Educational Offering

Scottish Seabird Centre Educational Programmes

Scottish Seabird Centre

The Scottish Seabird Centre

About Us

We are a **Marine Conservation and Education Charity** whose purpose is to inspire, educate and motive people to care for Scotland's marine environment.

We deliver curriculum-linked education programmes, science resources and events.

In 2023, we engaged with **over 5000 learners**, delivering a variety of STEM learning opportunities across a wide range of school and community groups.

We are in the unique position to provide excellent outdoor STEM learning experiences on our beautiful stretch of Scotland's wildlife-rich coastline.

Our workshop offering

How to use this pack

This pack outlines the workshops we have on offer for you. These span Early Years to Tertiary Education. As such, we have presented our offering in 2 sections:

- **Workshop Summaries** – A summary of each workshop – **Page 5-13** (Primary Pages 5-8, Secondary Pages 9-12)

- **Curriculum for Excellence Es&Os, Learning Objectives and Workshop plans** – curriculum targets, learning objectives and description of the activities – **Page 14 – 46** (Primary Pages 14-32, Secondary Pages 33-46)

Any enquiries, please contact Alice Du Vivier Ellis – aliced@seabird.org

Many of our sessions can be adjusted to suit an in-school delivery. Additionally, If there is a topic you are interested in studying that is not currently being offered in this pack, please contact aliced@seabird.org. We would be more than happy to discuss this further, and design something to meet your needs.

Scottish Seabird Centre

Contents

Our offering of activities for P1 to College/University

Scottish Seabird Centre

Workshop Summary– Early Years

Early Years: We have workshops available for Early Years children introducing the themes of Exploration and Marine Pollution.

Puffin Tales and Seal Stories

- Explore our beautiful beaches and oceans through fun stories about two of Scotland's more charismatic animals. The children will learn about the life cycle and adventures of Perry Puffin and Sammy seal!

Rockpool Ramble

- Your children will learn about a few of the creatures they can find in the rockpools just outside the centre. They'll then be taken to explore the pools and try to find and collect some creatures themselves to share with the rest of the group. Finally, the group will have the opportunity to craft their favourite creature they found.

Seashore Explore

- This workshop will have the group out and about searching for fun stuff on our beaches. They'll begin to understand the importance of taking plastics and other waste away. They will also have fun finding shells and building sand castles.

Scottish Seabird Centre

Workshop Summary – Level 1

Level 1: We have workshops available for children in P1 – P4 focussing on the themes of Exploration, Marine Pollution, Life Cycles, Habitats, and Adaptation end Evolution.

Rockpool Ramble

- This workshop will help the group learn to identify some of the common animals found in our rockpools and discover how they survive in a challenging environment. They'll then head out to explore the rockpools themselves and share their findings with the group. Finally, everyone will have the opportunity to craft their favourite creature they discovered.

Seashore Explore

- We'll explore the beach and discover what we can find, discussing how each item got there and whether it belongs. A chat and game about leaving waste behind will help children understand the impact of pollution on our ocean. We'll finish with a beach-art or sandcastle competition.

Seals and Seabirds – Life Cycles

- Your children will learn about our signature bird and seal species, exploring their life cycles and habitats while discussing the threats they face and how we can help protect them. Finally, they'll flex their artistic muscles by creating an adorable sock seal to take home.

Islands – Habitats and Food Chains

- Your group will learn why animals live where they do as we explore different habitats and discover what makes our local island habitats so unique and exciting. They will then map out local food chains or webs and explore how these can be disrupted by potential invaders. To finish, the group will craft their own island showing the creatures that live there.

Seabird Survival – Adaptations and Evolution

- This session introduces the topics of evolution and adaptation, exploring why seabirds look and behave the way they do. Through fun activities, we'll investigate the features of seabirds and how they are specially adapted to meet the challenges of their environment. Finally, we'll discuss the impact humans have on these animals and what we can do to help them.

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Workshop Summary – Level 2

Level 2: We have workshops available for children in P5 – P7 focussing on the themes of Exploration, Marine Pollution, Life Cycles, Habitats, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables.

Rockpool Ramble

- This workshop will help the group identify common rockpool animals and discover how they survive in this challenging environment. They'll head out to find these animals themselves and share what they discover. We'll then sort the animals by their characteristics and begin classifying them like scientists, with older groups also exploring basic survey methods.

Seashore Explore

- Explore the beach as we search for anything we can find and discuss how these items arrived there—and whether they should be there at all. We'll clean as we go and look for nurdles, then use games to explore the impact of waste and pollution on our ocean. The session will finish with a beach-art or sandcastle competition.

Seals and Seabirds – Life Cycles

- Your children will learn about our signature species of birds and seals. We will explore their life cycles and habitats, discussing potential threats to them and what we can do to help. Finally, the group will flex their artist muscles by creating an adorable sock seal which they can take away with them.

Islands – Habitats and Food Chains

- Your group will understand why animals live where they do. We'll explore the topics of habitats and discuss what makes our local island habitats so different and exciting. We'll explore the topics of ecological niches and competition. Finally, your group will start to map out local food chains or webs and understand how these can be disrupted by potential invaders and human impacts.

Seabird Survival – Adaptations and Evolution

- This session introduces the topics of evolution and adaptation, exploring why seabirds look and behave the way they do. Through fun activities, we'll investigate the features of seabirds and how they are specially adapted to meet the challenges of their environment. Finally, we'll discuss the impact we have on these animals, discussing pollution and plastics, and what we can do to help them.

Scottish Seabird Centre

Workshop Summary – Level 2 continued

Level 2: We have workshops available for children in P5 – P7 focussing on the themes of Exploration, Marine Pollution, Life Cycles, Habitats, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables.

Variety of Life – Biodiversity

- This workshop explores the diversity of aquatic species locally and globally. We'll start by creating a system to classify organisms, then head to the beach to apply it. Together, we'll classify our findings, examine their relationships—like predator–prey interactions—and map their connections. Finally, we'll consider how human activities, such as fishing, affect these interactions.

Seabirds in Crisis – Conservation

- In this workshop, pupils will learn how the climate crisis is affecting our seas and how people can harm or help the marine environment. We'll look at real examples of local seabirds to understand what the climate crisis means for them. We'll also explore some of the conservation and restoration projects happening at the SSC. Then we'll head to the beach for a short clean-up and talk about how waste affects the ocean and why projects that protect marine wildlife are so important.

Seabirds in Crisis – Climate Change & Renewables

- This session explores how our seas have changed in recent times and what is causing our climate to warm. We'll find out how these changes affect the seabirds that live near us and why they need our help. We'll also look at some possible solutions, including how renewable energy works, with a focus on nearby wind farm developments. Pupils will make their own small wind turbine and then head to the beach to create a large model wind farm in the sand.

Workshop Summary – Level 3

Level 3: We have workshops available for secondary children in S1 – S3, focussing on the themes of Exploration, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables, and an Introduction to Ecological and Geographical Research Skills.

Rockpooling

- This workshop introduces students to the organisms that inhabit our rockpools. They will learn why this ecosystem is particularly challenging and explore the gradation of the intertidal zone. Introducing scientific survey methods, students will investigate rockpool biodiversity and identify the species present. We will then collate our findings as a group to look for trends and draw potential conclusions.

Seabird Survival – Adaptation & Evolution

- Using local seabirds as examples, we will explore the pressures that drive evolution and how these shape the adaptations we see in our local species. Through engaging activities, we will examine the features of seabirds and how they have adapted to survive in their challenging environment. Finally, we will discuss human impacts on these animals, exploring the threats we pose and ways we can help protect them.

Variety of Life - Biodiversity

- This workshop explores the diversity of species in our local and global waters. We'll start by creating our own system for classifying organisms, then apply it on the beach and in rockpools. Together, we will classify our findings, discuss interactions like predator–prey relationships and competition, and finally build a 3D map to explore the dynamics of the ecosystem.

