



# STARLAB EDUCATION

## Australian Curriculum Topics for Years Prep to 5.

This is a **guide only** based upon the Australian Curriculum. Suggested full dome shows as part of the program are in bold. Please refer to the 'Quick Links' tab at [www.starlab.net.au](http://www.starlab.net.au) for a synopsis and alternative curriculum topics.

Science Understanding	Suggested Program Topics
<p><b>Prep:</b></p> <ul style="list-style-type: none"> <li>Daily and seasonal changes in our environment, including the weather, affect everyday life.</li> </ul>	<p>What is Weather? What is weather made of?  <b>Recommend: 'Zula Patrol: Under the Weather' 'TILT' (NEW)</b> – What causes the seasons.</p>
<p><b>Year 1:</b></p> <ul style="list-style-type: none"> <li>Observable changes occur in the sky &amp; landscape.</li> <li>Recording short and longer-term patterns of events that occur on Earth and in the sky, such as the appearance of the moon and stars at night, the weather and the seasons</li> </ul>	<p>What is in the day sky? What is in the night sky? Sunrise, sunset, Earth's rotation. Why do we have seasons? Why do we see the moon and stars at night.  <b>Recommend:</b>  <b>'TILT' (NEW)</b> – What causes the seasons &amp; changes in the weather.  <b>'Earth's Wild Ride'</b> – Earth's changing landscape seen from the moon during a solar eclipse.  <b>'Secret of The Cardboard Rocket'</b> – Exhilarating rocket to the planets.</p>
<p><b>Year 2:</b></p> <ul style="list-style-type: none"> <li>Push or pull affects how an object moves or changes shape.</li> </ul>	<p><b>Recommend:</b>  <b>'Secret of the Cardboard Rocket'</b> Shows the push &amp; pull forces at work in the form of a cardboard rocket.</p>
<p><b>Year 3:</b></p> <ul style="list-style-type: none"> <li>Earth's rotation on its axis causes regular changes including day and night.</li> </ul>	<p>The sun is a source of light.            Constructing sundials measuring shadows.            Timescales for rotation of the earth.            Sizes and movement of the Sun, Earth and moon.  <b>Recommend:</b>  <b>'Earth Moon Sun' (NEW)</b> Earths' rotation, moon phases, common misconceptions.  <b>'Secret of the Cardboard Rocket'</b> Exhilarating rocket to the planets.  <b>'Earth's Wild Ride'</b>  <b>Highly recommend: Night Activity</b> incorporating planetarium telescope viewing of the moon, planets and stars combined with a laser-guided tour of the sky.</p>
<p><b>Year 4:</b></p> <ul style="list-style-type: none"> <li>Earth's surface changes over time as a result of natural processes and human activity.</li> <li>General Space show</li> </ul>	<p><b>Recommend:</b>  <b>'Earth's Wild Ride'</b>            Earth's history, asteroid impacts, volcanoes, raging rivers.  <b>'Capcom Go'</b></p>
<p><b>Year 5:</b></p> <ul style="list-style-type: none"> <li>The Earth is part of a system of planets orbiting around a star.</li> <li>Light from a source forms shadows and can be absorbed, reflected and refracted.</li> <li>Understanding the solar system</li> <li>Space exploration</li> </ul>	<p>Identifying planets in the solar system and comparing their orbits. Modelling sizes and distances between Earth, other planets and the Sun. The sun provides energy.            Planets &amp; moons reflect light, Stars as a source of light.            Colours of stars &amp; planets indicate their properties.  <b>Recommend:</b>  <b>'Oasis in Space'</b> – In-depth look at planets of our Solar System.  <b>'To Space &amp; Back' (NEW)</b> – How space technologies have influenced our lives.  <b>'Capcom Go'</b> – How humans were sent to the moon.  <b>Highly recommend: Night Activity</b> incorporating above and telescope viewing of the moon, planets and stars combined with a laser-guided tour of the sky.</p>



# STARLAB EDUCATION

## Australian Curriculum Topics for Years 6 to 10.

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Science Understanding	Suggested Program Topics
<p><b>Year 6:</b></p> <ul style="list-style-type: none"> <li>The growth and survival of living things are affected by the physical conditions of their environment.</li> <li>Sudden geological changes or extreme weather conditions can affect Earth's surface.</li> </ul>	<p>Natural and man-made causes of environmental changes occurring daily, seasonally and long-term. Impact on life in extreme environments including Antarctica.</p> <p><b>Recommend: 'Ice Worlds'</b> <b>'To Space &amp; Back'</b> for technology &amp; systems</p>
<p><b>Year 7:</b></p> <ul style="list-style-type: none"> <li>Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the sun, Earth and moon.</li> <li>Earth's gravity pulls objects toward the centre of the Earth.</li> </ul>	<p>Simulate and describe lunar and solar eclipses, the reason for seasons, phases of the moon and tides. Comparing times for rotation of Earth, Sun and moon and the times for orbiting bodies. Gravity keeps planets in their orbits and how gravity affects objects on the Earth's surface.</p> <p><b>Recommend:</b> <b>'Totality' (NEW)</b> – A complete examination of eclipses. <b>'Black Holes'</b> (gravity to the max!)</p> <p><b>Highly recommend: Night Activity</b> incorporating above and telescope viewing of the moon, planets and stars combined with a laser-guided tour of the sky.</p>
<p><b>Year 8:</b></p> <ul style="list-style-type: none"> <li>General astronomy programs available.</li> </ul>	<p><b>Recommend:</b> <b>'Origins of Life'</b>, <b>'Natural Selection'</b> <b>'Black holes'</b> <b>'Capcom Go'</b> General astronomy presentation.</p>
<p><b>Year 9:</b></p> <ul style="list-style-type: none"> <li>Chemical reactions, matter &amp; energy</li> <li>General astronomy programs available.</li> </ul>	<p><b>Recommend:</b> <b>'Black Holes'</b> for energy, chemical reactions &amp; matter. <b>'Capcom Go'</b> for General astronomy presentation.</p>
<p><b>Year 10:</b></p> <ul style="list-style-type: none"> <li>The universe contains features including galaxies, stars and solar systems. The Big Bang Theory can be used to explain the origin of the universe.</li> <li>Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere.</li> <li>The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence.</li> </ul>	<p>Evidence of Big bang theory. Radiation. Blue shift &amp; red shift. Age of the universe. Formation of galaxies and stars.</p> <p><b>Recommend:</b> <b>'Cosmology' (NEW)</b> – The big bang, dark energy, electromagnetic spectrum. Theories of the universe.</p> <p><b>'Ice Worlds'</b> - Human activity affects global systems. Causes and effects of greenhouse effect. Effect of climate change on sea levels and biodiversity. Investigating currently occurring changes to permafrost and sea ice and the impact of these changes. Factors that drive the deep ocean currents, their role in regulating global climate, and their effects on marine life.</p> <p><b>Highly recommend: 'Natural Selection'</b> – Follow the life of Charles Darwin as he develops his theory of Natural Selection beginning with his voyage on the Beagle.</p>