

# Birds and Flight

## God is a Powerful Creator (Creation Day 5)

### Spiritual Awareness

- When God made the living creatures to inhabit the Earth, He first made those that could exist in water and in the air, on Day 5 of His six-day creation. The theory of evolution suggests that 'lower forms' of life, birds and fish, existed millions of years before 'higher' land animals. However, the Bible speaks of the passing of 'evening and morning', (Genesis 1), before each new day of creation. These verses show us that God made all living things in six 24-hour days. (The Hebrew text verifies this).
- God said that His creation was good. To believe that birds and fish developed into higher land animals, through evolution, one must believe that there was death and suffering for millions of years before higher animals and human life emerged. This cannot be, if God's creation was 'good'.

### Supporting devotional resource

*Themes for Christian Studies 1, (Love): God is a loving and faithful shepherd; If God cares for the birds I know that He cares for me.*

### Our response to 'God is a Powerful Creator'

Because God is a Powerful Creator, I will...

- Appreciate God's ability to supernaturally create.
- Ask God to help me create new things, so that I can bless others.
- Trust in a mighty, supernatural God.
- Care for the universe He has created.
- Appreciate the greatness of God and recognize that He is in control of all He has made.
- Thank Him for His provision of air, and recognize that I need Him as I need the air I breathe.
- Recognize that I am wonderfully made and thank Him for making me as I am.
- Recognize that God is Lord and King of the universe and has everything in control.
- Recognize that in order to be the person God wants me to be, I must make Jesus Lord and King of my own life.

### Biblical references

#### Bible stories and passages

The Creation (Genesis 1)

Genesis 1: 20-21 God said "Let the water teem with living creatures, and let birds fly above the earth across the expanse of the sky. So God created the great creatures of the sea and every living and moving thing with which the water teems, according to their kinds, and every winged bird, according to its own kind. And God saw that it was good."

Genesis 1:27-30 God gave plants as food for all creatures. All birds were vegetarian.

Matthew 10:29 God cares for the sparrow. He knows how many hairs are on our head.

Matthew 6:25-27 Do not worry. If God cares for the birds, He will care for you.

Genesis 6-8 – the Flood, verses 7-12 tell us that God used a raven and a dove to show Noah whether the flood waters had receded.

1 Kings 17:1-5 God used ravens to provide food for Elijah.

### **Memory verses**

Genesis 1:1 – In the beginning God created the heavens and the earth.

Genesis 1:31 – God saw all that He had made and it was very good.

Psalms 148:9 – Praise Him hills and mountains, fruit-trees and forests, all animals, tame and wild, reptiles and birds.

Matthew 6:26 – Look at the birds. They do not sow seeds or gather a harvest and put it into barns; yet your Father in heaven takes care of them.

### **Key questions**

What does it mean to be created 'according to its own kind'? (*animals families, e.g. horses and donkeys are in the same family and are therefore of the same kind*)

What does God mean when He said His creation was 'good'?

Did Noah take on board the ark every type of bird we see today? (*no, just a male and a female from each family*)

How much does God love the creatures He has made?

How can we help to take care of them?

What can we learn about flight from observing birds?

What are some examples of things that fly?

Name some flying things that are man made and some that God made.

Flight is the actual process of flying. Many things can become airborne but are they actually flying and under control? What role does gravity play in flight?

### **Outcomes**

Students will

*Knowledge*

- understand the diversity of bird life, all deriving from a common genetic pool
- identify habits and habitat
- identify different types of feathers and how they are used in flight
- understand the body structure of birds and explain the basic principles of flight
- understand the definition of flight: controlled movement through the air and includes sustained, controlled and powered flight
- understand some basic principles of flight

*Skills*

- observe birds in flight and flying objects
- make inferences about the ability of air to move things
- investigate and evaluate

- pose questions
- predict the movement of a model built for flight
- record results
- construct models
- safely use materials and safely demonstrate flying models
- use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends

#### *Values*

- pursue knowledge
- show interest and curiosity in experiments
- show creativity in producing their own experiments
- have respect and concern for others
- show responsibility
- trust in God as a powerful Creator

### **Activities**

- Observe and draw birds in the local environment.
- Make a bird feeding table.
- Classify birds according to size, colours, structure, food, sounds, nests, flying ability.
- Identify birds using books or charts.
- Research habits and habitats.
- Describe structure of a bird's body, which includes hollow bones and large breast bone to support wing muscle.
- Draw the skeleton of a bird and label the parts.
- Describe the special features of the wing, and how it is designed for flight e.g. special shape, flapping technique, primary and secondary feathers.
- Demonstrate principle of flight using a paper model aerofoil. (Air rushes fast over the top and less below so the aerofoil rises.)
- Constructs and demonstrate gliders and discuss the principles: most gliders have three main parts designed in a streamlined fashion which enables it to knife through the air with minimal amounts of air resistance (drag). The three main parts of a glider are the wings, body and tail assembly.

### **Assessment**

1. Present information on the science of how birds fly. Include diagrams or drawings.
2. What have I learned from the study of birds...
  - about God?
  - about doing what God wants me to do?
  - about the Bible?

### **Link with Australian Curriculum**

**Science Year 4:** Physical Sciences – forces can be exerted by one object on another through direct contact or from a distance

### **Learning Connections**

**History:** The history of flight

**Social Studies:** Noise pollution caused by aeroplanes; fuel consumption

**Related Building Blocks Unit:** Air

### **Useful resource**

<http://www.sciencekids.co.nz/lessonplans/flight.html>