Seabirds in Crisis - Conservation

- In this workshop, pupils will explore how the climate crisis is affecting the marine environment and the different ways human activity can both damage and support it. We'll examine case studies of local seabird species to understand the real impacts of environmental change. Pupils will also learn about the conservation and restoration projects taking place at the SSC. Finally, we'll head to the beach for a short clean-up and discuss how waste affects the ocean and why projects that protect marine life are essential.

Seabirds in Crisis - Climate Change & Renewables

- This session examines how the marine environment has changed in recent decades and the human activities driving the climate crisis. We'll explore the impact of these changes on our local seabird colonies and understand why they are particularly at risk. We will also investigate potential solutions, focusing on the role of renewable energy and the development of nearby wind farms. Pupils will build their own small wind turbine and then head to the beach to create a large-scale wind farm model.

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Workshop Summary – Level 3 continued

Level 3: We have workshops available for secondary children in S1 – S3, focussing on the themes of Exploration, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables, and an Introduction to Ecological and Geographical Research Skills.

Introduction to Research / Survey Skills (Full Day Workshop)

- From a choice of workshops pupils are introduced to key research and survey skills used in marine and coastal ecology. They will design an experiment, develop a hypothesis and methods, pilot their study, collect data, and begin to analyse and draw conclusions. As such, pupils take part in hands-on activities relevant to ecological studies such as identifying shore species, measuring environmental conditions, and practising simple data-collection techniques. They can also learn geographical survey methods including beach profiling to assess coastal shape and change and observing dune succession by recording plant species across different dune zones.
- A pre- and post-session for experiment planning and analysis can be teacher-led or delivered in school. Alternatively, the workshop can focus on practicing survey methods—such as quadrats, transects, random sampling, and abiotic measurements. These workshops help pupils build confidence in scientific enquiry, understand how real fieldwork is carried out, and develop the practical skills needed to study and protect marine and coastal environments.

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Workshop Summary – Level 4

Level 4: We have workshops available for secondary children in S4 – S6, focussing on the themes of Exploration, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables, and Ecological and Geographical Research Skills.

Rockpooling

- This workshop introduces students to the organisms that live in rockpools. They will learn why this ecosystem is particularly challenging and explore the different levels of the intertidal zone. Students will use scientific survey methods to investigate rockpool biodiversity and identify the species they find. Together, we will collate the results to look for patterns and draw potential conclusions about the ecosystem.

Seabird Survival – Adaptation & Evolution

- This session explores evolution and adaptation. Using local seabirds as examples, we will learn about the pressures that drive evolution and how these shape the traits we see in our local species. Through engaging activities, we will examine seabird features and how they have adapted to survive in their environment. Finally, we will discuss human impacts on these animals, including pollution and plastics, and explore ways we can help protect them.

Variety of Life – Biodiversity

- This workshop explores the diversity of species living in our waters, both locally and globally. We will begin by creating our own system to classify organisms, then head to the beach and rockpools to put it into practice. Together, we will classify our findings and discuss possible interactions, such as predator–prey relationships and competition. Finally, we will build a 3D map of the ecosystem to explore the complex dynamics between these species.

Seabirds in Crisis – Conservation

- In this workshop, participants will examine the impacts of the climate crisis on the marine environment and the ways human activity both contributes to and helps address these changes. We'll analyse case studies of local seabird populations to assess the real effects of environmental pressures. Participants will also explore the conservation and restoration projects based at the SSC. Finally, we'll take part in a short beach clean and discuss how waste influences ocean ecosystems and the importance of initiatives that protect marine species.

Seabirds in Crisis – Climate Change & Renewables

- This session explores recent changes in the marine environment and the key drivers of the climate crisis, with a focus on how these pressures affect local seabird populations and the ecosystems they depend on. We will examine current and emerging solutions, including the role of renewable energy in reducing carbon emissions, using nearby wind farms as real-world examples of large-scale offshore developments. Pupils will construct a small working model of a wind turbine before heading to the beach to map out and model a wind farm site.

Workshops in Level 4 can be differentiated for College/University students.

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Workshop Summary – Level 4 continued

Level 4: We have workshops available for secondary children in S4 – S6, focussing on the themes of Exploration, Adaptation end Evolution, Conservation, Climate Change and the Impact of Renewables, and Ecological and Geographical Research Skills.

Research / Survey Skills (Full Day Workshop)

- Workshops for pupils in S4–S6 focus on developing more advanced research and survey skills used in coastal and marine science. Pupils take part in hands-on activities relevant to ecological studies, such as identifying shore species, measuring environmental conditions, and practising data-collection techniques. Alternatively, pupils can carry out structured fieldwork such as detailed beach profiling, sediment analysis, and vegetation surveys across dune systems to investigate ecological change and succession. They are introduced to standard scientific sampling methods—including quadrats, transects, and systematic data recording—alongside techniques for interpreting results and evaluating data quality. These workshops deepen students' understanding of coastal processes and ecosystem dynamics, while strengthening the analytical, investigative, and reporting skills required for senior-level geography, biology, and environmental science studies.
- These workshops help pupils build confidence in scientific enquiry, understand how real fieldwork is conducted, and develop the practical skills needed to study and protect marine and coastal environments.

Workshops in Level 4 can be differentiated for College/University students.

Scottish Seabird Centre

Bespoke Workshops

ASN/Further Learning - S1 – S5

We can develop longer workshop programmes, potentially targeting ASN or those looking for further learning. They can cover a wide variety of topics (see below) and can span a duration of your preference. Our flexibility allows you to meet timetable constraints and we can deliver both in school and on-site sessions.

Example programmes:

- Researching a coastal system
- Product designing and development
- Research skills and data collection
- ROV design and production

We hope to use these sessions to increase engagement with learning and science and can customise the course to your students and their interests.

For more information please contact: Alice Du Vivier Ellis – aliced@seabird.org

Early Years

Scottish Seabird Centre

Puffin Tales and Seal Stories

Story Telling & Life Cycles

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 0-12a
- HWB 0-18a
- HWB 0-19a
- HWB 0-25a

Literacy

- LIT 0-01a
- LIT 0-01b
- LIT 0-01c
- LIT 0-02a
- LIT 0-04a
- LIT 0-07a
- LIT 0-09a
- LIT 0-10a
- LIT 0-19a

Numeracy and Mathematics

- MNU 0-01a
- MNU 0-02a
- MNU 0-010a

Expressive Arts

- EXA 0-01a

Social Studies

- SOC 0-07a
- SOC 0-08a
- SOC 0-17a

Science and Technology

- SCN 0-01a
- TCH 0-15a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To explore rhyme and rhythm through a series of stories.
- To gain a brief understanding on the life cycles of seals and puffins
- To explore animal behaviour through observing the seals and puffins on our live cameras.
- To craft a puffin or a seal to take home.

Workshop Plan:

- We will begin by sharing information about our favourite animals.
- We'll explore the stories of Sammy Seal and Perry Puffin. The children will have the opportunity to join in with these stories helping Sammy and Perry find their way home.
- We'll create our own Seals and Puffins and watch them live on our cameras (season dependent).

Rockpool Ramble

Outdoor Rockpool Exploration

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 0-12a
- HWB 0-16a
- HWB 0-17a
- HWB 0-18a
- HWB 0-19a

Literacy

- LIT 0-02a
- LIT 0-04a
- LIT 0-09a
- LIT 0-10a

Expressive Arts

- EXA 0-05a

Numeracy and Mathematics

- MNU 0-01a
- MNU 0-20a
- MNU 0-20b

Social Studies

- SOC 0-07a
- SOC 0-08a
- SOC 0-17b

Science and Technology

- SCN 0-01a
- TCH 0-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to describe some of the animals we find in a rockpool.
- To understand safe handling of these species.
- To be able to share with the group what we found.

