p>Objects are made of materials that have observable properties (Foundation ACSSU003)</p> <p>The way objects move depends on a variety of factors, including their size and shape (Foundation ACSSU005)</p> <p>Sound is produced by a range of sources and can be sensed (Yr 1 ACSSU020)</p> <p>Living things have a variety of external features (Yr 1 ACSSU017)</p> <p>A push or a pull affects how an object moves or changes shape (Yr 2 ACSSU033)</p>	
Science as Human Endeavour	
<p>Science involves observing, asking questions about, and describing changes in, objects and events (Foundation ACSHE013, Yr 1 & 2 ACSHE021)</p>	<p>Gravity run</p> <p>Bullseye!</p>
Science Inquiry Skills	
<p>Pose and respond to questions about familiar objects and events (Foundation ACSIS014)</p> <p>Pose and respond to questions, and make predictions about familiar objects and events (Yr 1 ACSIS024, Yr 2 ACSIS037)</p> <p>Participate in guided investigations and make observations using the senses (Foundation ACSIS011)</p> <p>Participate in guided investigations to explore and answer questions (Yr 1 ACSIS025, Yr 2 ACSIS038)</p> <p>Engage in discussions about observations (Foundation ACSIS233)</p> <p>Share observations and ideas (Foundation ACSIS012)</p> <p>Compare observations with those of others (Yr 1 ACSIS213, Yr 2 ACSIS041)</p>	<p>Thongaphone</p> <p>Family features</p>

Mathematics

Number and Algebra	Example Exhibits
Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond (Foundation ACMNA002) Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line (Yr 1 ACMNA013) Recognise and describe one-half as one of two equal parts of a whole. (Yr 1 ACMNA016) Recognise and interpret common uses of halves, quarters and eighths of shapes and collections (Yr 2 ACMNA033)	
Measurement and Geometry	
Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (Foundation ACMMG006) Measure and compare the lengths and capacities of pairs of objects using uniform informal units (Yr 1 ACMMG019) Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features (Yr 1 ACMMG022) Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (Yr 2 ACMMG037) Describe the features of three-dimensional objects (Yr 2 ACMMG043)	Tile art Giant arch Pack the parcels Build a die

Technologies – Design and Technologies

Knowledge and Understanding	Example Exhibits
Explore how technologies use forces to create movement in products (ACTDEK002) Explore the characteristics and properties of materials and components that are used to produce designed solutions (ACTDEK004)	Gravity run Free or knot
Processes and Production Skills	
Explore needs or opportunities for designing, and the technologies needed to realise designed solutions (ACTDEP005) Sequence steps for making designed solutions and working collaboratively (ACTDEP009)	Tower of Brahma

Years 3 – 4

Science

Science Understanding	Example Exhibits
Living things can be grouped on the basis of observable features (Yr 3 ACSSU044) Natural and processed materials have a range of physical properties that can influence their use (Yr 4 ACSSU074) Forces can be exerted by one object on another through direct contact or from a distance (Yr 4 ACSSU076)	Family features Bullseye! Gravity run Reaction time
Science as Human Endeavour	
Science involves making predictions and describing patterns and relationships (Yr 3 ACSHE050, Yr 4 ACSHE061)	
Science Inquiry Skills	Family features Bullseye! Gravity run Reaction time
Identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge (Yr 3 ACSIS053, Yr 4 ACSIS064) Compare results with predictions, suggesting possible reasons for findings (Yr 3 ACSIS215, Yr 4 ACSIS216) Reflect on investigations, including whether a test was fair or not (Yr 3 ACSIS058, Yr 4 ACSIS069)	

Mathematics

Number and Algebra	Example Exhibits
Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole (Yr 3 ACMNA058) Describe, continue, and create number patterns resulting from performing addition or subtraction (Yr 3 ACMNA060) Investigate equivalent fractions used in contexts (Yr 4 ACMNA077)	Four in a row Mirror images Build a die Pack the parcels
Measurement and Geometry	
Measure, order and compare objects using familiar metric units of length, mass and capacity (Yr 3 ACMMG061) Make models of three-dimensional objects and describe key features (Yr 3 ACMMG063) Compare and describe two dimensional shapes that result from combining and splitting common shapes (Yr 4 ACMMG088) Create symmetrical patterns, pictures and shapes (Yr 4 ACMMG091)	

