

Session title	Ready for take off	
Key Question	How are birds adapted for flight?	
Session description	Investigate wings, feathers, beaks, feet and bones to discover how birds have evolved adaptations to be able to fly. Observe birds in flight up close and through binoculars to see these adaptations in action. How do their skeletons and muscles support flight?	
Key Stage suitability	KS2	
Duration	1 or 2 hours	

Curriculum links	Curriculum for Wales Science and Technology Being curious and searching for answers is essential to understanding and predicting phenomena Progression step 1 - I can explore the environment, make observations and communicate my ideas. Progression step 2 - I can explore relationships between living things, their habitats and their life cycles. The world around us is full of living things which depend on each other for survival Progression step 1 - I can recognise that plants and animals are living things which grow. Progression step 2 - I can explore relationships between living things, their habitats and their life cycles. Progression step 3 - I can describe the features of organisms and recognise how they allow them to live, grow and reproduce for survival in their environment. - I can explain the role of different organs and systems that enable plants and animals to live and grow. Humanities Our natural world is diverse and dynamic, influenced by processes and human actions Progression step 1 - I have first-hand experience of the natural world and am beginning to recognise places which are familiar to me. Informed, self-aware citizens engage with the challenges and opportunities that face humanity, and are able to take considered and ethical action Progression step 2 - I am beginning to appreciate and care for living things and my own environment.	
Learning outcomes	Most learners will be able to describe at least three physical adaptations that enable birds to fly. will be confident using binoculars to effectively watch birds.	More able learners will be able to explain how ducks' feet are adapted for both swimming and landing. will be able to name up to three behaviours that help birds maintain their ability to fly. will be able to identify up to three species of wild British birds.

Key vocabulary	Adaptation Streamlined Thrust Lift Hollow Preening	Webbed feet Waterproof Energy Down feathers Insulation	Aerodynamic Aerofoil Keel bone Migration Barb Barbule Bone marrow
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Session Outline	Time
Introduction	5 mins
Learners are introduced to the centre, staff and volunteers running the session and the key question, explaining what we will be focusing on today.	
Activity 1: How are birds adapted for flight?	5 mins
Discussion Stage – Learners offer suggestions of how birds are able to fly when many other animals cannot.	
Activity 2: Exploration	20 mins
Learners explore the different body parts, observing the adaptations and how these help with flight.	
Activity 3: Observatory	10 mins
Learners visit our observatory hide to observe a wetland habitat. Learners discuss what it is that birds need from their habitat/what they need to do to be able to continue flying.	<i>This section can be extended during a 2-hour session</i>
Activity 4: Collection Walk	15 mins
Learners observe our collection birds, looking at some species that rely on migration to survive.	<i>This section can be extended during a 2-hour session</i>
Plenary	5 mins
Learners will review what they have learnt and ask any further questions.	