Workshop Plan:

- Begin with a chat about what animals we can find in rockpools.
- Head onto the rocky shore and look for the places where we find these animals.
- Explore the rocky shore collecting samples of species.
- Gather and share what they have found with the rest of the group.

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Seashore Explore

Outdoor Beach Exploration

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 0-12a
- HWB 0-16a
- HWB 0-17a
- HWB 0-18a
- HWB 0-19a
- HWB 0-25a

Literacy

- LIT 0-02a
- LIT 0-04a
- LIT 0-10a

Numeracy and Mathematics

- MNU 0-01a
- MNU 0-02a
- MTH 0-016a

Expressive Arts

- EXA 0-02a
- EXA 0-06a
- EXA 0-07a

Social Studies

- SOC 0-07a
- SOC 0-08a
- SOC 0-17a

Science and Technology

- SCN 0-01a
- TCH 0-14a
- TCH 0-15a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To explore what we find along our beach.
- To be able to identify what we have found and classify it; this could be living vs non-living, natural vs man-made, should be there vs shouldn't.
- To express what they have found through making sandcastles.

Workshop Plan:

- Chat with the group what types of things we can find on the beach.
- Discuss whether those things should or should not be on the beach.
- Beach Scavenger hunt, trying to find interesting things along the beach, whilst also picking up anything that shouldn't be there.
- Make beach art and sandcastles and share this artwork with the group.
- Play some fun beach games.

Level 1 – P1-P4

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Rockpool Ramble

Outdoor Rockpool Exploration & Species Identification

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 1-12a
- HWB 1-16a
- HWB 1-17a
- HWB 1-18a
- HWB 1-19a
- HWB 1-25a

Literacy

- LIT 1-02a
- LIT 1-04a
- LIT 1-07a
- LIT 1-09a
- LIT 1-10a

Numeracy and Mathematics

- MNU 1-20a

Expressive Arts

- EXA 1-05a

Social Studies

- SOC 1-07a
- SOC 1-08a
- SOC 1-13b

Science and Technology

- SCN 1-01a
- SCN 1-02a
- SCN1-03a
- SCN1-05a
- SCN1-10a
- TCH 1-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to identify the different species that live on the rocky shore.
- To describe some of the challenges those species might face.
- To understand safe handling of these species.
- To explore how this system interacts, introducing food chains and energy transfer.
- Discuss the impact we can have on this ecosystem.

Workshop Plan:

- Begin with a discussion about the potential species they might find and how to identify them.
- Head onto the rocky shore and discuss the potential challenges they think the species might face.
- Explore the rocky shore collecting samples of species.
- Gather and share what they have found with the rest of the group.
- After observing the rocky shore discuss again if they can think of any other challenges and any significant differences across the rocky shore.
- Start to discuss food chains / webs involving the species found in the rocky shore, commenting on energy transfer as well as introduce humans as a potential influence on the system.

Scottish Seabird Centre

Seashore Explore

Outdoor Beach Exploration Link to Pollution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 1-12a
- HWB 1-16a
- HWB 1-17a
- HWB 1-18a
- HWB 1-19a

Literacy

- LIT 1-02a
- LIT 1-07a
- LIT 1-09a
- LIT 1-10a

Expressive Arts

- EXA 1-03a
- EXA 1-05a
- EXA 1-06a

Social Studies

- SOC 1-07a
- SOC 1-08a
- SOC 1-13b

Science and Technologies

- SCN 0-01a
- SCN 1-01a
- SCN 1-02a
- TCH 1-02a
- TCH 1-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To explore what we find along our beach.
- Be able to identify what we have found and classify it; this could be living vs non-living, natural vs man-made, should be there vs shouldn't.
- To begin to understand the impact of pollution on marine environment and significance worldwide.
- Express what they have found through making sand sculptures.
- Share this artwork with the rest of the group.

Workshop Plan:

- Chat with the group what types of things we can find on the beach.
- Discuss whether those things should or should not be on the beach and how things could have gotten there.
- Chat about how the things found on the beach influence each other/depend on each other.
- Beach Scavenger hunt; in teams try to find interesting things along the beach, whilst also picking up anything that shouldn't be there.
- Make beach art and share this artwork with the group, giving feedback and voting on the best one.

Scottish Seabird Centre

Seals and Seabirds

Life Cycles

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 1-12a
- HWB 1-16a
- HWB 1-17a
- HWB 1-18a
- HWB 1-19a
- HWB 1-38a

Literacy

- LIT 1-02a
- LIT 1-07a
- LIT 1-09a
- LIT 1-10a
- LIT 1-28a/1-29a

Numeracy and Mathematics

- MNU 1-20a

Expressive Arts

- EXA 1-05a

Social Studies

- SOC 1-07a
- SOC 1-13b

Science and Technology

- SCN 1-01a
- SCN 1-01b
- SCN 1-02a
- SCN 1-03a
- SCN 1-05a
- SCN 1-12a
- SCN 1-14a
- TCH 1-02a
- TCH 1-15a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to describe the life cycle, habitats and food webs of our most loved seabirds and seals in the Forth.
- To begin to understand what they need and how islands here meet the needs of growing chicks.
- To understand the potential threats these species face and how we can help them.
- To design and create models of these creatures through crafts.

Workshop Plan:

- Begin with a discussion exploring what the group know about Seals and Seabirds.
- Introduce the group to species like the gannet, puffin and grey seal.
- Explore life cycles of puffins, gannets and seals, and introduce how islands here are perfect habitats for colonies.
- Outline what is threatening our seabird and seal populations and introduce how protection helps to support population growth.
- Finally, we'll discuss as a group what we have learned about seals and seabirds and have the chance to craft a sock seal or puffin mobile.

Islands

Habitats & Food Chains

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 1-12a
- HWB 1-16a
- HWB 1-17a
- HWB 1-18a
- HWB 1-19a

Literacy

- LIT 1-02a
- LIT 1-04a
- LIT 1-07a
- LIT 1-09a
- LIT 1-10a

Numeracy and Mathematics

- MNU 1-20a

Expressive Arts

- EXA 1-04a

Social Studies

- SOC 1-07a
- SOC 1-08a
- SOC 1-13b

Science and Technologies

- SCN 1-01a
- SCN 1-01b
- SCN 1-02a
- TCH 1-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to describe a habitat and provide examples of different habitats found around the world.
- To describe how different features of a habitat affect which species live upon it.
- To begin to associate different animals with different habitats and begin to discuss the local islands and how different species live upon each one.
- To introduce the idea that species are adapted to the habitats.
- Discuss how these animals interact and the energy flow through the habitat.

Workshop Plan:

- Begin with a discussion exploring what habitats are and examples of different habitats that can be found around the world.
- Show film of variety of life in different habitats in our area; learning about the island habitats in the Firth of Forth. Taking a closer look at Bass Rock and Craigleith. Link different habitats with species adaptations.
- Head onto the beach and describe some of the habitats we can see, pointing out the islands.
- Explore the rockpools and think about why we find different species in different habitats.
- Discuss broadly what animals look for in a habitat and then play the habitat species matching games. Firstly, looking at global species and habitat and then specifically at the habitats on the islands.
- Introduce food chains and food webs commenting on how energy flows from producer to consumer, using case studies from the islands.

