



STAGE 5 PRESENTATION OUTLINE

Each presentation lasts for approx 40 - 60 minutes and includes 2 or 3 sections.
Presentations can be customised to your students level of learning.

SECTION 1. PRESENTER-LED TALK.

We go on an interactive journey looking at our Planet, Solar System, Galaxy and Universe.
We look at:

- How different astronomers throughout history (Ptolemy, Aryabhata, Copernicus, Galileo, Newton, Hubble) have contributed to advancing scientific understanding of the solar system and how our view of the universe has changed as technology improves.
- How our scientific knowledge changes as new evidence becomes available.
- How big the universe is and our place within it.
- The origins of the Big Bang theory and how it can be used to explain the origin of the universe.

***Covers Stage 5 syllabus content.**

- Major features contained in the universe, including Galaxies, Stars, Solar Systems and Nebulae.
- Technological developments have advanced scientific understanding about the Universe.
- Scales to describe differences in sizes of and distances between structures making up the Universe.
- Objects exert a force of gravity on all other objects in the Universe.
- How the Big Bang theory can be used to explain the origin of the Universe and its age.
- Scientific thinking about the origin of the Universe is refined over time through a process of review by the scientific community.

* Stage 5 syllabus content is covered between our 360° movies and presenter-led talks.

SECTION 2 - 360° SURROUND MOVIE

We have a number of choices here. Choose your own or let us help you decide.

'We Are Astronomers' - <https://www.planetarium.com.au/we-are-astronomers>

Do you know what an astronomer does? Today's astronomer is not the lone observer of past centuries. We are Astronomers reveals the global collaboration, technology and dedication required to answer the unresolved questions of the Universe. Travel from the big bang to the future of astronomy, see the James Webb telescope and take a hurtling trip around the Large Hadron Collider at CERN.

'Capturing The Cosmos' - <https://www.planetarium.com.au/capturing-the-cosmos>

Imagine being able to see more than astronomers have ever been able to see before. What would it be like to peer back in cosmic time, into the vast blackness of space and witness how the universe has evolved into what we see around us today?

There's a whole lot of sky up there. And not only are we starting to discover what's in it, but we're starting to see how it all fits together.

'Stories In The Stars' - <https://www.planetarium.com.au/stories-in-the-stars>

European night sky stories are familiar to many people. However the stories indigenous to the southern skies are less well known. Although different Australian Aboriginal groups have different astronomical traditions, there are some broad similarities. Explore Indigenous Australian astronomy, find out how indigenous culture describe constellations that cannot be seen from northern latitudes.

Even constellations that can be seen from Europe appear a different way in the sky in the southern hemisphere.

'We Are Aliens' - <https://www.planetarium.com.au/we-are-aliens>

As a species, we have always looked to the sky and asked 'Are we alone'?

How do we know which planets could harbour life? What are the requirements for life?

Finding the right conditions to support life is a delicate balance, and scientists are on the lookout for exoplanets in the 'Goldilocks Zone' – Not too hot, and not too cold!

Join scientists in the hunt for real aliens.

'Sizing Up Space' - <https://www.planetarium.com.au/sizing-up-space>

How big is the distance between the Earth and the Sun - or between the Sun and the other planets?

Discover the Light Year, the very large 'ruler' that scientists use to measure the size of Space.

Be amazed by the ever-increasing distances to the nearest stars, to the edge of the Milky Way and to the farthest galaxies in the Universe.

'Phantom Of The Universe' - <https://www.planetarium.com.au/phantomoftheuniverse>

Dark matter, from the Big Bang to its anticipated discovery at the Large Hadron Collider. Narrated by Tilda Swinton, this amazing story reveals the first hints of its existence. It describes the astral choreography witnessed by Vera Rubin in the Andromeda galaxy and then plunges deep underground to see the most sensitive dark matter detector on Earth, housed in a former gold mine. From there, it journeys across space and time to the Large Hadron Collider at CERN, speeding alongside particles before they collide in visually stunning explosions of light and sound.

'Einstein's Gravity Playlist' - <https://www.planetarium.com.au/einsteins-gravity-playlist>

Join Lucia, a PhD student in physics, on an exploration of how gravitational waves are formed. Explore Einstein's famous theory that predicted the existence of gravitational waves, how they move through the universe, and how scientists like her work to hear them.

Tish Bresee, NASA JPL Solar System Ambassador had this to say: "Outstanding! I think Physics students of all ages should see this in the dome planetarium."

These 7 movies are our most popular for Stage 5 however we also have a further selection of movies that may be suitable for your students depending on the level of learning.

SECTION 3. 360° SURROUND PRESENTER-LED TALK

'What's In The Sky'

An interactive 360° look at what is in the sky today and tonight. True to life and in real - time.
We look at:

- What's in the sky tonight?
- Stars, Planets & Nebulae .
- Constellations & their mythology.
- Aboriginal Astronomy and stories.
- The birth and death of Stars.
- Southern Cross and Star navigation.
- The Milky Way.
- Questions and answers.

Alternative option:

Galactic Journey - A journey through our nearest 120,000 Galaxies. Exploring our part of the Universe; Asking some of the biggest questions.

Feel free to ask for this presentation to focus on any particular topic. eg Aboriginal Astronomy and stories.

Please note that all presentations are subject to change and variation due to circumstance and/or time restrictions.