Warrumbungle National Park

Environmental Education Centre

CASTLEREAGH CONNECTIONS

restoring and caring for our Castlereagh River

Stage 2 program



With optimism, education and connection to the Castlereagh River, we give students an opportunity to make a difference by caring for the world around them and creating happier and resilient children in our community.

Healthy rivers create a microclimate that benefits stock, wildlife and fish by reducing air and water temperatures in hot weather and protecting biodiversity when it is cold.

Healthy rivers play an important role in reducing the effects of climate change. Riparian soils and leaf litter store large amounts of carbon and are significantly better at reducing nitrates than terrestrial soils.

Healthy rivers increase our vitality and connection to nature, who we are and how we live!



We acknowledge the Aboriginal Peoples and recognise their continuing connection with, and knowledge about, land, waters and community. We pay our respects to them and their cultures; and to Elders past, present and emerging.

Day 1

Exploring the Castlereagh River

Canoe trip

Students canoe down the Castlereagh discussing what this would have been like before this area was settled and how the weirs have affected the biodiversity for both flora and fauna.

Visioning

Visioning is a meditative exercise where we imagine what the Castlereagh could be like and how it can be improved. In this visioning exercise students come back to the Castlereagh River when they are 30 years old and imagine what the Castlereagh River looks and feels like.



Day 2

Morning Session

Water quality and survey for birds, rubbish and flora

Students will be divided into two groups and each group will rotate to do both activities.

Group 1: Groups will be walking along the path along the Castlereagh to get extensive data for the surveys. Students will also be collecting endemic seeds to create seed bombs. Endemic plants are species found naturally in this area.

Each group will be given survey sheets, binoculars, gloves, LLS guide to weeds in Western NSW and the book on local flora 'Warrumbungle Wildflowers'.

Group 2: Using dip nets we will investigate the diversity of water macroinvertebrates which will be used to determine the health of the Castlereagh. We will also test the Ph and turbidity. Turbidity is the measure of relative clarity of a liquid. It is an optical characteristic of water and is a measurement of the amount of light that is scattered by material in the water when a light is shined through the water sample. The higher the intensity of scattered light, the higher the turbidity.

Afternoon Session

Brainstorming and painting

Brainstorming

Students are divided into small groups to discuss how to make the Castlereagh River a better place for all – animals, people and plants. Students are then brought into a large group where we start to make a bigger plan of what we can do to improve the Castlereagh River and who may be interested in being involved on this journey.

Painting

The students draw the river as they see it improved. Draw from above (a birds eye view) and then draw one that has all the finer details.

Teachers will assist students with getting their ideas from their head onto paper. Students will work with colour mixing, shape, form and design using light and dark.



Back at school activities

Analysing data

- Process and analyzing data
- Use a range of methods to represent data, including tables and column graphs
- Identify patterns and trends in gathered data
- Compare results with predictions
- Suggest possible reasons for findings

Class research

- Cultural connection and local Aboriginal history to the Castlereagh
- Coonabarabran Land Care
- Significance of reintroduced plants, care and planting
- Town beautification committee
- Stories regarding the Mary Jane Cane Bridge (for Coonabarabran students only)
- River biodiversity and importance of habitat
- What is the community's vision?
- Making seed bombs with endemic seed

NSW syllabus links

Outcomes	Content
Science and technology (2024) ● uses information to investigate the solar system and the effects of energy on living, physical ● and geological systems ST2-SCI-01 ● poses questions to create fair tests that investigate the effects of energy on living things and physical systems ST2-PQU-01 ● uses and interprets data to describe patterns and relationships ST2-DAT-01	Science and technology (2024) ● Describe how the needs of living things are provided by the atmosphere, hydrosphere and lithosphere ● Observe and describe living and non-living things in a habitat ● Describe how Aboriginal and/or Torres Strait Islander Peoples' practices support habitats to survive ● Describe the transfer of energy between plants and animals using food chains, Tier 2 and Tier 3 vocabulary ● Describe ways in which plants and animals depend on each other for survival ● Recognise that all animals are either invertebrates with no spine, or vertebrates with a spine ● Compare ways invertebrates and vertebrates move on land, in water and in the sky
PDHPE (2024) Movement, skill and physical activity ● applies movement skills, strategies and teamwork in physical activities PH2-MSP-01	PDHPE (2024) Movement, skill and physical activity ● propose and participate in physical activities that promote enjoyment and motivation to be physically active in the community ● promote ways to be inclusive in physical activities to cater for the diverse ways people move ● adopt inclusive practices when participating in physical activities
Creative Arts (2024) Visual Arts ● makes artworks using art forms to represent subject matter and ideas, and describes ways artists convey ideas about their world to audiences through artworks CA2-VIS-01	Creative Arts (2024) Visual Arts Making: Artists represent their world through subject matter and ideas in artworks ● represent subject matter and ideas in artworks, making choices based on own interpretations of the world ● use drawing materials and techniques to create effects with texture and tone to represent subject matter and ideas
Science and technology (2017) Living world ● questions, plans and conducts scientific investigations, collects and summarises data and communicates using scientific representations ST2-1WS-S	Science and technology (2017) Working scientifically ● conduct scientific investigations to find answers to questions ● use appropriate materials and equipment safely ● consider and apply the elements of fair tests

• selects and uses materials, tools and equipment to develop solutions for a need or opportunity ST2-2DP-T • compares features and characteristics of living and non-living things ST2-4LW-S	• collect and record accurate, honest observations using labelled observational drawings, basic formal measurements and digital technologies as appropriate • participate individually and collaboratively with clear roles and goals • use a range of methods to represent data, including tables and column graphs • identify patterns and trends in gathered data • suggest possible reasons for findings Living world • collect data and identify patterns to group living things according to their external features, and distinguish them from non-living things • identify that science involves making predictions and describing patterns and relationships • describe how living things depend on each other and the environment to survive
PDHPE (2018) Movement, skill and performance • performs and refines movement skills in a variety of sequences and situations PD2-4 • applies strategies to solve movement challenges PD2-5 • demonstrates a range of interpersonal skills that build and enhance relationships and promote inclusion in various situations PD2-10	PDHPE (2018) Movement, skill and performance • perform and refine movement skills in a variety of movement sequences and contexts • adopt inclusive practices when participating in physical activities
Creative Arts (2006) Visual Arts • represents the qualities of experiences and things that are interesting or beautiful* by choosing among aspects of subject matter VAS2.1	Creative Arts (2006) Visual Arts • select and explore different aspects of subject matter in particular ways in their making of artworks • how artists, including themselves, can interpret the world in particular ways in their artmaking

Creative Arts K-6 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2024

Personal Development, Health and Physical Education K-6 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2024

Science and Technology K-6 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2024

Creative Arts K-6 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2006

Personal Development, Health and Physical Education K-10 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2018

Science and Technology K-6 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2017



Thank you for being part of Castlereagh Connections, caring and respecting our Earth and our rivers.

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EZEC Environmental and Zoo Education Centres

NSW GOVERNMENT Education