



# Nature Workshops

Pre & Post Visit Activities







Airfield in Dundrum is Dublin's only working farm that is open to the public. Airfield is a charitable organisation, established by the Overend family in 1974, for educational and recreational purposes.

Our farm, gardens, café and heritage experience in the Overend family home, offers visitors a wonderful opportunity to enjoy and learn about food, farming and the natural work in a unique and relaxed urban environment.

Airfield's Mission is to inspire people to refresh their connection with food and the land it comes from. We aim to do this by using our farm, gardens and natural surroundings to provide a range of enjoyable experiences and opportunities for active learning.

### Airfield – Our history informs our future

The Overends were a comfortable middle class Dublin family. Trevor Overend a solicitor, brought Airfield as a summer house in 1894 but decided to make it his family's permanent home several years later.

Both his daughters Letitia and Naomi grew up and remained here until they died. They both were actively involved in the farm and their extensive gardens as well as their many charitable pursuits. As a family they had always been concerned with the welfare of others and as far back as the early 1900s. Naomi, then aged eight, organised a fund-raising fete at Airfield in aid of the National Society for



Prevention of Cruelty to Children.

# Airfield's story

At the turn of the century Dublin had the worst death rate in the British Isles with problems arising from overcrowded tenements, poor sanitation and a lack of nutritious food. In response to this the

Overend family, along with other producers provided pasteurised milk for the first 'clean milk' depot which supplied inner city families with a safe milk supply. The sisters were also active

members of the Victory Nurses and the St. John Ambulance during both World Wars. The Overends were instrumental in establishing the Children's Sunshine Home in 1924 (now the Laura Lynn Foundation) which was then a convalescent home for children suffering from rickets and other diseases caused by malnutrition and poor housing.



### Airfield – The new future

Airfield was established as a charity for educational and recreational purposes. With this remit from our benefactors in mind Airfield has been re-designed to facilitate active learning focusing on food, farming and the land. For example our new food gardens with their pathways through espaliered fruit trees and vegetables are designed to be places of discovery, education and fun. The formal gardens contain ornamental farmstead plants (oregano/artichoke/parsley) where the public can share our passion for planting, growing and cooking local seasonal home grown food. Our food beds have been planted to excite and enthuse visitors to grow food and also to show them how our food is grown and what it looks like before we see it on our plate. The same ethos has been applied to the new farmyard where children can see at first hand the animals that provide us with dairy products, meat and clothing materials.







## Introduction

# Nature Workshops

## Pre & Post Visit Activities

Airfield is a charitable organisation established by the Overend family in 1974 for educational and recreational purposes. We are a 38 acre working farm and gardens that also contains our heritage experience in the family home and our on-site market and café. Our education courses are facilitated by expert guides and are all curriculum based, ensuring that you and your students can make the most of Airfield and the hands-on learning experiences they have here.

Our nature workshops will take your students on an adventure through the gardens and hedgerows of Airfield to discover the life that is held within it and around it. Your students will learn about the native plants, trees and animals that live in, and form, our natural environment. Through the use of insect catchers and our knowledgeable guides, children will start to use all their senses and skills to interact with the natural world around them. Throughout the seasons of the year, children will experience a range of plant and animal life alongside the stories of how and why they are present at this time of year.

### Pre-Visit and Post-Visit

In order to make the most out of your visit to Airfield we would ask that you would prepare your students for the visit by talking about the trip and what you will see and experience when you are here.

We want to demonstrate to our visitors the great biodiversity of wildlife here at Airfield. A great variety of trees, flowering plants, birds and insects live here and contribute to the richness of our environment. You will also learn about where much of our food comes from. An additional educational benefit of the visit is that younger children will re-enforce their knowledge of numbers, shapes and colours. We have attached a few resources to help you on your way.

After visiting Airfield you can use some of the activities to help re-enforce and explore some of the discoveries they made during their time with us.