Scottish Seabird Centre

Seabird Survival

Adaption & Evolution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 1-12a
- HWB 1-16a
- HWB 1-17a
- HWB 1-18a
- HWB 1-19a
- HWB 1-27a

Literacy

- LIT 1-02a
- LIT 1-07a
- LIT 1-09a
- LIT 1-10a

Expressive Arts

- EXA 1-01a
- EXA 1-05a
- EXA 1-06a

Social Studies

- SOC 1-07a
- SOC 1-08a
- SOC 1-10b

Science and Technologies

- SCN 1-01b
- SCN 1-02a
- SCN 1-12a
- SCN 1-20a
- TCH 1-02a
- TCH 1-13a
- TCH 1-14a
- TCH 1-14b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand the pressures that influence evolution.
- To name and identify a few species of local seabirds.
- To be able to identify the challenges seabirds face and how they have adapted to tackle them.
- To problem solve a series of challenges representing those found in seabirds.
- To explore how different beaks act as tools for different types of prey.
- To begin to understand the impact we have on these creatures.

Workshop Plan:

- Introduce the concept of evolution and adaptions, in a broad global concept.
- Learning about how seabirds survive in tough coastal environments. Look at the variety of different seabirds in Firth of Forth and explore why living at sea could be tough.
- Next looking at examples of adaptations: body shape/wings/beaks/feeding. Using a series of interactive activities explore challenges and benefits of adaptations: hollow bones vs dense bones for diving, waterproof feathers vs non-waterproof feathers.
- Have the group describe some beak shapes they have observed in the species we've explored so far and describe how they have adapted to tackle a certain challenge.
- Finally, discuss how seabird survival is being impacted by human actions on the marine environment. Discuss threats and consequences – finish with a fun and creative activity exploring how species might adapt or evolve in the future.

Level 2 – P5-P7

Scottish Seabird Centre

Rockpooling

Outdoor Rockpool Exploration & Species Identification

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a
- HWB 2-25a

Literacy

- LIT 2-02a
- LIT 2-04a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Numeracy and Mathematics

- MNU 2-20a

Expressive Arts

- EXA 2-05a

Social Studies

- SOC 2-07a
- SOC 2-08a
- SOC 2-13b

Science and Technology

- SCN 2-01a
- SCN 2-02a
- SCN2-03a
- SCN2-05a
- SCN2-10a
- SCN 2-14a
- TCH 2-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to identify the different species that live in on the rocky shore and describe some of the challenges species might face and how these species have adapted to survive despite those challenges.
- To understand safe handling of these species.
- To explore how this system interacts discussing food chains and energy transfer, as well as exploring the differences between tidal zones.
- To begin to collect and display data on what species we find.
- To be able to discuss the impact we have on this ecosystem.

Workshop Plan:

- Begin with a discussion about the potential species they might find and how to identify them.
- Head onto the rocky shore and discuss the potential challenges they think the species might face.
- Explore the rocky shore collecting samples and data of species diversity and distribution and introduce how you might present the data in appropriate formats.
- Gather and share what they have found with the rest of the group and introduce the visible adaptations that the species have to survive in the environment.
- Start to discuss food chains / webs involving the species found in the rocky shore, introducing energy transfer as well as introduce humans as a potential influence on the system.

Scottish Seabird Centre

Scottish Seabird Centre

Seashore Explore

Outdoor Beach Exploration Link to Pollution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Social Studies

- SOC 2-07a
- SOC 2-08a
- SOC 2-13b

Expressive Arts

- EXA 2-03a
- EXA 2-05a
- EXA 2-06a

Science and Technologies

- SCN 2-01a
- SCN 2-02a
- SCN 2-14a
- TCH 2-01a
- TCH 2-02a
- TCH 2-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To explore what we find along our beach.
- Be able to identify what we have found and classify it; natural vs artificial etc.
- To understand the impact of pollution on marine environment and significance worldwide.
- Express what they have found through making sand sculptures, potentially providing a theme or topic for them to explore.
- Share this artwork with the rest of the group.

Workshop Plan:

- Chat with the group what types of things we can find on the beach.
- Discuss whether those things should or should not be on the beach and explore how the waste we leave behind can have potentially harmful impacts on our wildlife and how we can reduce this impact.
- Chat about how the things found on the beach influence each other/depend on each other.
- Learning about the pollution timeline and its global spread and what action we can take.
- Beach Scavenger hunt; in teams try to find interesting things along the beach, whilst also picking up anything that shouldn't be there.
- Make beach art and sandcastles and share this artwork with the group, giving feedback and voting on the best one.

Scottish Seabird Centre

Seals and Seabirds

Life Cycles

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a
- HWB 2-38a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a
- LIT 2-28a/1-29a

Numeracy and Mathematics

- MNU 2-20a

Expressive Arts

- EXA 2-05a

Social Studies

- SOC 2-07a
- SOC 2-08a
- SOC 2-12a
- SOC 2-13b

Science and Technology

- SCN 2-01a
- SCN 2-01b
- SCN 2-02a
- SCN 2-03a
- SCN 2-05a
- SCN 2-12a
- SCN 2-14a
- TCH 2-02a
- TCH 2-15a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able describe the life cycles of significant species of seals and seabirds, being able to identify and name the life stages.
- To understand the link between what they need and how islands here meet the needs of growing chicks.
- To understand the potential threats these species face and how we can help prevent them.
- To design and create models of these creatures through crafts.

Workshop Plan:

- Begin with a discussion exploring what the group know about Seals and Seabirds.
- Introduce the group to species like the gannet, puffin and grey seal
- Discuss the life cycle comparing those of seals and seabirds with that of a species they know already.
- Explore life cycles of puffins, gannets and seals, and how islands here are perfect habitats for colonies.
- Discuss the threats to our seabird and seal populations and how protection helps to support population growth.
- Finally, we'll discuss as a group what we have learned about seals and seabirds and have the chance to craft a sock seal or puffin mobile.

Islands

Habitats & Food Chains

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a

Literacy

- LIT 2-02a
- LIT 2-04a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Social Studies

- SOC 2-07a
- SOC 2-08a
- SOC 2-13b

Expressive Arts

- EXA 2-03a
- EXA 2-05a
- EXA 2-06a

Science and Technologies

- SCN 2-01a
- SCN 2-01b
- SCN 2-02a
- TCH 2-02a
- TCH 2-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to associate different animals with different habitats and discuss the local islands and how different species live upon each one.
- To understand how species adapt to better survive in their environment and to be able to describe some adaptations found in our local species.
- To understand the unique pressure that living on an island presents, and how disrupting the balance of the ecosystem can have detrimental effects.
- To begin to understand how different factors affect the diversity of life on an island; distance, size, topography etc.

Workshop Plan:

- Begin with a discussion on how animals adapt to their ecosystem with examples, tiger, polar bears, penguins etc.
- Show film of variety of life in different habitats in our area; learning about the island habitats in the Firth of Forth. Taking a closer look at Bass Rock and Craigleith. Link different habitats with species adaptations.
- Head onto the beach and describe some of the habitats we can see, pointing out the islands.
- Explore the rockpools and think about why we find different species in different habitats.
- Discuss what animals look for in a habitat. Using materials on the beach invite pupils to create a model of a habitat that represents key needs: shelter, food, protection.
- Discuss how the animals on the island can interact and comment on how certain species get to the islands.
- Introduce energy flows in food chains and food webs; from producer to consumer, using case studies from the islands.

Scottish Seabird Centre

Seabird Survival

Adaption & Evolution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a
- HWB 2-27a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Numeracy and Mathematics

- MNU 2-11a

Expressive Arts

- EXA 2-01a
- EXA 2-05a
- EXA 2-06a
- EXA 2-07a

Social Studies

- SOC 2-07a
- SOC 2-08a
- SOC 2-10b

Science and Technologies

- SCN 2-01a
- SCN 2-01b
- SCN 2-02a
- SCN 2-08b
- SCN 2-12a
- SCN 2-20a
- TCH 2-01a
- TCH 2-13a
- TCH 2-14a
- TCH 2-14b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand the pressures that influence evolution.
- To name and identify a few species of local seabirds.
- To identify the challenges seabirds face and how they have adapted to them to tackle them.
- To problem solve a series of challenges representing those found in seabirds.
- To explore how different beaks act as tools for different types of prey.
- To understand the impact we have on these creatures.

