Shorebirds & Wetlands Incursion for Years 3-6

Incursion Outline

Your incursion

Offered to primary schools in the St George and Sutherland Shire regions of Southern Sydney.

The Shorebirds & Wetlands Incursion is delivered to your classroom by experienced and passionate educators with science/environmental qualifications and specialised knowledge in shorebirds and the environment.

Requirements for this incursion are as follows:

- A large outdoor open area/playground for Activity 1
- An open indoor space (classroom or hall) for Activity 2
- Technology for introductory PowerPoint presentation

For further enquiries or to book this incursion, contact the ANSTO Education Team:

Phone: 02 9717 3090 email: education@ansto.gov.au

Overview

We start with a presentation that introduces shorebirds, their features, needs, habitats, and environmental status in Australia. Students learn about threats to the birds and their habitats and consider how these compare with threats faced by other animals.

After learning about shorebird migration, students play an enjoyable game outdoors where they pretend to be migratory shorebirds and "experience" good and bad situations faced by these birds. Students pretend to fly between the Arctic nesting grounds and the "overwintering" site in Sydney and back, and experience many scenarios along their journey, dictated by the roll of a die. Back in the classroom, students recount and discuss their experiences.

In the second activity, students learn about the variety of foods that shorebirds eat and different ways they obtain their food. Using different tools to represent shorebird beaks (bills), students learn how different beak shapes are adapted to different prey.

To complete the session, students learn about relevant environmental research conducted by ANSTO scientists.

The incursion provides a relevant introduction and extension opportunity to the annual *ANSTO Shorebirds Competition* for Years 3-6.

NOTE: Two additional teacher-led classroom activities, focussed on shorebird migration and food webs, can be included for large group bookings.

Format Summary

Component	Suggested timings (mins)
Introductory presentation	25
Activity 1: Migration Game	40
Activity 2: Beak Adaptations	40
Discussion and wrap-up	15

A 2-hour duration is recommended for this incursion. Timings can be adjusted to suit your school schedule.

Group size: Limited to 30 for both activities

Content Summary:

- Shorebird features, adaptations and needs for survival
- Wetland habitats and sustainability
- Significance and perception of wetlands
- How shorebirds connect wetlands
- Natural and human-induced threats
- Migratory and resident shorebirds
- Shorebird feeding
- Protection of wetlands
- Current environmental research

Links to NSW syllabuses

The Shorebirds Incursion provides a cross-curriculum learning opportunity. It integrates science concepts of classification, growth and survival, and adaptations with geographical concepts of environment, interconnection, scale, sustainability and change. Sustainability is one of the three cross-curriculum priorities in NSW.

NSW Science and Technology K-6 Syllabus (2017):

Stage 2 - Living World

Classification of living things

- identify patterns to group living things according to their external features (ACSSU044) SysT
- identify that science involves making predictions and describing patterns and relationships (ACSHE050, ACSHE061) SciT

Survival of living things

- describe how living things depend on each other and the environment to survive, for example: (ACSSU073) SysT − birds eat and disperse seeds

Stage 2 – Earth and Space

- investigate why the Earth's surface changes over time as a result of natural processes and human activity (ACSSU075) SciT
- identify that scientific knowledge helps people understand the effect of their actions (ACSHE051, ACSHE062) SciT

Stage 3 - Living World

Growth and survival of living things

- describe how changing physical conditions in the environment affect the growth and survival of living things
- understand that scientific and technological knowledge is used to solve problems and inform personal and community decisions (ACSHE083, ACSHE100) SciT

Adaptations of living things

- describe adaptations as existing structures or behaviours that enable living things to survive in their environment (ACSSU043) SciT
- describe the structural and/or behavioural features of some native Australian animals and plants and why they are considered to be adaptations ComT SciT

NSW Geography K-10 Syllabus (2015):

Stage 2 – The Earth's Environment

Significance of environments

- investigate the importance of natural vegetation and natural resources to the environment, animals and people, for example: (ACHGK021, ACHGK022, ACHGK024)

  -identification of types of natural vegetation eg forests, grasslands, deserts VR

  -explanation of the importance of natural vegetation to animals and the functioning of the environment eg provision of habitats, production of oxygen F

Perception of environments

- investigate the ways people value environments, for example: (ACHGK022, ACHGK023, ACHGK024)

  -discussion of why people value environments differently eg cultural, agricultural, commercial and recreational values

Protection of environments

- investigate sustainable practices that protect environments for example: (ACHGK023, ACHGK024, ACHGK025)

  -examination of how environments can be used sustainably eg sustainable agricultural, commercial, recreational practices

  -discussion of ways waste can be managed sustainably VR

Stage 3 – Geographical Inquiry Skills

Communicating geographical information

- reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge and describe the expected effects of their proposal on different groups of people (ACHGS039, ACHGS046)

Stage 3 – Factors that shape places

Factors that change environments

- investigate the ways people change the natural environment in Australia and another country, for example: (ACHGK026, ACHGK027)

  -examination of how people have influenced each country's environmental characteristics eg land clearing

Humans shape places

- investigate how people influence places, for example: (ACHGK029)

  -description of who organises and manages places eg local and state governments

  -identification of ways people influence places and contribute to sustainability eg roads and services, building development applications, local sustainability initiatives F ST

  -examination of a local planning issue; the different views about it and a possible action in response to it