### Contents

<i>Introduction</i>	2
<i>Pre-Visit and Post-Visit</i>	2
<i>Activities</i>	3
1 <i>Meet and Colour</i>	3
2 <i>Make a Centipede</i>	5
<i>Make a Millipede</i>	6
3 <i>Spider's Web</i>	7
4 <i>Butterfly Life Cycle Project</i>	8
5 <i>Butterfly Life Cycle Mobile</i>	8
6 <i>Ladybird Life Cycle</i>	9
<i>Frog Life Cycle</i>	10
<i>Ant Life Cycle</i>	11
7 <i>Curds and Whey</i>	12
8 <i>Building Birds</i>	13
9 <i>Spider Feet</i>	15
10 <i>Fun Feathers</i>	15
11 <i>Build a Nest</i>	17

## Activity 1

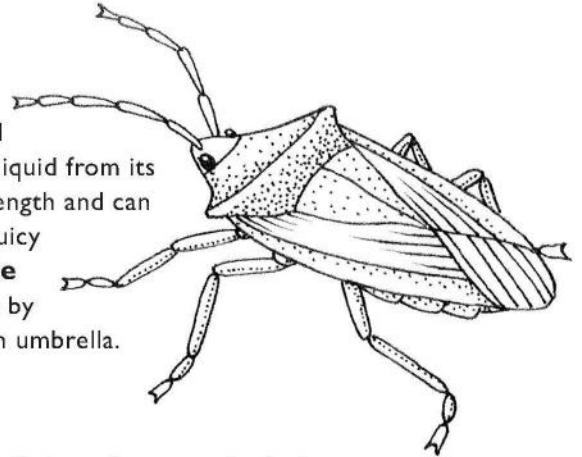
Please find a list of activities below. We've highlighted some words that would be good for the students to know before they visit us.

### Meet and Colour

Here is some information on a selection of the insects and arachnids you are likely to meet in Airfield. Pupils can colour them in accurately before they visit and learn some interesting facts about each one.

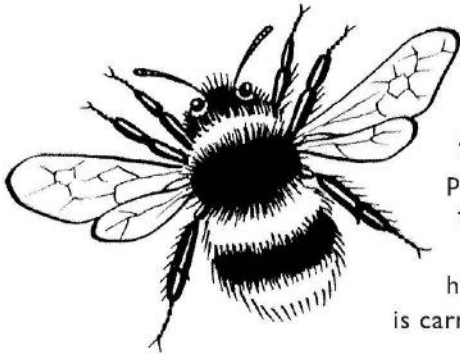
#### Shield Bug

They are commonly found out and about from May until the end of the summer. They have a gland that produces a foul smelling liquid from its **abdomen** when it feels threatened. They are about 1.5cm in length and can be green, brown or a mixture of both. They eat the leaves and juicy stems of plants by sucking the sap out of them. They **hibernate** over the winter in dead logs or under piles of leaves. Find them by shaking the leaves of trees and bushes into an open upside-down umbrella.



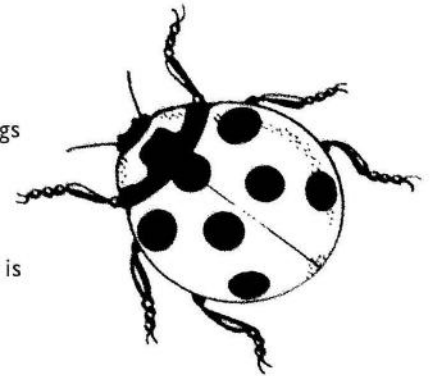
#### Honey Bee

We have five active hives in Airfield that produce award-winning honey. Honey bees are important **pollinators** that help our plants produce fruit and seeds. Honey bees visit flowers for two reasons. Firstly, they collect pollen in the pollen baskets on their back legs and bring it back to the hive to feed the baby grubs. Then secondly they collect nectar in their nectar sacs and bring it back to make honey. In collecting both of these they must visit many hundreds of flowers. As they do the pollen that has fallen on their hairy bodies is carried from flower to flower pollinating them.



