 Learning outside – school site as a context K-6

This document suggests learning opportunities across the KLAs for taking students outside and using the school grounds as a resource or context for learning. Experiences can be multidisciplinary, focus on STEM or sustainability, or build skills and knowledge within a subject-specific area. Using the school site provides an authentic learning context. It can provide enjoyable learning for students and opportunities to:

* explore and investigate natural and human features of local environments
* examine interdependencies, interconnections and local issues
* increase students’ awareness and understanding of their surroundings
* develop positive perceptions of their place
* take actions that protect Earth’s resources and the environment.

Research shows that taking students outside has multiple benefits for students, including:

* increased interest, engagement and accessibility for a variety of learning styles
* improved team work, co-operation and communication, which is translated into the classroom
* growth in competence, resilience and leadership
* improved questioning and problem solving skills
* enabling elements of success for low achievers
* use of richer language in writing and verbal communication, when describing environments and experiences.

The document suggests specific activities in science and technology, HSIE and mathematics. First-hand experiences in the school grounds also provide learning opportunities for:

* English – speaking and listening, writing and representing, thinking imaginatively and creatively and expressing themselves
* CAPA, particularly visual arts – recording observations, creating ephemeral artworks, exploring and creating [Waste as art](https://education.nsw.gov.au/teaching-and-learning/curriculum/key-learning-areas/creative-arts/creative-arts-es1-3/programming/visual-arts)
* PDHPE – healthy, safe and active lifestyles.

Science and technology

| Early Stage 1 | Stage 1 | Stage 2 | Stage 3 |
| --- | --- | --- | --- |
| Living world Characteristics and basic needs of living things * Explore and observe living things in the school grounds.
* Observe and describe external features of plants and animals in native and kitchen gardens.

Using living things as food and fibre * Grow and use food plants from kitchen gardens.
* Build shelters outside using sticks and other wood products.
 | Living world External features of living things* Collect invertebrate animals from the grounds. Group them based on external features.
* Use identification charts to identify plants and animals in the grounds.

Living things live in different places* Investigate the places in which animals live in the grounds, recording animals and their habitats.
* Design and produce an animal habitat, for example, small bird habitat garden, ‘lizard lounge’.

Living things change* Observe stages of growth of plants and animals, for example, seedlings, caterpillars, ducklings.
* Plant and record growth of plants in kitchen gardens.

Plants and animals used for food and fibre* Observe local native plants and animals used in customary practices of Aboriginal Peoples.
 | Living world Classification of living things* Record external features of plants in the school grounds. Group the plants based on their features, for example, bark, seeds, leaf shape.
* Collect invertebrate animals and use their external features to classify them using a dichotomous key.

Life cycles of living things* Plant and record the life cycle of an edible flowering vegetable or fruit, for example, sunflowers, strawberries, tomatoes.

Survival of living things* Investigate school and local environments to observe and record examples of interdependencies among species and between species and environments, for example, locations of spider webs.

Producing food and fibre from living things* Design and produce a food garden or a garden watering system.
* Design and produce a composting or worm farm system for use in food gardens.
 | **Living world** Growth and survival of living things * Plant food seeds in kitchen gardens and vary the environmental conditions as a fair test.

Adaptations of living things* Observe and record structural adaptations of plants in the school grounds, for example, spiky hard banksia leaves.
* Observe structural and behavioural adaptations of animals in the grounds, for example, birds such as ibis, cockatoos, lorikeets.

Sustainably managing environments to source food and fibre * Grow, harvest and prepare a healthy meal from kitchen garden produce.
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| Material worldProperties of materials can be observed* Explore and identify materials used in the school’s built environment.
 | Material world Materials are used for a specific purpose * Observe and identify local native plants and animals used by Aboriginal Peoples for cultural purposes.
* Design a product that helps protect animal habitats at school, for example, plant protectors.
* Design a product that enhances plant management in vegetable gardens, for example, trellises.
 | Material world Materials are used for a specific purpose * Develop an energy efficient design solution that enhances thermal comfort at school.
* Develop a design solution to harvest and use rainwater at school.
 | **Material world** Properties of materials determine their use * Identify and evaluate the function and structural properties of materials used in the school grounds, for example, ODAC shelters, play equipment, soft fall surfaces.
* Design a sustainable system, product or environment that enhances outdoor thermal comfort, manages school waste or conserves water.
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|  |  | Physical world Energy makes things happen (heat, light, electricity)* Trace or photograph changes in shadows in the school grounds.
* Explore renewable energy sources through model kits and toys, for example, solar car kits, wind kits.
 | Physical worldTransfer and transformation of energy* Investigate sustainable energy sources such as solar panels. Construct a flow chart to outline the energy transformations in harnessing solar energy.
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| Earth and spaceChanges in the environment* Observe and record daily changes outside the classroom, for example, temperature, shadows, wind.
* Observe and record seasonal changes in the grounds, for example, plovers nesting, leaves falling, flowers blooming.
 | Earth and space Changes in the sky and on land* Observe and record the position of the sun through a school day.
* Collect daily weather data.

