

MAPPING VOLUNTEERING TO SCIENCE: FOUNDATION — YEAR 10 CURRICULUM

Year Level	Science Understanding	Science as a Human Endeavour	Science Inquiry and Skills	Sample Activity
Foundation	Living things have basic needs, including food and water (ACSSU002).			<p>Students list the basic needs they have every day.</p> <p>Do they know any organisations that help people to access these?</p> <p>Do they know anyone who volunteers for such an organisation?</p>
Year 1		People use science in their daily lives, including when caring for their environment and living things (ACSHE022).		Students participate in Clean Up Australia Day and then discuss how it is important to volunteer to care for our environment.
Year 2	Earth's resources, including water, are used in a variety of ways (ACSSU032).	People use science in their daily lives, including when caring for their environment and living things (ACSHE035).	Create and interpret simple grid maps to show position and pathways (ACMMG065).	<p>Invite a guest from the local Parks and Wildlife Service to come and speak about the local environment and how important water is.</p> <p>Discuss how everyone can be a volunteer and help care for the local environment.</p>
Year 3		Science knowledge helps people to understand the effect of their actions (ACSHE051).		Invite local emergency services volunteers to come and speak to students about how their work helps them understand the effect of their actions.

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Year 4	Living things, including plants and animals, depend on each other and the environment to survive (ACSSU073).			<p>Draw a Venn diagram for plants, animals and environmental factors in your local area.</p> <p>Identify and discuss which local volunteer agencies help support these.</p>
Year 5		<p>Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE082).</p> <p>Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE083).</p>		<p>Investigate a local volunteer organisation that helps to solve an environmental problem faced by your local community.</p> <p>Now investigate a global volunteer organisation with the same focus.</p>
Year 6	Sudden geological changes or extreme weather conditions can affect Earth's surface (ACSSU096).			<p>Gather some data on a recent extreme weather event and how people and the local topography were affected by the event.</p> <p>Include how volunteers assisted in the relief effort.</p>

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Year 7	<p>Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (ACSSU113).</p> <p>Water is an important resource that cycles through the environment (ACSSU222).</p>	<p>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 (ACSHE120).</p>	<p>Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (ACSIS125).</p>	<p>Students imagine they are volunteering in a relief/education program after a recent tsunami disaster in Indonesia.</p> <p>Students are given a dirty water sample similar to what people in the disaster area will have access to.</p> <p>They need to use materials found around the school grounds to devise a method for cleaning the water and making it safe for consumption.</p> <p>Students are then to create an instructional video or pamphlet that is targeted towards high school students on the steps in purifying the water.</p> <p>Include the role volunteers would have in this process.</p>

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Year 8	Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (ACSSU153).	Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE226).		<p>Students research ore minerals, how they are formed and the impact they have on the community, location and the environment.</p> <p>Students look at volunteer organisations that support or oppose mining and discuss why they hold those opinions.</p> <p>In groups, students argue one side of the debate.</p>
Year 9	Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176).		Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians (ACMSP227).	<p>Invite a local park ranger to take the class through a local ecosystem and identify the different components.</p> <p>Afterwards, students write a letter to their local council about an ecosystem they believe needs to be protected and why. Include a link to how local volunteers can assist in this process.</p>

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Year 10	Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189).		Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (ACSHE191).	<p>Invite a speaker from a marine conservation organisation to talk about how global systems are being impacted by climate change and human impact.</p> <p>Students create a fictional volunteer organisation that aims to educate the public on one of these issues.</p> <p>They create a pamphlet that includes models, facts, the current scientific view of the problem, how people can get involved in the program and why there is a need for action.</p>