Technologies – Design and Technologies

Knowledge and Understanding	Example Exhibits
Investigate how forces and the properties of materials affect the behaviour of a product or system (ACTDEK011) Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes (ACTDEK013)	Gravity run Tile art Read with your fingers
Processes and Production Skills	
Critique needs or opportunities for designing and explore and test a variety of materials, components, tools and equipment and the techniques needed to produce designed solutions (ACTDEP014)	

Years 5 – 6

Science

Science Understanding	Example Exhibits
Light from a source forms shadows and can be absorbed, reflected and refracted (Yr 5 ACSSU080) Electrical energy can be transferred and transformed in electrical circuits (Yr 6 ACSSU097)	Disappearing body Mirror images Steadiness tester
Science as Human Endeavour	
Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena (Yr 6 ACSHE098)	
Science Inquiry Skills	
Pose clarifying questions and make predictions about scientific investigations (Yr 5 ACSIS231, Yr 6 ACSIS232) Identify, plan and apply the elements of scientific investigations to answer questions and solve problems (Yr 5 ACSIS086, Yr 6 ACSIS103) Decide variables to be changed and measured in fair tests (Yr 5 ACSIS087, Yr 6 ACSIS104) Compare data with predictions and use as evidence in developing explanations (Yr 5 ACSIS218, Yr 6 ACSIS221) Reflect on and suggest improvements to scientific investigations (Yr 5 ACSIS091, Yr 6 ACSIS108)	

Mathematics

Number and Algebra	Example Exhibits
Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (Yr 5 ACMNA103) Solve problems involving addition and subtraction of fractions with the same or related denominators (Yr 6 ACMNA126)	Build a die Pack the parcels Soma cube Four in a row Mirror images Disappearing body
Measurement and Geometry	
Connect three-dimensional objects with their nets and other two-dimensional representations (Yr 5 ACMMG111) Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries (Yr 5 ACMMG114) Construct simple prisms and pyramids (Yr 6 ACMMG140) Investigate combinations of translations, reflections and rotations (Yr 6 ACMMG142)	

Technologies – Design and Technologies

Knowledge and Understanding	Example Exhibits
Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (ACTDEK023)	Gravity run Bullseye! Build an arch
Processes and Production Skills	
Select appropriate materials, components and techniques to make designed solutions (ACTDEP026)	

Years 7 – 8

Science

Science Understanding	Example Exhibits
<p>Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object (Yr 7 ACSSU117)</p> <p>Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers cause change within systems (Yr 8 ACSSU155)</p>	<p>Gravity Run Bullseye! Do you see what I see?</p>
Science as Human Endeavour	
<p>People use science understanding and skills in their occupations (Yr 7 ACSHE121)</p>	
Science Inquiry Skills	
<p>Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge (Yr 7 ACSIS124, Yr 8 ACSIS139)</p> <p>Summarise data, and use scientific understanding to identify relationships and draw conclusions based on evidence (Yr 7 ACSIS130)</p> <p>Reflect on scientific investigations including evaluating the quality of the data collected, and identifying improvements (Yr 7 ACSIS131, Yr 8 ACSIS146)</p> <p>Use scientific knowledge and findings from investigations to evaluate claims based on evidence (Yr 7 ACSIS132, Yr 8 ACSIS234)</p>	

Technologies – Design and Technologies

Knowledge and Understanding	Example Exhibits
<p>Analyse ways to produce designed solutions through selecting and combining characteristics and properties of materials, systems, components, tools and equipment (ACTDEK034)</p>	<p>Gravity run Mirror images Build a die Tower of Brahma</p>
Processes and Production Skills	
<p>Generate, develop, test and communicate design ideas, plans and processes (ACTDEP036)</p> <p>Independently develop criteria for success to evaluate design ideas (ACTDEP038)</p>	