

Topics: (linked to Science Understanding areas)
Earth & Space Sciences – The Solar System; Big Bang Theory

Additional: Careers; Maths; Technology; Engineering

Concepts: (linked to Science Understanding - South Australia's Leading Learning Resource)
Earth & Space Sciences – Earth in Space

- Yr R	- Yr 1	- Yr 2	- Yr 3	- Yr 4	√ Yr 5	- Yr 6	√ Yr 7	- Yr 8	- Yr 9	√ Yr 10
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Word Count: 832

Content:
<https://australiascience.tv/nasas-tess-launches-today/>

NASA launch a new satellite telescope, which will eventually replace the Kepler Space Telescope, looking for information and data on far away planets, outside of our solar system. This resource could be used to support delivery of the Earth & Space Sciences curriculum for years 5 ([ACSSU078](#)), 7 ([ACSSU115](#)) or 10 ([ACSSU188](#)).

How this could be used in a classroom setting (Linked to Science Inquiry Skills):

(Number denotes intended year level linked to SHE. No number denotes potentially any year level)

- ✓ **Questioning and predicting:**
 - Can you think what events this data might explain? (5) *How stars are formed; How big the universe is; what else is in the universe; if there is life in the universe other than on earth....*
 - What new evidence about space do you think TESS might provide? (7)
 - What process of review will TESS ask of astronomers & cosmologists – what are the possible questions the new data might answer that had different answers previously? (10)
- ✓ **Planning and conducting:**
 - What questions about the universe would you like TESS to answer?
- ✓ **Evaluating:**
 - Given the millions of dollars that has gone into, and will continue to go into TESS & the supporting technology, do you think this is money well spent? Justify your decision.
- ✓ **Communicating:**
 - What new data are scientists going to be able to gather with TESS? (5) *More specific information about far away stars*
 - What kinds of different scientists do you think are involved with TESS? (5)
 - What different branches of STEM do you think are involved with TESS? (7)
 - What is the contemporary issue we are trying to solve by studying the cosmos? (7) *Looking for life on other planets; looking for potential other planets that could support the human race given that our own Earth will no longer be able to support life in the not so distant future.*
 - What occupations do you think are involved with TESS launching, and later on, gathering data from it? (7) *(think about the design, building and deployment of the satellite, and then the receiving of and analyzing of data later on)*
 - What are the values and needs of contemporary society that are being met by TESS? (10)
 - What are the advances in technology that have made TESS possible? (10)

- What other technologically advanced equipment will TESS rely on to relay the data gathered? (10)
- What different branches of science, engineering and technology do you think were involved with the development and launch of, and will be involved with the ongoing data capture from TESS? (10)

How this meets the Science National Curriculum on the strand: 'Science as a Human Endeavour'



Year 5	<p>Nature and development of science</p> <ul style="list-style-type: none"> Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions (ACSHE081) - <i>researching how scientists were able to develop ideas about the solar system through the gathering of evidence through space exploration; researching the different types of scientists who work in teams in space exploration, and Australia's involvement in space exploration</i>
Year 6	
Year 7	<p>Nature and development of science</p> <ul style="list-style-type: none"> Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available (ACSHE119) - <i>investigating how advances in telescopes and space probes have provided new evidence about space</i> Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE223) <p>Use and influence of science</p> <ul style="list-style-type: none"> Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (ACSHE120) People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE121)
Year 8	
Year 9	
Year 10	<p>Nature and development of science</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community (ACSHE191) - <i>recognising that Australian scientists such as Brian Schmidt and Penny Sackett are involved in the exploration and study of the universe</i> Advances in scientific understanding often rely on technological advances and are often linked to scientific discoveries (ACSHE192) - <i>recognising that the development of fast computers has made possible the analysis of DNA sequencing, radio astronomy signals and other data; researching examples of major international scientific projects, for example the Large Hadron Collider and the International Space Station; considering how information technology can be applied to different areas of science such as bioinformatics and the Square Kilometre Array.</i> <p>Use and influence of science</p> <ul style="list-style-type: none"> People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities (ACSHE194) - <i>recognising that the study of the universe and the exploration of space involve teams of specialists from the different branches of science, engineering and technology</i> Values and needs of contemporary society can influence the focus of scientific research (ACSHE230)