Conservation of Earth’s resources * Explore and identify the use of water and soil in the school grounds.
* Plan and implement sustainable systems to conserve resources, for example, composting, recycling.
 | Earth and spaceHow the Earth’s surface changes over time* Investigate areas of erosion in the school grounds and explore ways to minimise it.

Earth’s relationship with the sun* Record a time-lapse video of shadows to show the changes in the sun’s position through a day.
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| Digital technologiesDigital systems* Use a digital device to take photographs in the school grounds.

Sequencing instructions* Follow sequences of instructions to locations in the grounds.
 | Digital technologiesDigital systems and their components* Take photographs and videos to record observations in the grounds.

Representation and analysis of data* Use digital storytelling and collage apps to creatively present data collected in school ground investigations, for example, animation and movie making.
 | Digital technologiesDigital systems and the transmission of data* Use citizen science apps to plot and record playground animal sightings, for example, Bowerbird and FrogID.

Representation and analysis of data* Use mind-mapping apps to represent interconnections among species and the environment observed in the grounds.
 | Digital technologiesDigital systems and networks* Plot animal sightings to a citizen science app and examine how the app meets present and future community needs, for example, AUSMAP, Echidna CSI, Climate Watch and Atlas of Living Australia.
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HSIE – Geography

| Early Stage 1 | Stage 1 | Stage 2 | Stage 3 |
| --- | --- | --- | --- |
| People live in placesImportant places* Identify places in the grounds that are important and special to Early Stage 1 students, for example, play areas, lunch seats.
* Take and organise photographs of places in the grounds that are special to different groups of people.
* Discuss ways in which students can care for the school grounds, for example, putting litter in bins and composting fruit and vegetable scraps.

Locating places * Verbally describe places and location of places in the school grounds.
* Create and use pictorial maps of special places in the grounds.
* Locate ‘treasure’ hidden in the grounds using pictorial maps.
* Follow verbal directions to locate places in the grounds.
 | Features of places Features of places* Observe and record the natural and human features of the school grounds.
* Annotate a site map of the school grounds with photographs and symbols that represent features and uses.
* Consider ways in which students can care for the school grounds, for example waste management and using walkways.

Weather and seasons* Record the daily weather outside the classroom. Compare the daily weather to that of another place.
* Select and plant seasonal plants in kitchen gardens.

How places are organised* Observe and record different uses of outdoor spaces, such as assembly and playtime on the quadrangle, different sports on the oval.
 | The Earth’s environment Significance of environments* Investigate school and local natural environments to observe and record examples of interconnections between vegetation and animals.

Perception of environments* Survey the school community to investigate their perceptions of natural environments in the school.

Protection of environments* Develop and undertake strategies for sustainable waste management in the school, for example, improved recycling, composting, rubbish-free lunches.
* Plan and undertake actions that improve or protect biodiversity in the school grounds.
 | Factors that shape places Humans shape places* Observe and record recent changes made to the school’s or a local environment due to development works, for example, new buildings or landscaping.

Environments shape places* Observe the topography of the school site and the surrounding landscape and landforms. Discuss how they influence the siting and plan of the school.

Factors that change environments* Identify sustainability initiatives in the school grounds and local area and interview the key stakeholders that influenced the initiatives.
* Plan and undertake a sustainability initiative in the school grounds, such as planting or restoring a habitat garden.
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HSIE – History

| Early Stage 1 | Stage 1 | Stage 2 | Stage 3 |
| --- | --- | --- | --- |
|  | The past in the present History of a significant person, building, site or part of the natural environment * Undertake a ‘history detective’ exploration of the school grounds searching for and recording evidence and remains of the past, for example, plaques, memorials, foundations, building changes.
* Discuss what the evidence in the grounds reveals about the school’s past.
 | Community and remembrance Importance of Country to Aboriginal peoples who belong to the local area * Invite local Aboriginal community members to explain the importance of Country.

Change and continuity over time in the local community, region or state* Investigate the changes and continuities in education using the school as a case study, using school archives, historic school buildings and oral histories of past students.

Role of people in the development and character of the local community* Identify the community groups that contribute to the development and management of the school, such as school grounds working bees.
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Mathematics

| Early Stage 1 | Stage 1 | Stage 2 | Stage 3 |
| --- | --- | --- | --- |
| Patterns and algebra * Sort and classify loose natural materials such as leaves, pebbles, bark and sticks.

Length * Describe distances to places and objects in the grounds.
 | Length 1 * Use mini bean bags, or other uniform informal units, to measure lengths and distances outside, for example, place the units end-to-end without gaps or overlaps along lunch seats, play equipment, sandpit edges.

Length 2 * Use formal units to measure the lengths of objects outside, for example, lunch seats, garden edges.
 | Length 1 * Measure the height, girths and width of trees in the grounds as a tree investigation for science and technology – living world. Order and compare the measurements and make inferences about significance.