Workshop Plan:

- Introduce the concept of evolution and adaptions, in a broad global concept.
- Learning about how seabirds survive in tough coastal environments. Look at the variety of different seabirds in Firth of Forth and explore why living at sea could be tough.
- Next looking at examples of adaptations: body shape/wings/beaks/feeding. Using a series of interactive activities explore challenges and benefits of adaptations: hollow bones vs dense bones for diving, waterproof feathers vs non-waterproof feathers.
- Have the group describe some beak shapes they have observed in the species we've explored so far and describe how they have adapted to tackle a certain challenge.
- Invite pupils to design a beak which can address a unique challenge.
- Finally, discuss how seabird survival is being impacted by human actions on the marine environment. Discuss threats and consequences – finish with a fun and creative activity exploring how species might adapt or evolve in the future.

Variety of Life

Biodiversity & Classification

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Expressive Arts

- EXA 2-01a
- EXA 2-05a
- EXA 2-06a
- EXA 2-07a

Social Studies

- SOC 1-08a/2-08a
- SOC 2-10a

Science and Technologies

- SCN 2-01a
- SCN 2-02a
- SCN 2-03a
- SCN 2-04a
- SCN 2-05a
- SCN 2-12a
- SCN 2-14a
- SCN 2-20a
- TCH 2-02a
- TCH 2-14a
- TCH 2-14b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand the variety of life that live on the globe as a whole and the diversity we have locally.
- To be able to group organisms based on logical defining features.
- To create a food chain / web of energy flow of the organisms we've found.
- To begin to understand other interactions there could be between the organisms.
- To understand the impact humanity can have on this ecosystem and biodiversity.

Workshop Plan:

- Discuss with the group what diversity is and the extent of biodiversity in Scotland, how the SSC fits into that and how the islands create a diverse and local habitat. Identifying some key species above and below the waves in the area.
- Discuss food webs and how they can be a delicate balance - why seabirds are an indicator species to the health of food chains.
- Have the group create a set of rules in which we can classify organisms. Begin with an activity to introduce the concept of classification through classifying inorganic objects that the group have.
- Go out onto the beach and begin to put their classification rules into practise.
- Introduce the idea of interactions between the organisms the group has found; address not just predator/prey but also interspecific competition, mutualism etc.
- Introduce the threats to biodiversity and what is harming the health of food webs in our marine environment. Discuss what can be done to protect and restore the marine environment to a healthy one. Finish with a save my sea creature activity.

Seabirds in Crisis

Conservation

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Numeracy and Mathematics

- MNU 2-03a
- MNU 2-09a
- MNU 2-09c

Expressive Arts

- EXA 2-01a
- EXA 2-03a
- EXA 2-05a
- EXA 2-06a

Social Studies

- SOC 2-08a
- SOC 2-08b
- SOC 2-12a
- SOC 2-13a

Science and Technologies

- SCN 2-01a
- SCN 2-02a
- SCN 2-04a
- SCN 2-04b
- SCN 2-05b
- SCN 2-20b
- TCH 2-02b
- TCH 2-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand that biodiversity loss is driven by human impact on the planet.
- To begin to understand the causes of the Climate Crisis.
- To understand that human pressures influence habitat change that affect species.
- To understand the application of sustainability solutions and conservation actions.
- To begin to engage in ethical discussions and evaluate perspectives.

Workshop Plan:

- Start by chatting about what climate change is and what pupils already know. We'll look at a few easy facts to understand how our planet is changing.
- Talk about why many seabirds are finding it harder to survive and what young people and SSC can do to help protect them.
- Using simple examples, we'll explore how seabirds fit into food webs and why changes in nature can affect the whole ecosystem.
- Learn about the seabirds that live and nest in our local area, where they build their colonies, and why some species are more at risk because they grow and reproduce slowly. We'll look at real case studies to see what's happening in Scotland.
- Explore some of the exciting projects SSC works on, such as: SOS Puffin, Gannet monitoring, Seal counting, Restoration Forth. Pupils will learn how these projects help protect wildlife and repair damaged habitats.
- To finish, pupils will: create a "seabird challenge map" showing the pressures seabirds face, and take part in a fun food-web activity to see how everything in nature is connected.

Seabirds in Crisis

Climate Change & Renewables

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 2-12a
- HWB 2-16a
- HWB 2-17a
- HWB 2-18a
- HWB 2-19a

Literacy

- LIT 2-02a
- LIT 2-07a
- LIT 2-09a
- LIT 2-10a

Numeracy and Mathematics

- MNU 2-03a
- MNU 2-09a
- MNU 2-09c

Expressive Arts

- EXA 2-01a
- EXA 2-03a
- EXA 2-05a
- EXA 2-06a

Social Studies

- SOC 2-08a
- SOC 2-08b
- SOC 2-13a

Science and Technologies

- SCN 2-01a
- SCN 2-02a
- SCN 2-04a
- SCN 2-04b
- SCN 2-05b
- SCN 2-20b
- TCH 2-02b
- TCH 2-04b
- TCH 2-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand climate change, its causes and impacts on the planet.
- To begin to understand that biological actions and environmental conditions affect the survival of living things.
- To understand food webs and energy flow; the importance of maintaining healthy ecosystems.
- To explore how adaptation and life cycles affect species' survival under environmental change.
- To be able to compare past and present landscapes and explain how sustainable solutions can restore ecosystems.
- To begin to understand the impacts of renewables and how decisions impact nature.
- To begin to engage in ethical discussions and evaluate perspectives.

Workshop Plan:

- Discuss what pupils already know about climate change and share simple facts about how our planet is changing.
- Explore why seabirds are facing challenges and what young people and SSC can do to support them.
- Look at how seabirds fit into food webs and learn about local species, their habitats, and why some are more vulnerable.
- Through drawing and discussion, compare the marine environment from 100 years ago, today, and the future.
- Learn about ways nature helps tackle climate change—trees, wetlands, peatlands, seagrass, saltmarsh, and protected marine areas.
- Discuss how windfarms work and explore nearby offshore projects, looking at both benefits and challenges.
- Create a wind turbine model, then build an outdoor sand model of a wind farm.
- Finish by drawing or creating cartoon ideas of a positive future for oceans and seabirds.

Scottish Seabird Centre

Level 3 – S1-S3

Rockpooling

Outdoor Rockpool Exploration, Marine Ecology & Survey Methods

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a
- HWB 3-25a

Literacy

- LIT 3-02a
- LIT 3-04a
- LIT 3-07a
- LIT 3-09a
- LIT 3-10a

Numeracy and Mathematics

- MNU 3-20a
- MNU 3-20b

Expressive Arts

- EXA 3-05a

Social Studies

- SOC 3-07a
- SOC 3-08a
- SOC 3-10a

Science and Technology

- SCN 3-01a
- SCN 3-02a
- SCN 3-03a
- SCN 3-05a
- SCN 3-05b
- SCN 3-10a
- SCN 3-14a
- TCH 3-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to identify the different species that live in on the rocky shore and describe some of the challenges species might face and how these species have adapted to survive despite those challenges.
- To be able to describe the intertidal zone and recognise how species distribution changes across the zone.
- To explore how this system interacts discussing food chains and energy transfer.
- To be able to collect and display data on what species we find and begin to discuss how different species might be found in different places as well as discussing the impact we can have on this ecosystem.

Workshop Plan:

- Begin with a discussion about the potential species they might find and how to identify them.
- Head onto the rocky shore and discuss the potential challenges they think the species might face.
- Explore the rocky shore collecting samples and data of species diversity and distribution and introduce how you might present the data in appropriate formats.
- Gather and share what they have found with the rest of the group and discuss the visible adaptations that the species have, to survive in the environment.
- Discuss food chains / webs involving the species found in the rocky shore, commenting on energy transfer as well as the human influence on the system.

