AROSE
Australian Remote Operations for Space and Earth

AVISTA

AVISTA School Show – Curriculum Links

Australian Curriculum – Science Years 7-10 (v9.0)

Years	Content Outcomes
7	• Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object (ACSSU117) • Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE223) • People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE121)
8	• Chemical change involves substances reacting to form new substances (ACSSU225) • Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers cause change within systems (ACSSU155) • Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE226) • People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE136)
9	• Chemical reactions, including combustion and the reactions of acids, are important in both non-living and living systems and involve energy transfer (ACSSU179) • Advances in scientific understanding often rely on technological advances and are often linked to scientific discoveries (ACSHE158) • Advances in scientific understanding often rely on technological advances and are often linked to scientific discoveries (ACSHE192)

	• 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 (ACSHE160)
10	• Different types of chemical reactions are used to produce a range of products and can occur at different rates (ACSSU187) • Energy conservation in a system can be explained by describing energy transfers and transformations (ACSSU190) The motion of objects can be described and predicted using the laws of physics (ACSSU229) • 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)

Australian Curriculum – Technology Years 7-10 (v8.4)

Years	Content Outcomes
7 & 8	• Analyse and visualise data using a range of software to create information, and use structured data to model objects or events (ACTDIP026) • Define and decompose real-world problems taking into account functional requirements and economic, environmental, social, technical and usability constraints (ACTDIP027)
9 & 10	• Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034) • Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038)

NSW Science 7-10 Syllabus (2017)

Years	Content Outcomes
Stage 4	• Identifies questions and makes predictions to guide scientific investigations (SC4-WS-02) • Describes the effects of forces in everyday contexts (SC4-FOR-01) • Explains how uses of elements and compounds are influenced by scientific understanding and discoveries relating to their properties (SC4-PRT-01) • Explains how data is used by scientists to model and predict scientific phenomena (SC4-DA1-01)
Stage 5	• Develops questions and hypotheses for scientific investigation (SC5-WS-02g) • Assesses the uses of materials based on their physical and chemical properties (SC5-MAT-01) • Describes a range of reaction types (SC5-RXN-01) • Explains the motion of objects using Newton's laws of motion (SC5-WAM-02)

NSW Technology 7-8 Syllabus (2017)

Years	Content Outcomes
7 & 8	• Recognises technologies used in everyday life (TELS-SDP-01) • Communicates how a range of technologies and materials are used in everyday life (TELS-MSC-01)

Victorian Curriculum Science F-10 (v2.0)

Years	Content Outcomes
7 & 8	Science as a Human Endeavour • Scientific knowledge and understanding of the world changes as new evidence becomes available; science knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science (VCSSU089) • Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) Science Inquiry Skills • Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) • Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) Science Understanding • Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (VCSSU095) • Chemical change involves substances reacting to form new substances (VCSSU098) • Change to an object's motion is caused by unbalanced forces acting on the object; Earth's gravity pulls objects towards the centre of Earth (VCSSU103) • Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy and potential energy; devices can change energy from one form to another (VCSSU104)

9 & 10	Science as a Human Endeavour • Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) • Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) • The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) Science Inquiry Skills • Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) • Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) Science Understanding • Chemical reactions, including combustion and the reactions of acids, are important in both non-living and living systems and involve energy transfer (VCSSU126) • The description and explanation of the motion of objects involves the interaction of forces and the exchange of energy and can be described and predicted using the laws of physics (VCSSU133)

Western Australian Curriculum Technology 7-10

Years	Content Outcomes
7	• Create information using relevant software, and create data to model objects and/or events (ACTDIP026) • Define and break down a given task, identifying the purpose (WATPPS39) • Consider components/resources to develop solutions, identifying constraints (WATPPS40)
8	• Evaluate and visualise data, using a range of software, to create information, and use structured data to model objects or events (ACTDIP026) • Investigate a given need or opportunity for a specific purpose (WATPPS46) • Consider components/resources to develop solutions, identifying constraints (WATPPS48)
9	• Role of hardware and software in managing, controlling and securing the movement of data in a digital system (ACTDIK034) • Identify and define the needs of a stakeholder, to create a brief, for a solution (WATPPS54) • Investigate a selection of components/resources to develop solution ideas, identifying and considering constraints (WATPPS55)
10	• Role of hardware and software in managing, controlling and securing access to data, in networked digital systems (ACTDIK034) • Identify the needs of the client/stakeholder to determine the basis for a solution (WATPPS61) • Investigate components/resources to develop increasingly sophisticated solutions, identifying and considering associated constraints (WATPPS63)