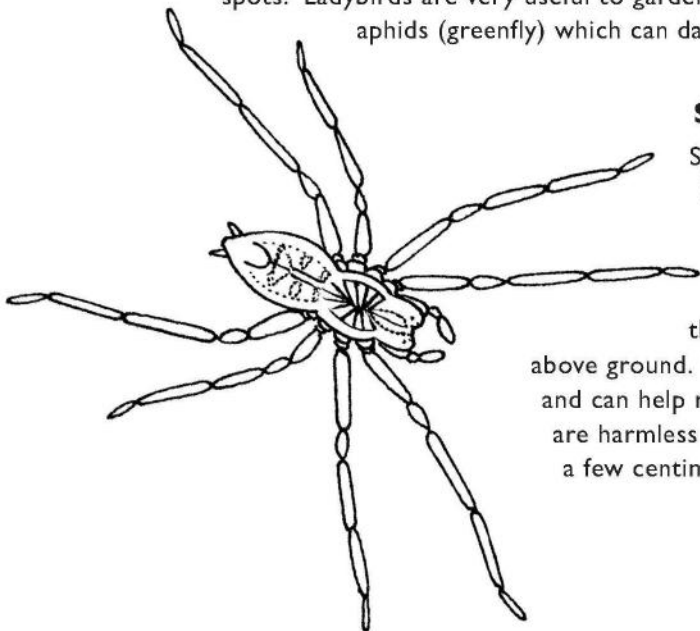
#### Ladybirds

Ladybirds are beetles. They have six legs and one pair of transparent wings which are protected by a hard outer coat which opens when they fly. Their wings are kept safe under their hard outer coat. Ladybirds can be many colours, but our most common native variety is red with seven spots. Ladybirds are very useful to gardeners as their main foodstuff is aphids (greenfly) which can damage plants.



#### Spiders

Spiders are not insects – they are **arachnids**. Their body is in two parts and they carry all their eight legs on their head. They produce a very strong fibre known as silk from glands in their abdomen which they weave into webs to catch prey. However, some use their webs on the ground and in burrows rather than attached to things above ground. Spiders are helpful to us as they keep down fly populations and can help reduce the spread of disease. Most of the spiders in Ireland are harmless to humans and they vary in size from a few millimetres to a few centimetres.





### Caterpillars and Butterflies

Caterpillars are the **larval** stages of Butterflies. Butterflies are typical insects with three parts to their body. Firstly, the head carries the antennae and the curled tongue which is called the **proboscis**. Secondly, the thorax is where the four wings and the six legs are attached and thirdly, the abdomen which contains the reproductive parts. Adults visit flowers to drink nectar and so are important pollinators as they move from flower to flower.

Changing from a caterpillar to an adult butterfly is called **complete metamorphosis**. There are four stages to the life cycle.



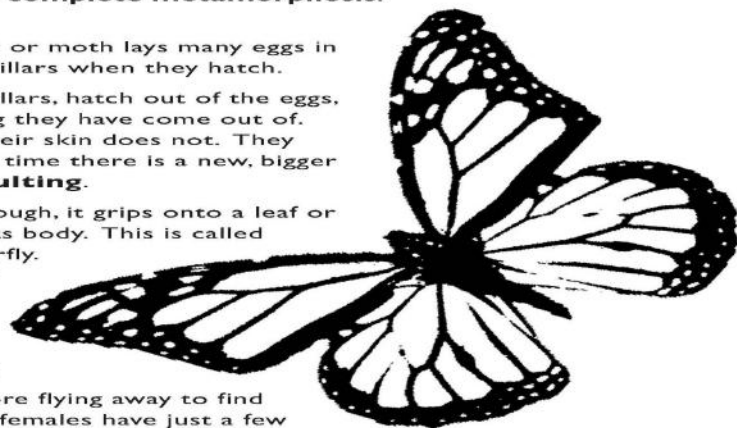
**Egg stage:** After mating, a female butterfly or moth lays many eggs in a place that will provide food for the caterpillars when they hatch.

**Larval stage:** When the larvae, or caterpillars, hatch out of the eggs, many kinds will first eat the shells of the egg they have come out of. The caterpillars eat and eat and grow, but their skin does not. They have to shed their skin a few times, and each time there is a new, bigger skin underneath. This process is called **moulting**.

**Pupal stage:** When a larva has grown big enough, it grips onto a leaf or bark and begins to cover itself with silk from its body. This is called a cocoon (for a moth) or chrysalis for a butterfly. Inside the cocoon the caterpillar is changing - it is **pupating**.