Seabird Survival

Adaptation & Evolution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a
- HWB 3-27a

Literacy

- LIT 3-02a
- LIT 3-09a
- LIT 3-10a
- LIT 3-28a

Expressive Arts

- EXA 3-02a
- EXA 3-06a
- EXA 3-07a

Numeracy and Mathematics

- MNU 3-11a

Social Studies

- SOC 3-07a
- SOC 3-08a
- SOC 3-10a

Science and Technologies

- SCN 3-01a
- SCN 3-01b
- SCN 3-02a
- SCN 3-08b
- SCN 3-12a
- SCN 3-20a
- TCH 3-01a
- TCH 3-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand what evolution it is and how environmental pressures influence it.
- To be able to name and identify a few species of local seabirds.
- To be able to identify the challenges seabirds face and how they have adapted to them to tackle them.
- To problem solves a series of challenges representing those found in seabirds.
- To understand the impact we have on these creatures.

Workshop Plan:

- Discuss the concept of evolution and adaptions, in a broad global concept.
- Learning about how seabirds survive in tough coastal environments. Look at the variety of different seabirds in Firth of Forth and explore why living at sea could be tough.
- Next looking at examples of adaptations: body shape/wings/beaks/feeding. Using a series of interactive activities explore challenges and benefits of adaptations: hollow bones vs dense bones for diving, waterproof feathers vs non-waterproof feathers.
- Have the group describe some beak shapes they have observed in the species we've explored so far and describe how they have adapted to tackle a certain challenge.
- Invite pupils to design a beak which can address a unique challenge.
- Finally, discuss the threats and consequences of human actions on the marine environment. Finish with a fun and creative activity exploring how species could adapt or evolve in the future.

Scottish Seabird Centre

Variety of Life

Biodiversity & Classification

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a

Literacy

- LIT 3-02a
- LIT 3-09a
- LIT 3-10a
- LIT 3-28a

Expressive Arts

- EXA 3-02a
- EXA 3-07a

Social Studies

- SOC 3-08a
- SOC 3-10a

Science and Technologies

- SCN 3-01a
- SCN 3-02a
- SCN 3-03a
- SCN 3-04a
- SCN 3-05a
- SCN 3-12a
- SCN 3-14a
- SCN 3-20a
- TCH 3-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand the variety of life that live on the globe as a whole and the diversity we have locally
- To be able to group organisms based on logical defining features.
- To create a food web of energy flow of the organisms we've found.
- To map any other interactions there could be between the organisms
- To understand the impact humanity can have on this ecosystem and biodiversity

Workshop Plan:

- Discuss with the group what diversity is and the extent of biodiversity in Scotland, how the SSC fits into that and how the islands create a diverse and proximal habitat. Identifying some key species above and below the waves in the area.
- Discuss food webs and how they can be a delicate balance - why seabirds are an indicator species to the health of food chains.
- Pupils create a set of rules in which we can classify organisms. Start activity with examples using inorganic objects that the group have.
- Go out onto the beach and put their classification rules into practise.
- Explore the interactions between the organisms the group has found; address not just predator/prey but also interspecific competition, mutualism etc.
- Discuss the threats to biodiversity and what is harming the health of food webs in our marine environment. Discuss what can be done to protect and restore the marine environment to a healthy one. Finish with a save my sea creature activity.

Scottish Seabird Centre

Seabirds in Crisis

Conservation

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a

Literacy

- LIT 3-02a
- LIT 3-09a
- LIT 3-10a
- LIT 3-28a
- LIT 3-29a

Expressive Arts

- EXA 3-01a
- EXA 3-03a
- EXA 3-05a
- EXA 3-06a
- EXA 3-07a

RME

- RME 3-09b

Social Studies

- SOC 3-08a
- SOC 3-12a
- SOC 3-13a

Science and Technologies

- SCN 3-01a
- SCN 3-02a
- SCN 3-04a
- TCH 3-02a
- TCH 3-12a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand that biodiversity loss is driven by human impact on the planet.
- To be able to identify the causes of the Climate Crisis.
- To understand that human pressures influence habitat change that affect species.
- To understand the application of sustainability solutions and conservation actions.
- To engage in ethical discussions and evaluate perspectives.

Workshop Plan:

- Begin with a discussion about pupils' understanding of climate change, using up-to-date facts to explore how rising temperatures and changing oceans affect wildlife.
- Pupils will look at why many seabird species are struggling, including changes in food supply, weather patterns, and human impacts. We'll discuss how SSC and young people can support conservation efforts.
- Examine how seabirds fit into marine food webs and how disruptions—like warming seas or fewer fish—can affect entire ecosystems.
- Using examples from Scottish seabird colonies, pupils will explore habitat needs, breeding challenges, and how long life cycles affect a species' ability to recover from environmental change.
- Pupils will learn about some of SSC's main projects, such as: SOS Puffin, Gannet population monitoring, Seal surveys, Restoration Forth and habitat recovery work. We'll look at how each project supports healthier ecosystems.
- To finish, pupils will: create a "seabird challenge map" showing the pressures affecting local species and complete a food-web challenge to explore ecosystem connections and consequences.

Scottish Seabird Centre

Seabirds in Crisis

Climate Change & Renewables

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a

Literacy

- LIT 3-02a
- LIT 3-09a
- LIT 3-10a
- LIT 3-28a
- LIT 3-29a

Expressive Arts

- EXA 3-05a

RME

RME 3-09b

Social Studies

- SOC 3-08a
- SOC 3-12a
- SOC 3-13a
- SOC 3-20a

Science and Technologies

- SCN 3-01a
- SCN 3-04a
- SCN 3-04b
- TCH 3-02a
- TCH 3-04b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to explain climate change, its causes and impacts on the planet.
- To understand that biological actions and environmental conditions affect the survival of living things.
- To understand food webs and energy flow; the importance of maintaining healthy ecosystems.
- To explore how adaptation and life cycles affect species' survival under environmental change.
- To be able to compare past and present landscapes and explain how sustainable solutions can restore ecosystems.
- To understand the impacts of renewables and how decisions impact nature.
- To engage in ethical discussions and begin to appreciate the benefits and challenges.

Workshop Plan:

- A quick discussion of what pupils know about climate change, supported by key facts and local examples.
- Explore why seabird populations are declining and how they reflect wider changes in the marine environment.
- Examine how seabirds fit into marine food webs and how climate change affects species and ecosystem balance.
- Look at local colonies, their habitats, and the pressures they face due to long life cycles and environmental change.
- Use drawing or group discussion to explore how the marine environment has changed over 100 years and what the future may hold.
- Learn how peatlands, wetlands, seagrass, saltmarsh, and MPAs help store carbon and support healthy ecosystems.
- Discuss offshore wind power and evaluate the benefits and challenges of nearby offshore wind farm projects.
- Teams design and build a model wind turbine, then create an outdoor beach model of a wind farm site.
- Finish with creative drawings or maps showing future scenarios for a healthy marine environment.

