



OUT OF THIS WORLD - Australian Curriculum Correlations - PRIMARY SCHOOL - Science Syllabus

| YEAR | YEAR LEVEL FOCUS | SCIENCE CURRICULUM TOPICS – Knowledge and Understanding | CORRELATIONS TO “Out of this World” |
|--------|--|--|---|
| Year 5 | Earth and space sciences The Earth is part of a system of planets orbiting around a star (the sun) | <ul style="list-style-type: none">• identifying the planets of the solar system and comparing how long they take to orbit the sun• modelling the relative size of and distance between Earth, other planets in the solar system and the sun.• recognising the role of the sun as a provider of energy for the Earth. (ACSSU078) | All 8 volumes: “Out of this World” |
| Year 5 | Science as a Human Endeavour Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions | <ul style="list-style-type: none">• Developing an understanding of the behaviour of light by making observations of its effects• Testing predictions relating to the behaviour of solids, liquids and gases by conducting observational experiments• researching how scientists were able to develop ideas about the solar system through the gathering of evidence through space exploration• describing how scientists from a range of cultures have improved our understanding of the solar system, such as Copernicus, Khayyāṣm and Galileo• researching developments in the understanding of astronomy, such as the predictions of eclipses and the calculation of the length of the solar year by Al-Battani in the tenth century.• researching the different types of scientists who work in teams in space exploration, and Australia's involvement in space exploration.• learning how Aboriginal and Torres Strait Islander Peoples used observation of the night sky to assist with navigation. (ACSHE081) | All 8 volumes: “Out of this World” |
| Year 5 | Achievement standard for Year 5 Science | <ul style="list-style-type: none">• By the end of Year 5, students explain everyday phenomena associated with the transfer of light. They describe the key features of our solar system. | All 8 volumes: “Out of this World” |



OUT OF THIS WORLD - Australian Curriculum Correlations - SECONDARY SCHOOL - Science Syllabus

| YEAR | YEAR LEVEL FOCUS | SCIENCE CURRICULUM TOPICS – Knowledge and Understanding | CORRELATIONS TO “Out of this World” |
|---------|--|---|---|
| Year 7 | Science as a Human Endeavour Scientific knowledge has changed peoples’ understanding of the world and is refined as new evidence becomes available | <ul style="list-style-type: none">Investigating how advances in telescopes and space probes have provided new evidence about spaceresearching different ideas used in the development of models of the solar system developed by scientists such as Copernicus, Khayyám and Galileoresearching developments in the understanding of astronomy, such as the predictions of eclipses and the calculation of the length of the solar year by Al-Battani in the tenth century. (ACSHE119) | All 8 volumes: “Out of this World” |
| Year 8 | Science as a Human Endeavour Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations | <ul style="list-style-type: none">Investigating how energy efficiency can reduce energy consumptionInvestigating the development of vehicles over time, including the application of science to contemporary designs of solar-powered vehicles (ACSHE135) | All 8 volumes: “Out of this World” |
| Year 10 | Earth and space sciences The universe contains features including galaxies, stars and solar systems, and the Big Bang theory can be used to explain the origin of the universe. | <ul style="list-style-type: none">Identifying the evidence supporting the Big Bang theory, such as Edwin Hubble’s observations and the detection of microwave radiation.Recognising that the age of the universe can be derived using knowledge of the Big Bang theory.Describing how the evolution of the universe, including the formation of galaxies and stars, has continued since the Big Bang. (ACSSU188) | All 8 volumes: “Out of this World” |



OUT OF THIS WORLD - MEETING STEM OBJECTIVES IN THE AUSTRALIAN NATIONAL CURRICULUM

| STEM OBJECTIVES | MEETING STEM OBJECTIVES through “Out of this World” |
|--|---|
| <p>Expose students (and their teachers) to a wide range of career options and information early to help increase STEM aspirations and engagement, ideally in primary school and continuing throughout high school, and involving parents and school communities where possible.</p> | <p>Students are exposed to exemplary role models from a diverse field of careers as they learn about the innovative research and development undertaken by acclaimed physicists; mechanical engineers; professors; NASA engineers and even theories posed by a science fiction writer. These experts share their enthusiasm and explain “how they caught the science bug.”</p> |
| <p>Build on students’ curiosity and connect STEM learning to solving real world problems, including through collaborative and individual learning experiences that are hands-on and inquiry-based and support the achievement of deep knowledge.</p> | <p>“Out of this World” has been developed through World Book’s collaboration with the NASA Innovative Advanced Concepts (NIAC) program. The series provides real life learning opportunities through interactive activities that challenge the student to think creatively and promotes inquiry-based learning.</p> <p>The books in the “Out of This World” series feature projects that have won grants from the NASA Innovative Advanced Concepts program (NIAC). The program provides funding to teams working to develop bold new advances in space technology.</p> |
| <p>Encourage teachers to prioritise STEM content knowledge when determining their professional learning needs, given the rapidly changing nature of science and technology.</p> | <p>Through World Book’s signature clear writing style and explanation of complex space science concepts, “Out of this World” equips teachers with the knowledge and understanding of the latest advances in space technology to keep pace with the rapidly changing nature of this subject area.</p> |
| <p>Use school demographic data and the local context to guide choices about partnership and outreach programs, and consider how best to target student cohorts less likely to do STEM subjects or see the relevance of STEM-related skills.</p> | <p>“Out of this World” provides the basis of understanding on how partnerships and outreach programs can be successfully implemented. The collaborative partnership between NASA Innovative Advanced Concepts (NIAC) program and World Book provides inspirational examples that will motivate the most reluctant STEM learner.</p> |