**Adult stage:** After a few weeks, the moth's cocoon or the butterfly's chrysalis splits open and out climbs a butterfly or moth!

The insect stretches out its wings to unfold and dry before flying away to find a mate. Butterflies and moths do not live very long, and females have just a few days to mate and lay eggs.



### Ants



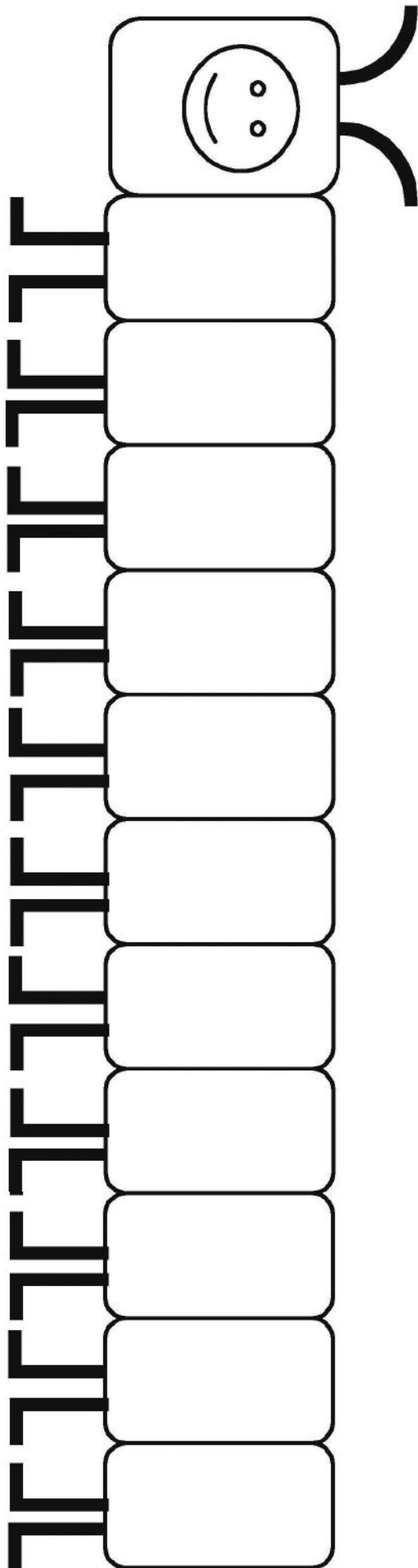
Ants are insects. They usually live together in large colonies with particular jobs and activities. They store food in their **colonies** and organise its collection very well. Scout ants go out and find food and then leave scent trails for the other ants to follow.

The trip out and back from the nest don't cross so the collection of food isn't stopped. Ants can carry up to 50 times their own body weight back to the nest.

### Grasshoppers

Grasshoppers are insects with powerful back legs to allow them to jump high into the air so they can move easily in the long grass where they like to live. Grasshoppers produce their "singing" sounds by rubbing their back leg against their wing. Grasshoppers love to eat crops like barley, wheat and oats and can do millions of euros worth of damage to farmer's yields. But grasshoppers could become useful to us in the future - as they are already a common part of diets in Asia.





## Activity 2

### Make a Centipede

Colour in **Colm the Centipede** and fold at the line segments.

Using the diagrams here you can create your own standing millipedes and centipedes! This activity allows you to look at different shapes and also the explore the differences between centipedes and millipedes.

