Year 8: Earth and Space- The Changing Earth

	Check	Date
Revise assumed knowledge:		
SC4-12ES		
describes the dynamic nature of models, theories and laws in developing scientific		
understanding of the Earth and solar system		
SC4-13ES		
explains how advances in scientific understanding of processes that occur within and on the		
Earth, influence the choices people make about resource use and management		
ES1 Sedimentary, igneous and metamorphic rocks contain minerals and are formed l	oy proce	esses
that occur within Earth over a variety of timescales. (ACSSU153)		
UNDERSTANDING THE EARTH		1
4ES1a. describe the <u>structure</u> of the Earth in terms of core, mantle, crust and		
lithosphere		
Identify the key layers of the Earth		
Describe the structure of the Earth including inner core, outer core, mantle, crust and		
lithosphere (depth and composition)		
4ES1c. outline the origins of and relationships between sedimentary, igneous and		
metamorphic rocks		
Identify the three main rock types; sedimentary, igneous and metamorphic		
Describe the rock cycle		
Identify two examples of each rock type		
CODE: 8ES1 First-Hand Investigation: Effect of temperature on crystal size (Oxford		
pg264)		
CODE: 8ES2 First-Hand Investigation: Making sedimentary rocks (Oxford pg266)		
CODE: 8ES3 First-Hand Investigation: Making metamorphic rocks (Oxford pg267)		
4ES1b. relate the formation of a range of landforms to physical and chemical weathering, erosion and deposition		
Define the terms physical weathering, chemical weathering, erosion and deposition		
 Provide examples of each: physical weathering: Frost wedging, thermal expansion, tree root growth chemical weathering: Oxidation, hydration, carbonation 		
 erosion: Wind, running water, glaciers, waves denosition: Particle size shape density velocity 		
CODE: 8ES4 First-Hand Investigation: Effects of chemical weathering (Oxford pg271)		
Belate the role of physical weathering chemical weathering erosion and deposition to the		
formation of different landforms		
4ESadd3 investigate the role of forces and energy in the formation of different types of		
rocks and minerals		
Investigate the role of forces and energy in the formation of different types of rocks and minerals		
LITERACY SET 1: COSMOS ARTICLE		
Assessment: Oxford online test- Understanding the Earth. Students to achieve 100% in Support and Consolidate OR Consolidate and Extend		

PROPERTIES OF ROCKS AND MINERALS		
4ES1d. identify that sedimentary, igneous and metamorphic rocks contain minerals		
4ES1e. classify a variety of common rocks and minerals into groups according to their observable properties ኛ		
Define the term mineral		
Identify the minerals found in a range of sedimentary, igneous and metamorphic rocks		
Identify the observable properties used by geologists to classify rocks and minerals (Colour, Lustre, Streak, Hardness)		
CODE: 8ES5 First-Hand Investigation: Rock and crystal classification In groups, observe physically and under microscope, a range of common rocks and minerals. Group them according to their observable properties. Compare to other groups. Discuss.		
Describe the Mohs scale of hardness		
CODE: 8ES6 First-Hand Investigation: Hardness. Compare a range of common products for hardness by using the scratch test (iron nail, glass slide, plastic petri dish, piece of copper sheet, chalk stick). Relate to rocks and minerals		
CODE: 8ES7 First-Hand Investigation: Rock and crystal classification. In groups, observe physically and under a hand lens, a range of common rocks and minerals. Use hand lens and the internet and/or Oxford table to identify them by name. Group them according to their observable properties. Compare to other groups. Discuss		
4ES1h. describe examples to show how people use understanding and skills from across the disciplines of science in occupations related to the exploration, mining or processing of minerals in Australia (ACSHE224, ACSHE227)		
Define the term ore		
Identify a range of ores mined in Australia		
Describe the main types of mines (open cut, underground and leach)		
Describe how scientists locate minerals (Magnetic surveys, Gravity surveys, Seismic surveys, Geochemical surveys)		
 Describe the role of the following occupations related to the exploration, mining or processing of minerals Underground mine geologist Exploration geologist Metallurgist Geotechnical engineer Mining engineer Human resources Environmental engineer 		
4ESadd5 debate the economic and environmental impacts of mining and resource		
Debate the economic and environmental impacts of mining and resource exploration		
LITERACY SET 2: MIXED ACTIVITIES		
Assessment: Oxford online test- Properties of rocks and minerals Students to achieve 100% in Support and Consolidate OR Consolidate and Extend		