Length 2 * Use metre rules and trundle wheels to measure and compare lengths of gardens, sport and play facilities in the grounds.
* Use a scaled thermometer to read, record and compare the temperature outside over different times of the day.
 | Length 1 * Measure a potential kilometre and half-kilometre cross-country training route in the school grounds.
* Measure and calculate the perimeter of a quadrangle, tennis or netball court in the grounds.
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| Area * Use comparative language to describe the area of places in the grounds, for example, the veranda, quadrangle and oval.
 | Area 1* Use large uniform informal units such as teeball bases to measure the area of the sandpit and other measurable outdoor surfaces.

Area 2* Compare and order the area of two or more measurable surfaces in the school grounds, for example, picnic table top, bench seats. Order the areas and measure using uniform informal units.
 | Area 1 * Use a square metre to measure the areas of large rectangles in the playground such as areas in the netball court.

Area 2 * Use a square-centimetre grid overlay to measure the areas of collected fallen leaves.
* Compare two rectangular areas in the school grounds, estimate the larger in square metres then measure each area in square metres to compare.
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| Volume and capacity * Fill and empty containers with sand and water in the sandpit.
 | Volume and capacity 1 * Explore and measure the capacities of containers using sand in the school sandpit using containers in a variety of sizes.

Volume and capacity 2 * Compare and order the capacities of a variety of containers through outdoor ‘water play’ with buckets, PET bottles and other smaller containers as uniform informal units. Combine the activity with watering the kitchen or native gardens.
 | Volume and capacity 1 * Undertake a school waste audit. Measure the capacity of waste sorting containers. Calculate the total volumes of each type of waste in litres.

Volume and capacity 2 * Undertake a school water audit and use measuring jugs under dripping taps to measure the volume of water lost over one hour. Calculate the volume lost over 24 hours.
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| Position * Describe position and movement to locations in the grounds.

Data * Create 3D column graphs with loose natural materials such as a variety of seedpods found in the grounds.
 | Position 1 * Give and follow directions to locations in the school grounds.

Position 2 * Use and interpret simple maps of the school grounds, for example, a treasure hunt to find hidden objects.
* Identify the relative positions of key features in the grounds.
 | Position 1 * Create a grid map of a kitchen or habitat garden showing the position of planned plantings.

Position 2 * Create a basic map of the school grounds with simple scales and legends to show animal habitats and potential areas for habitat improvements.
 | Position * Describe a proposed cross-country route using landmarks and directional language.
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[Geography K-10 Syllabus](https://syllabus.nesa.nsw.edu.au/hsie/geography-k10/) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2015

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[Science and technology K-6 Syllabus](https://educationstandards.nsw.edu.au/wps/wcm/connect/5ab69646-f1d4-404b-9c16-b39dfb0986d3/science-and-technology-k-6-syllabus-2017.pdf?MOD=AJPERES&CVID=) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2017

References and resources

Environmental education teachers from the department’s environmental and zoo education centre (EZEC) network have written this document. Contact your nearest [environmental and zoo education centre](https://education.nsw.gov.au/teaching-and-learning/curriculum/learning-across-the-curriculum/sustainability/environmental-zoo-centres) for support in outdoor learning. In addition to syllabus documents referenced on the previous page, the following references were used.

Association of Independent Schools of Western Australia, 2015, Nature play and nature pedagogy: Links to curriculum – Early years learning framework. <https://www.ais.wa.edu.au/sites/default/files/aiswa_media_files/NP.pdf>​

Australian Curriculum, Curriculum connections – Outdoor learning. <https://www.australiancurriculum.edu.au/resources/curriculum-connections/portfolios/outdoor-learning/>

Learning Outside the Classroom, UK, The importance of school grounds <http://www.lotc.org.uk/why/the-importance-of-school-grounds/>

Lloyd, A. 2016. Learning and teaching outside the box. Independent Education, Vol. 46, No. 1, March 2016: 24-25. <http://publications.ieu.asn.au/ie2/articles2/learningand-teaching-outside-box/>

Office for Standards in Education, UK (Ofsted), London. 2008. Learning Outside the Classroom: How Far Should You Go?. [http://webarchive.nationalarchives.gov.uk/20141124154759/http://www.ofsted.gov.uk/resources/learning-outside-classroom](http://webarchive.nationalarchives.gov.uk/20141124154759/http%3A//www.ofsted.gov.uk/resources/learning-outside-classroom)

Outdoor Classroom Day, Outdoor classroom day Australia, <https://outdoorclassroomday.com.au>

Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M. Y., Sanders, D. and Benefield, P., 2004. A Review of the Research in Outdoor Learning National Foundation for Educational Research and King’s College London. <https://www.field-studies-council.org/media/268859/2004_a_review_of_research_on_outdoor_learning.pdf>

Singhal, P., 2017. Moving classes outside can improve test scores, wellbeing: report. Sydney Morning Herald, 16 July 2017. <https://www.smh.com.au/education/moving-classes-outside-can-improve-test-scores-wellbeing-report-20170715-gxbukl.html>