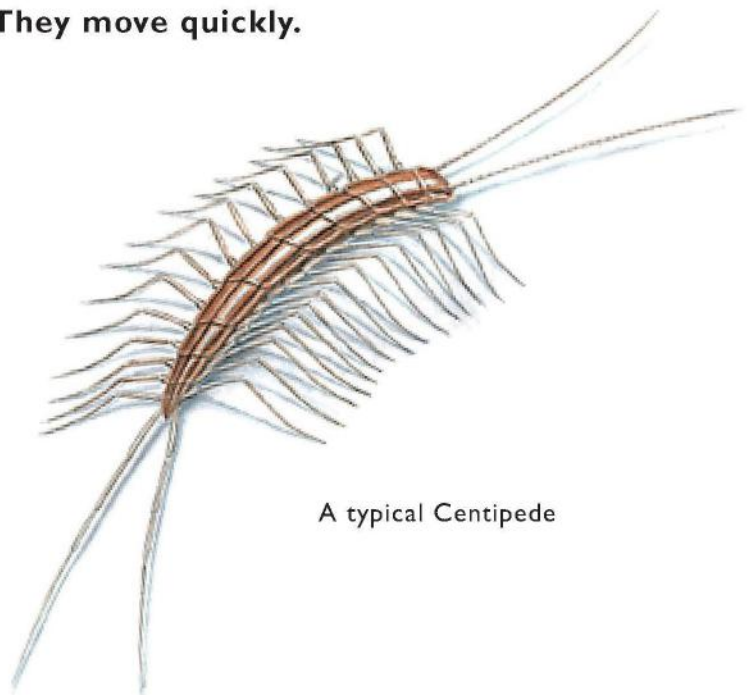
Millipedes are more rigid and are known by their rounded shape whereas centipedes are much flatter. Centipedes have one pair of legs per body segment, while millipedes have two pairs, and while most centipedes are known for their speed, millipedes move slowly and burrow. Centipedes are also carnivores and inject a poison into their prey to immobilize them.

**Centipedes have many sections to their body.**

**They have two legs on each section.**

**They are carnivores.**

**They move quickly.**



A typical Centipede

## Make a Millipede

Colour in **Milly the Millipede** and then fold at the segment lines.

Millipedes are detritivores – this means they eat mainly dead organic matter like leaves and other plant material.

Look at how the two animals are similar, and how they are different – what can we use to tell them apart?

You can bring this further by looking at the caterpillar. Why and how is the caterpillar different to the centipede and millipede?

Discuss life cycles and habitats as well as food sources and seasonality.

**Millipedes have many sections to their body.**

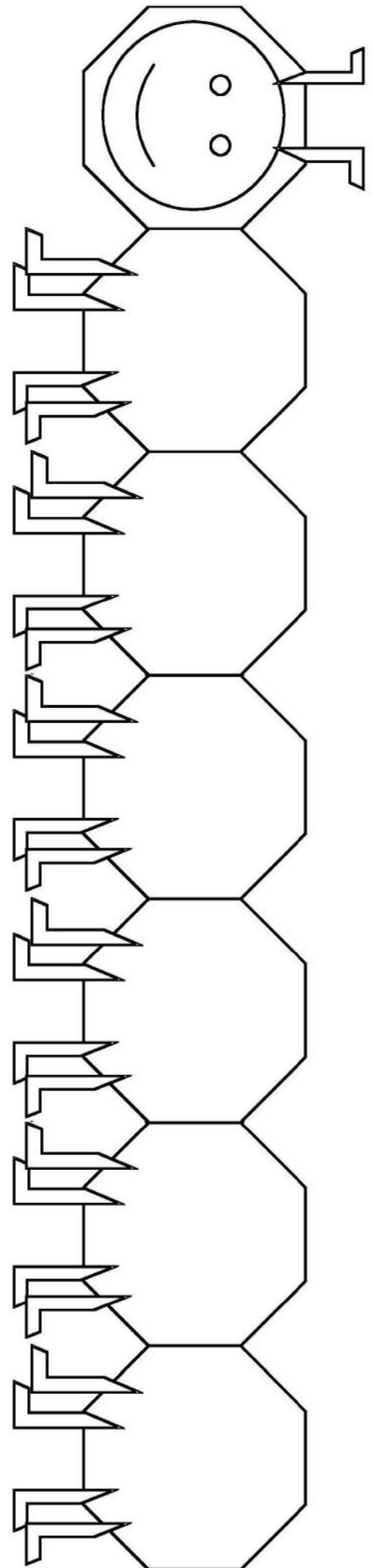
**They have two pairs of legs on each section.**

**They eat old leaves and plants.**

**They move slowly.**



A typical Millipede





## Activity 3

### Spider's web

This activity lets you and your class explore how complex a spiders web is. Its more than a random pattern.

