Movement

A family of swans with cygnets

1. Movement

1.1. Introduction

Birds live in many different habitats and have adapted various different ways to move around.

1.2. Flying

Red kite

Birds are the perfect flying machines. They have a light body structure supporting feathers which allows them to take off and stay airborne. They have streamlined body shapes to move easily through the air.

The main flight mechanism is flapping, moving the wings up and down to gain lift. This can use up a lot of energy and is mainly used to cover short distances.

Once in the air, or if travelling long distances, birds may prefer to let the wind carry them along by gliding.

Large heavy birds will often take advantage of hot rising air currents to gain height and maintain their height by soaring. For example a buzzard can often be seen circling around high in the sky.

Some birds can hover in the air over one spot. Look at how a kestrel swoops down to catch its prey braking at the last possible moment to avoid hitting the ground.

Just like an aeroplane a bird needs to develop skills to take off and land safely. Some birds will take off from a standstill position by leaping into the air and then flapping their wings. Some need a short run up before they take off.

If you get the chance look at how a swan takes off from water. It looks like the swan is using the water as a runway, running across the top, flapping its wings madly; making lots of noise, then suddenly it is in the air.

Landing can be tricky as birds have to slow down quickly and hopefully land without too much of a bump. Look at how birds seem to be flying at great speed and then come safely to a stop on a branch.

Birds can develop different flight paths. The green woodpecker flies like a rollercoaster up and down as it beats its wings and then relaxes. Ducks and geese tend to keep to a fairly level flight path.

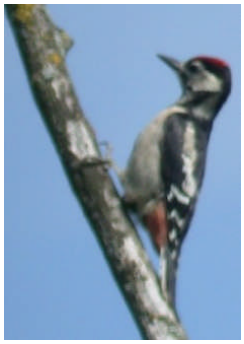
1.3. Moving on land

Chaffinch

When moving on land birds can be seen to walk, run and hop.

The blackbird will use all three methods in its search for food.

1.4. Climbing



Great spotted woodpecker

Some birds such as tree creepers are excellent climbers as they move up and down a tree's trunk in search of food.

1.5. Swimming and diving

Canada goose

Some birds that live near water may be seen swimming, diving or wading. Birds such as swans, geese and ducks have webbed feet and will be able to swim.

The great crested grebe can often be seen diving for fish and staying under water for a long time.

A heron with its long legs may wade at the edge of a river waiting for fish to pass by.

A kingfisher may wait patiently on a branch waiting for a fish and then be seen diving into the water.

Water birds have to be able to get in and out of the water which they may do by flying or scrambling up the side of a bank or jumping in.

1.6. Moving in flocks and patterns

Many different species will group together to form a flock. This may be occasionally or on a regular basis.

They may do this to:

- Improve their chances of finding food

- Keep warm

- Avoid predators – more birds on look out duty – a swirling mass of birds may confuse predators

Birds in a flock can appear to move as if they were one creature, twisting and turning, each bird reacting to the movements of the birds around it. In many flocks there will be no leader, but in migratory flocks experienced birds take it in turns to lead.

Birds appear to have their own air traffic control system. When one bird changes direction its neighbours react far quicker than we can detect and change direction as well.

2. Migration

2.1. Why migrate

Summer visitor - house martin

Many summer visitors are insect eaters and the birds consider that the supply of food here is better than in their winter home, e.g. Africa. It is therefore worth the risk of taking a long journey to fly to a country that can offer a good food supply to bring up a young family.

As soon as the food supply diminishes they return.

For example a cuckoo may arrive in April and leave in August having got other birds to raise its family.

Winter visitor - fieldfare

The winter visitors tend to work the other way round. Supplies of food are short for the birds in winter so they move south to Britain. As conditions improve they move back north to their summer breeding grounds.

Ideally summer migrants will move north when weather conditions are favourable, i.e. a good tail wind to ease the journey.

2.2. Signs of migration

The following are signs that migration may be taking place:

- Seeing a bird you haven't seen recently, e.g. the first swallow of the year, arrivals, or ceasing to see a bird, departures.
- Birds moving in flocks or gathering together to move off, e.g. swallows on telephone wires
- A lot of night time noise and activity

2.3. How do birds navigate

It is thought that birds navigate using one or more of the following techniques:

- Position of the stars in the sky
- Position of the sun
- Earth's magnetic field
- Inherited route information from parents
- Visual clues – coastlines, rivers

2.4. Flying off course

There are occasions when birds fly off course, such as:

- They set off in the wrong direction – get it wrong
- Bad weather conditions, e.g. cloud and rain, reduces the number of visual clues
- Crosswinds force the birds to drift off course

3. Understanding and problem solving

3.1. Questions

Please answer the questions below in the space provided.

Why do large heavy birds like buzzards prefer to use hot rising air currents and soar?
Why does a kestrel hover over a particular spot?
Describe how a swan takes off.
Describe some of the problems in landing.
Why is a green woodpecker's flight path up and down?
You are out flying on a very windy day. What effect might the wind have on your planned journey?
Imagine you are a member of a large flock of Canada Geese resting in a field. Suddenly a neighbour takes off quickly screaming an alarm call. What would you do?

List some of the advantages of being a member of a flock.
Why do many summer visitors migrate from Africa?
List some of the signs of migration taking place.
How do birds manage to navigate from Africa to Britain?

3.2. Picking a team for the bird Olympics

You have been asked to select a team to represent your school in the bird Olympics. Choose your team member from the birds listed below and write them in the space to the right of the event.

Event	**Team member**
Hopping	
Running	
Swimming	
Diving	
Hovering	
Speed flying	
Flying high	
Long distance flying	

Buzzard, Robin, Swift, Kingfisher, Pheasant, Mallard, Swallow, Kestrel

4. Working with other research material

To answer the following questions you will need to find out more information about how certain birds move. Refer to the section called "Getting around" in the bird data sheets to help you.

Why may robins need to take off quickly?
How does a song thrushes flight differ from a mistle thrushes flight?
Why is a barn owl's flight silent?
When do swallows know that it is time to leave Britain and travel to South Africa?
Why do red kites circle in the sky?