Scottish Seabird Centre

Research / Survey Skills

Full Day Research Skills Workshops

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 3-12a
- HWB 3-16a
- HWB 3-17a
- HWB 3-18a
- HWB 3-19a

Literacy

- LIT 3-02a
- LIT 3-09a
- LIT 3-10a
- LIT 3-13a
- LIT 3-14a
- LIT 3-16a
- LIT 3-28a

Numeracy and Mathematics

- MNU 3-03a
- MNU 3-21a

Expressive Arts

- EXA 3-04a
- EXA 3-07a

Social Studies

- SOC 3-01a
- SOC 3-08a
- SOC 3-10a

Science and Technologies

- SCN 3-01a
- SCN 3-02a
- SCN 3-14a
- SCN 3-15a
- SCN 3-16a
- SCN 3-17a
- SCN 3-20a
- TCH 3-13a
- TCH 3-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

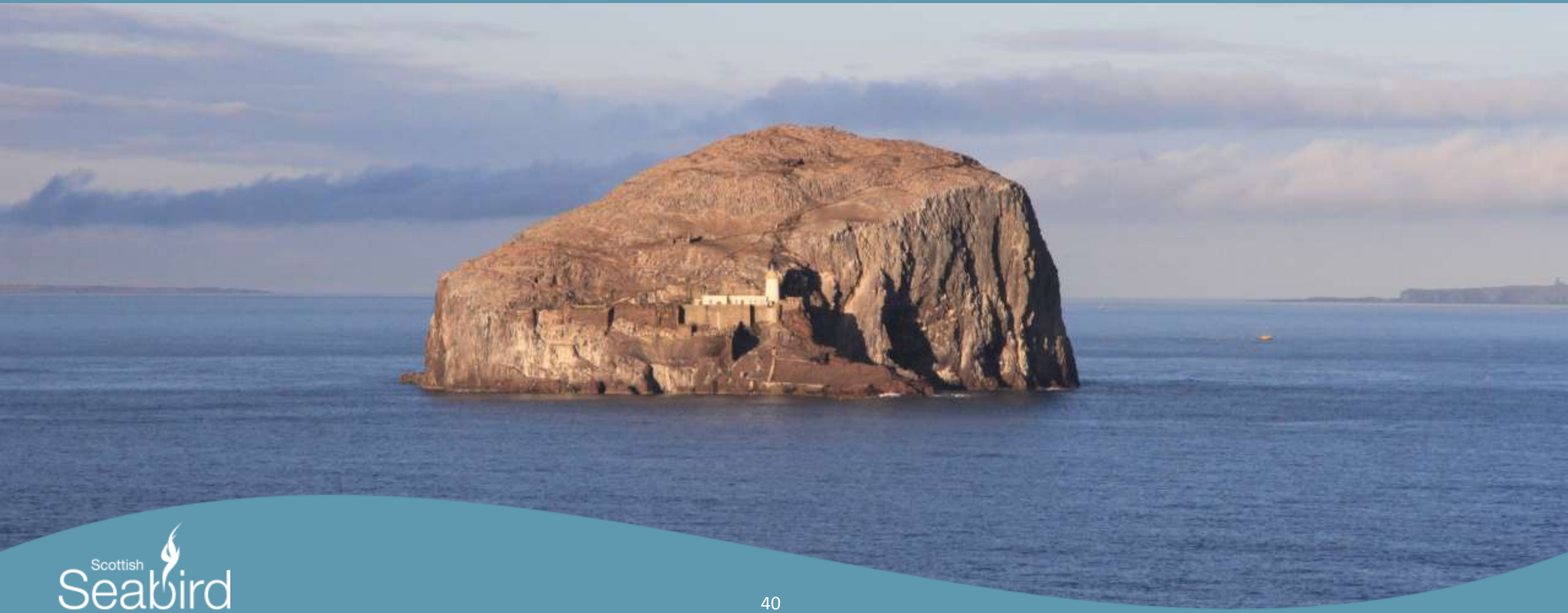
- To explore how research is conducted, from experiment conception and design, to data collection, to analysis and drawing conclusions.
- To learn how to collect quantitative and qualitative data on biotic and abiotic factors using a variety of field skills such as quadrats, transects and random sampling methods.
- To understand the advantages and disadvantages of qualitative and quantitative methods, as well as comparing the use of different survey methods.

Workshop Plan:

- Students will arrive at the workshop with a research plan already created. At the SSC we will pilot their study and learn how to collect data through different survey methods and then collect data for their study.
- Discuss the difference between the survey methods and the data they collect, describing the advantages and disadvantages of each method as well as the types of data they collect.
- A discussion on validity and reliability and their importance in research.
- The group will also see how data can present the wrong information, especially when looking at correlation versus causation.
- The group will leave with their data to analyse and draw conclusions in a following session.
- A pre- and post-session for experiment planning and analysis can be teacher-led or delivered in school.
- Alternatively, the workshop can focus on practicing survey methods—such as quadrats, transects, random sampling, and abiotic measurements.
- These workshops help pupils build confidence in scientific enquiry, understand how real fieldwork is carried out, and develop the practical skills needed to study and protect marine and coastal environments.

Scottish Seabird Centre

Level 4 – S4-S6/College/University



Rockpooling

Outdoor Rockpool Exploration, Marine Ecology & Survey Methods

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a

Numeracy and Mathematics

- MTH 4-12a
- MNU 4-20a
- MTH 4-21a

Social Studies

- SOC 4-08a
- SOC 4-10a
- SOC 4-12a
- SOC 4-12b

Science and Technology

- SCN 4-01a
- SCN 4-02a
- SCN 4-03a
- SCN 4-05a
- SCN 4-05b
- SCN 4-10a
- SCN 4-12b
- TCH 4-02a

Learning Objectives / Workshop Plan:

Learning Objectives

- To be able to identify the different species that live in on the rocky shore and describe some of the challenges species might face and how these species have adapted to survive despite those challenges.
- To be able to describe the intertidal zone and recognise how species distribution changes across the zone.
- To explore how this system interacts discussing food chains and energy transfer.
- To be able to collect and display data on what species we find and begin to discuss how different species might be found in different places as well as discussing the impact we have on this ecosystem.

Workshop Plan:

- Begin with a discussion about the potential species they might find and how to identify them.
- Head onto the rocky shore and discuss the potential challenges species might face.
- Explore the rocky shore collecting samples and data of species diversity and distribution and how you present the data in appropriate formats.
- Gather and share findings in context of ecological succession: discuss the visible adaptations that the species have to survive in the environment.
- Discuss food chains / webs involving the species found in the rocky shore, commenting on energy transfer as well as the human influence on the system.

Seabird Survival

Adaptation & Evolution

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a

Expressive Arts

- EXA 4-02a
- EXA 4-06a
- EXA 4-07a

Numeracy and Mathematics

- MNU 4-11a

Social Studies

- SOC 4-08a
- SOC 4-10a
- SOC 4-12a

Science and Technologies

- SCN 4-01a
- SCN 4-01b
- SCN 4-02a
- SCN 4-08b
- SCN 4-12b
- TCH 4-02a
- TCH 4-14a
- TCH 4-14b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To understand what evolution it is and how environmental pressures influence it.
- To be able to name and identify a few species of local seabirds.
- To be able to identify the challenges seabirds face and how they have adapted to them to tackle them
- To problem solves a series of challenges representing those found in seabirds
- To be able to discuss the impact we have on these creatures.

Workshop Plan:

- Discuss what the group know about evolution and adaption in the context of the marine environment.
- Present the challenges our local habitats face and pressure that puts on species populations.
- Describe other challenges through a series of activities such as, hollow bones vs dense bones for diving, waterproof feathers vs non-waterproof feathers.
- Explore the diversity of adaptations they have observed in the species we've explored so far and describe how they have adapted to tackle a certain challenge.
- Present the groups with a unique challenge which they will have to design a beak which can address it.
- Finally, discuss the threats and consequences of human actions on the marine environment. Finish with an interactive activity exploring necessary adaptations in the future.

Variety of Life

Biodiversity & Classification

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a
- LIT 4-28a

Expressive Arts

- EXA 4-02a
- EXA 4-07a

Social Studies

- SOC 4-08a
- SOC 4-10a
- SOC 4-12a
- SOC 4-12b

Science and Technologies

- SCN 4-01a
- SCN 4-02a
- SCN 4-03a
- SCN 4-04a
- SCN 4-05a
- SCN 4-12a
- SCN 4-12b
- TCH 4-02a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to discuss the variety of life that live on the globe as a whole and the diversity we have locally.
- To be able to group organisms based on logical defining features.
- To create a food web of energy flow of the organisms we've found.
- To map any other interactions there could be between the organisms.
- To be able to discuss the impact humanity can have on marine ecosystems and biodiversity.