The spiders web we are most used to seeing is the Orb Web. The spider uses silk produced from his abdomen to make the web. The silk is very, very fine and we are only able to see the web because of the reflection of sunlight through it. The spiders silk is capable of stopping a bee flying at full speed. This thread is not only strong but also very elastic.

Orb weaving spiders make their webs at night time and usually take them down in the morning.

They eat the silk as constructing the web uses a lot of the spider's energy and after a time the silk will lose its stickiness and becomes inefficient at capturing prey. Eating their web is a way for the spider to recoup some of the energy used in spinning.

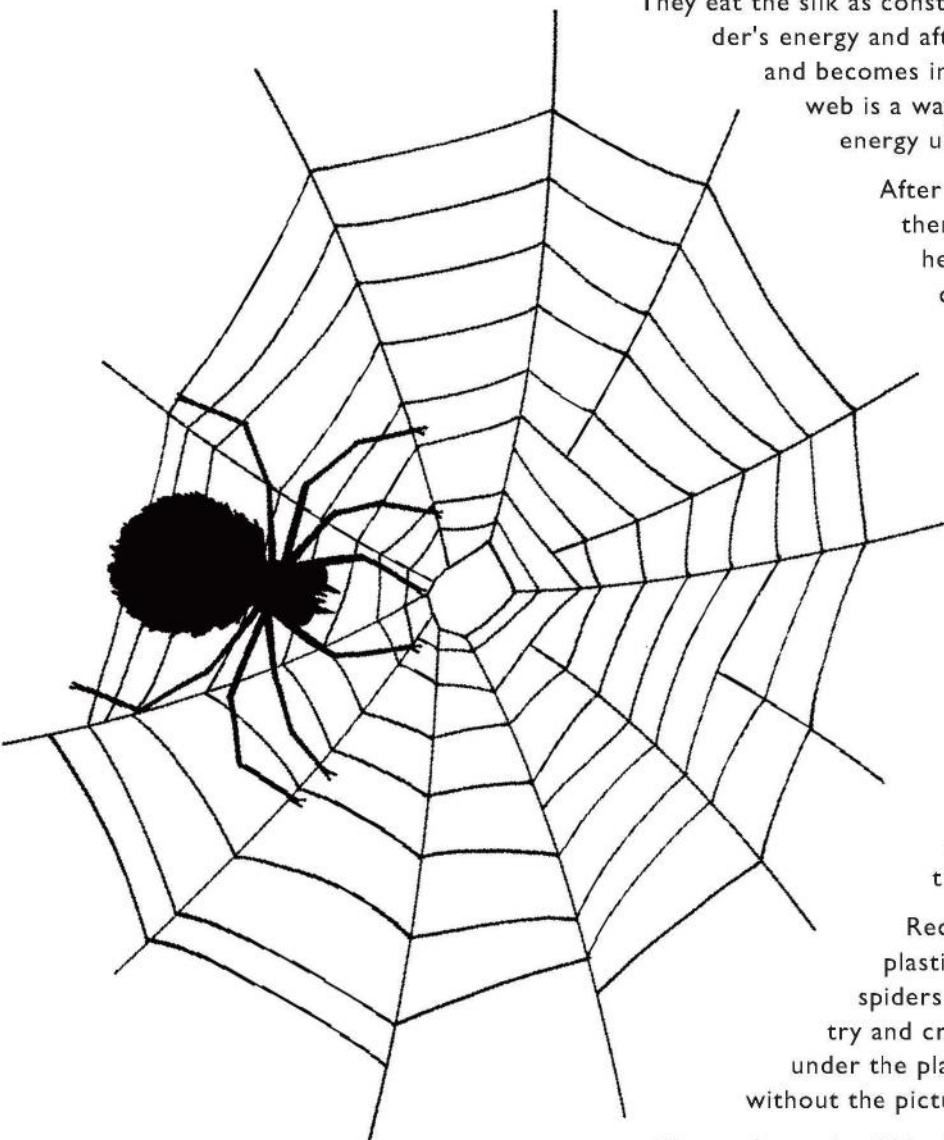
After the spider has completed its web, it then sits in the middle and waits with its head down, in the web for its prey to come along. If the web is broken without any structural damage, during the construction, the spider does not try to remake it as this would use up too much energy and it will probably be taken down in the morning or repaired the next night.