4ES1f. describe the conditions under which fossils formDefine the term fossilIdentify the common steps involved in fossil formationDescribe the conditions under which fossils formCODE: 8ES8 First-Hand Investigation: Making a fossil. Use a leaf with a distinct shape and plaster of Paris to make a fossil4ES1g. outline how geological history can be interpreted in a sequence of horizontal sedimentary layers, in which the oldest are at the base and the youngest at the top **Identify the law of superpositionSolve problems related to the law of superpositionDescribe the geological time scale used by geologists and Palaeontologists4ESadd4 describe some methods used by scientists to determine the relative age of rock layersDescribe some methods used by scientists to determine the relative age of rock layersNUMERACY AND SKILLS SETAssessment: Oxford online test- The Earth's geological past Students to achieve 100% in Support and Consolidate OR Consolidate and ExtendAssessment: The Changing Earth Chapter TestComments and Suggested improvements	THE EARTH'S GEOLOGICAL PAST			
Define the term fossil Image: Comparison of the second state				
Identify the common steps involved in fossil formation□Describe the conditions under which fossils form□CODE: 8ES8 First-Hand Investigation: Making a fossil. Use a leaf with a distinct shape and plaster of Paris to make a fossil□4ES1g. outline how geological history can be interpreted in a sequence of horizontal sedimentary layers, in which the oldest are at the base and the youngest at the top **□Identify the law of superposition□Solve problems related to the law of superposition□Describe the geological time scale used by geologists and Palaeontologists□4ESadd4 describe some methods used by scientists to determine the relative age of rock layers□Describe some methods used by scientists to determine the relative age of rock layers□NUMERACY AND SKILLS SET□Assessment: Oxford online test- The Earth's geological past Students to achieve 100% in Support and Consolidate OR Consolidate and Extend□Assessment: The Changing Earth Chapter Test□Comments and Suggested improvements□				
Describe the conditions under which fossils form Image: Code State S				
CODE: 8ES8 First-Hand Investigation: Making a fossil. Use a leaf with a distinct shape and plaster of Paris to make a fossil 4ES1g. outline how geological history can be interpreted in a sequence of horizontal sedimentary layers, in which the oldest are at the base and the youngest at the top ** Identify the law of superposition Solve problems related to the law of superposition Describe the geological time scale used by geologists and Palaeontologists 4ESadd4 describe some methods used by scientists to determine the relative age of rock layers Describe some methods used by scientists to determine the relative age of rock layers; Relative dating, Isotope dating NUMERACY AND SKILLS SET Assessment: Oxford online test- The Earth's geological past Students to achieve 100% in Support and Consolidate OR Consolidate and Extend Assessment: The Changing Earth Chapter Test Comments and Suggested improvements				
4ES1g. outline how geological history can be interpreted in a sequence of horizontal sedimentary layers, in which the oldest are at the base and the youngest at the top ** Identify the law of superposition Solve problems related to the law of superposition Describe the geological time scale used by geologists and Palaeontologists 4ESadd4 describe some methods used by scientists to determine the relative age of rock layers Describe some methods used by scientists to determine the relative age of rock layers; Relative dating, Isotope dating NUMERACY AND SKILLS SET Assessment: Oxford online test- The Earth's geological past Students to achieve 100% in Support and Consolidate OR Consolidate and Extend Assessment: The Changing Earth Chapter Test Comments and Suggested improvements				
Identify the law of superposition □ Solve problems related to the law of superposition □ Describe the geological time scale used by geologists and Palaeontologists □ #ESadd4 describe some methods used by scientists to determine the relative age of rock layers; □ Describe some methods used by scientists to determine the relative age of rock layers; □ Relative dating, Isotope dating □ NUMERACY AND SKILLS SET □ Assessment: Oxford online test- The Earth's geological past □ Students to achieve 100% in Support and Consolidate OR Consolidate and Extend □ Assessment: The Changing Earth Chapter Test □ Comments and Suggested improvements □				
Solve problems related to the law of superposition □ Describe the geological time scale used by geologists and Palaeontologists □ 4ESadd4 describe some methods used by scientists to determine the relative age of rock layers; □ Describe some methods used by scientists to determine the relative age of rock layers; □ Relative dating, Isotope dating □ NUMERACY AND SKILLS SET □ Assessment: Oxford online test- The Earth's geological past □ Students to achieve 100% in Support and Consolidate OR Consolidate and Extend □ Assessment: The Changing Earth Chapter Test □ Comments and Suggested improvements □				
Describe the geological time scale used by geologists and Palaeontologists □ 4ESadd4 describe some methods used by scientists to determine the relative age of rock layers □ Describe some methods used by scientists to determine the relative age of rock layers; Relative dating, Isotope dating □ NUMERACY AND SKILLS SET □ Assessment: Oxford online test- The Earth's geological past □ Students to achieve 100% in Support and Consolidate OR Consolidate and Extend □ Assessment: The Changing Earth Chapter Test □ Comments and Suggested improvements □				
4ESadd4 describe some methods used by scientists to determine the relative age of rock layers; Describe some methods used by scientists to determine the relative age of rock layers; Relative dating, Isotope dating NUMERACY AND SKILLS SET Assessment: Oxford online test- The Earth's geological past Students to achieve 100% in Support and Consolidate OR Consolidate and Extend Assessment: The Changing Earth Chapter Test Comments and Suggested improvements 				
Describe some methods used by scientists to determine the relative age of rock layers; Image: Comparison of the construction of the construc				
NUMERACY AND SKILLS SET □ Assessment: Oxford online test- The Earth's geological past □ Students to achieve 100% in Support and Consolidate OR Consolidate and Extend □ Assessment: The Changing Earth Chapter Test □ Comments and Suggested improvements □				
Assessment: Oxford online test- The Earth's geological past □ Students to achieve 100% in Support and Consolidate OR Consolidate and Extend □ Assessment: The Changing Earth Chapter Test □ Comments and Suggested improvements □				
Assessment: The Changing Earth Chapter Test Comments and Suggested improvements				
Comments and Suggested improvements				
Name: Signature: Date:				