Workshop Plan:

- Discuss with the group what diversity is and the extent of biodiversity in Scotland, how the SSC fits into that and how the islands create a diverse and proximal habitat. Identifying some key species above and below the waves in the area.
- Discuss food webs and how they can be a delicate balance - why seabirds are an indicator species to the health of food chains.
- Demonstrate species classification and identify key criteria that pupils will be looking for in species on the rocky shore.
- Go out onto the beach and in groups apply rules of classification to findings.
- Explore the interactions between the organisms the group has found; address not just predator/prey but also interspecific competition, mutualism etc.
- Discuss the threats to biodiversity and what is harming the health of food webs in our marine environment. Discuss what can be done to protect and restore the marine environment to a healthy one. Finish with a save my sea creature activity based on ethical discussions.

Scottish Seabird Centre

Seabirds in Crisis

Conservation

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a
- HWB 4-19a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a
- LIT 4-28a
- LIT 4-29a

Expressive Arts

- EXA 4-01a
- EXA 4-03a
- EXA 4-05a
- EXA 4-06a
- EXA 4-07a

RME

- RME 4-09b

Social Studies

- SOC 4-08a
- SOC 4-12a
- SOC 4-13a

Science and Technologies

- SCN 4-01a
- SCN 4-02a
- SCN 4-04a
- TCH 4-02a
- TCH 4-12a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to explain climate change, its causes and impacts on the planet.
- To understand that biodiversity loss is driven by human impact on the planet.
- To be able to discuss the causes of the Climate Crisis.
- To understand that human pressures influence habitat change that affect species.
- To understand the application of sustainability solutions and conservation actions.
- To engage in ethical discussions and evaluate perspectives.

Workshop Plan:

- Start with a discussion about pupils' current understanding of climate change. Using the latest data, we'll explore how rising temperatures and changing oceans are affecting wildlife.
- Pupils will investigate why many seabird species are under pressure, looking at factors such as changes in food supply, shifting weather patterns, and human impacts. We'll also discuss how SSC and young people can play a role in conservation.
- Examine the role of seabirds in marine food webs and consider how disruptions—such as warming seas or reduced fish populations—can ripple through entire ecosystems.
- Using examples from local seabird colonies, pupils will explore habitat requirements, breeding challenges, and how long life cycles exacerbate vulnerability to environmental change.
- Pupils will learn about some of SSC's key projects, including SOS Puffin, Gannet population monitoring, Seal surveys, Restoration Forth, and other habitat recovery initiatives. We'll discuss how each project contributes to healthier ecosystems.
- To conclude, pupils will complete a food-web activity to explore ecosystem connections and the potential consequences of environmental change.

Scottish Seabird Centre

Seabirds in Crisis

Climate Change & Renewables

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a
- HWB 4-19a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a
- LIT 4-28a
- LIT 4-29a

Expressive Arts

- EXA 4-05a

RME

RME 4-09b

Social Studies

- SOC 4-08a
- SOC 4-12a
- SOC 4-13a
- SOC 4-20a

Science and Technologies

- SCN 4-01a
- SCN 4-04a
- SCN 4-04b
- TCH 4-02a
- TCH 4-04b

Learning Objectives / Workshop Plan:

Learning Objectives:

- To be able to explain climate change, its causes and impacts on the planet.
- To understand that biological actions and environmental conditions affect the survival of living things.
- To be able to identify food webs and energy flow; the importance of maintaining healthy ecosystems.
- To explore how adaptation and life cycles affect species' survival under environmental change.
- To be able to compare past and present landscapes and explain how sustainable solutions can restore ecosystems.
- To be able to discuss the impacts of renewables and how decisions impact nature.
- To engage in ethical discussions and evaluate perspectives.

Workshop Plan:

- Review key scientific data on climate change, with a focus on recent findings, regional impacts, and how climate shifts influence marine systems.
- Examine how seabird population changes act as indicators of ecosystem health. Discuss major drivers of decline—warming seas, prey shifts, pollution, and habitat loss.
- Analyse how changes in marine food webs affect seabirds and wider biodiversity.
- Investigate specific local colonies, their habitats, and what long-term monitoring reveals about climate vulnerability and species survival.
- Using creative mapping or visual storytelling, pupils examine marine environmental change over the past 100 years.
- Explore concepts such as blue carbon, habitat restoration, peatland and seagrass carbon dynamics, and the role and effectiveness of MPAs in climate mitigation.
- Critically assess offshore wind as a climate solution. Use examples of nearby wind farm developments to evaluate environmental trade-offs, policy considerations, ecological impacts, and energy transition challenges.
- Teams model outdoor beach-scale offshore windfarm, considering efficiency and ecological constraints.
- To finish, pupils develop creative graphics of potential marine futures, reflecting on sustainability, technology, conservation, and policy choices.

Scottish Seabird Centre

Research / Survey Skills

Full Day Research Skills Workshops

Curriculum For Excellence Es&Os:

Health and Wellbeing

- HWB 4-12a
- HWB 4-16a
- HWB 4-17a
- HWB 4-18a

Literacy

- LIT 4-02a
- LIT 4-09a
- LIT 4-10a
- LIT 4-13a
- LIT 4-14a
- LIT 4-16a
- LIT 4-28a

Expressive Arts

- EXA 4-04a

Numeracy and Mathematics

- MNU 4-03a
- MNU 4-21a

Social Studies

- SOC 4-08a
- SOC 4-10a
- SOC 4-14a

Science and Technologies

- SCN 4-01a
- SCN 4-14a
- SCN 4-15a
- SCN 4-16a
- SCN 4-17a
- SCN 4-18a
- SCN 4-20a
- SCN 4-20b
- TCH 4-13a
- TCH 4-14a

Learning Objectives / Workshop Plan:

Learning Objectives:

- To explore how research is conducted, from experiment conception and design, to data collection, to analysis and drawing conclusions.
- To learn how to collect quantitative and qualitative data on biotic and abiotic factors using a variety of field skills such as quadrats, transects and random sampling methods.
- To understand the advantages and disadvantages of qualitative and quantitative methods, as well as comparing the use of different survey methods.

Workshop Plan:

- Students will pilot a study of their own design and learn how to collect data through different survey methods, evaluating the means to best suit their investigation.
- Pupils take part in hands-on activities relevant to ecological studies, such as identifying shore species, measuring environmental conditions, and practising data-collection techniques. Alternatively, pupils can carry out structured fieldwork such as detailed beach profiling, sediment analysis, and vegetation surveys across dune systems to investigate ecological change and succession.
- Discuss standard scientific sampling methods—including quadrats, transects, and systematic data recording—alongside techniques for interpreting results and evaluating data quality.
- Discuss the difference between survey methods and the data they collect, describing the advantages and disadvantages of each method as well as the types of data they collect.
- A discussion on validity and reliability and their importance in research.
- The group will also see how data can present the wrong information, especially when looking at correlation versus causation.
- These workshops deepen students' understanding of coastal processes and ecosystem dynamics, while strengthening the analytical, investigative, and reporting skills required for senior-level biology, geography and environmental science studies.

Scottish Seabird Centre

Contact Us

If you are interested in making a booking or would like any further information please contact our Education Officer, Alice Du Vivier Ellis on either:

Email: aliced@seabird.org

Phone: 01620 890 202

Many of our sessions can be adjusted to suit an in-school delivery. Additionally, if there is a topic you are interested in covering that is not currently being offered in this pack please get in touch. We would be more than happy to discuss this further, and design something to meet your needs.

Scottish Seabird Centre