**You will need:** Wool, Sticky back plastic, Printed page of the Spiders web (if needed).

In this activity, get your students to stand in a circle. Get them to throw the wool back and forward across the circle. Does this look like a spiders web? Why doesn't the spider make a web in a random way like this?

Recoil the wool. Hand out the sticky back plastic, sticky side up, and place the printed spiders web underneath. Get your students to try and create the same shape as the picture under the plastic. For older students maybe try without the picture underneath.

The students should begin to have a better understanding and appreciation for how the spiders web is made.





## Activity 4

### Butterfly Life Cycle Project

This exercise allows you to talk about the life cycle of the butterfly from caterpillar to chrysalis to Butterfly.

**You will need:** Clothes peg, tissue paper, pipe cleaner, toilet paper roll, brown wool

- Cut squares of tissue paper and fold them in an accordion style. Place the clothes peg in the middle of the paper and spread the tissue paper out to make the wings. Use the pipe cleaner around one side of the peg end of the clothes peg to form antennae.
- Wrap the brown wool around the toilet paper roll to form the chrysalis. This can be held in place by a staple at the beginning and the end of the wool.
- You can tuck the butterfly into the toilet roll.
- Push out the butterfly from the chrysalis to show the last step of the butterfly's life cycle.

## Activity 5

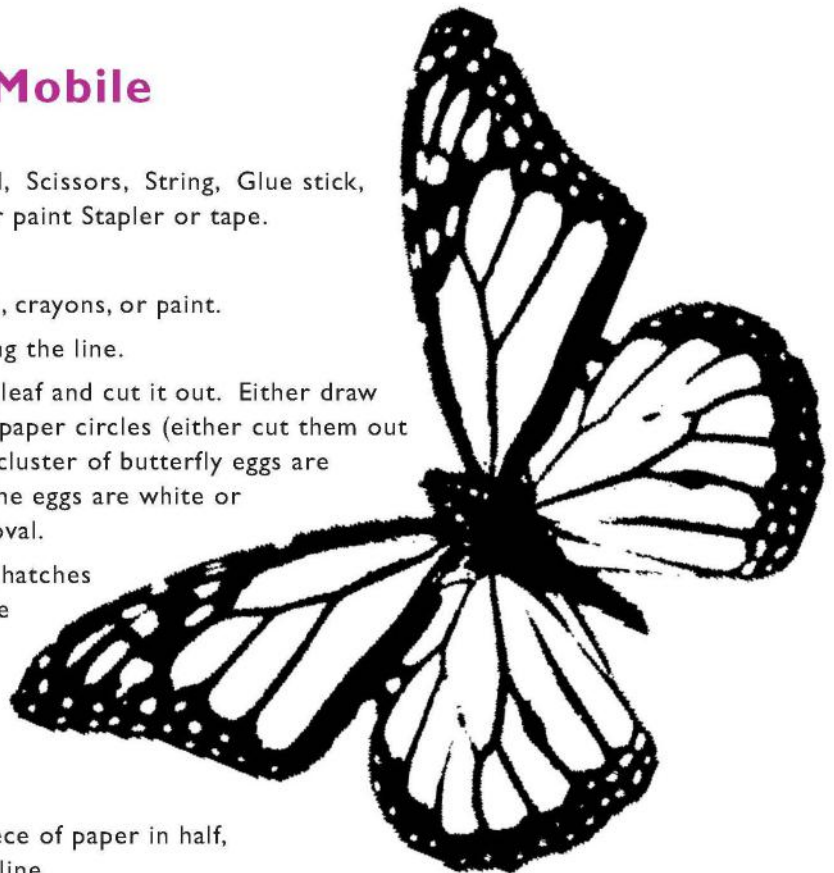
### Butterfly Life Cycle Mobile

**You will need:**

Many colours of paper or gift wrap, Pencil, Scissors, String, Glue stick, A sturdy paper plate, Markers, crayons, or paint Stapler or tape.

**What to do:**

- Decorate the paper plate using markers, crayons, or paint.
- Draw a spiral on a paper plate. Cut along the line.
- Using green construction paper, draw a leaf and cut it out. Either draw tiny butterfly eggs on it or glue on tiny paper circles (either cut them out or use a hole punch to make some). A cluster of butterfly eggs are usually laid on the underside of a leaf; the eggs are white or yellow or greenish, and are circular to oval.
- Draw and cut out a caterpillar (the egg hatches into a caterpillar, which spends its entire time eating leaves). Decorate it.
- Draw and cut out a pupa (the stage during which the caterpillar makes a protective case around itself and turns into a butterfly). Decorate it.
- To make butterfly wings, fold a small piece of paper in half, and draw half a butterfly along the fold line.
- Using dark paper, make a body for your butterfly (it's basically a long oval with a circular head).
- Glue the body to the wings and decorate your butterfly.
- Staple or tape the stages in the butterfly's life cycle to string and then to the paper plate.
- Attach another short length of string to the plate; it will be used to hang the mobile up.
- You now have a great butterfly life cycle mobile.

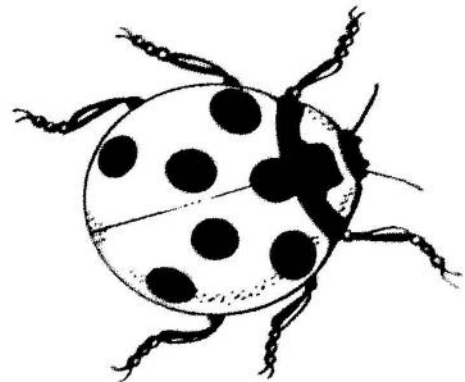
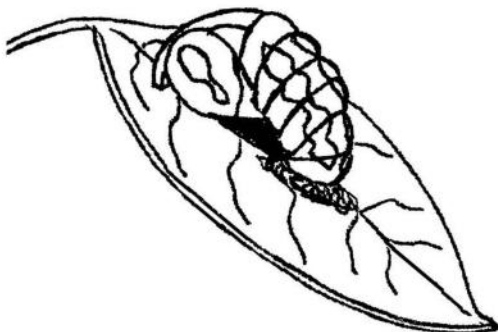
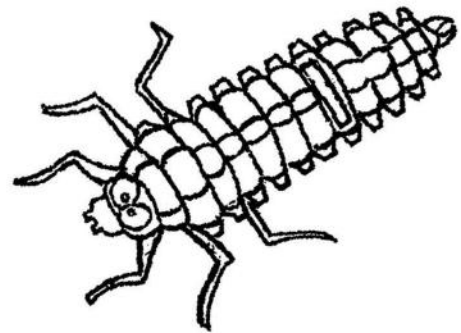
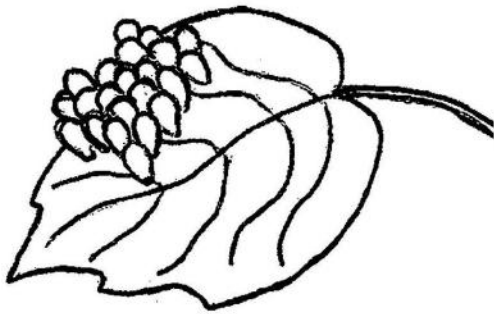


## Activity 6

Use the cards below to help your students learn about the life cycles of different animals and insects they can encounter in their own school yards and gardens.

### Ladybird Life Cycle

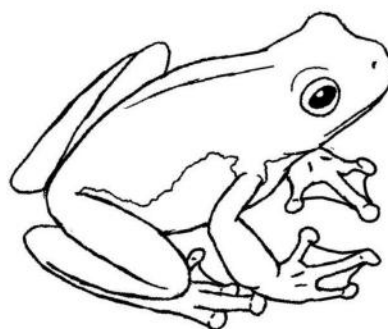
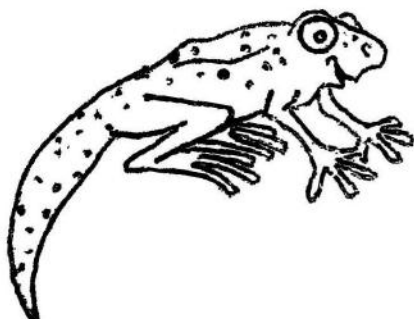
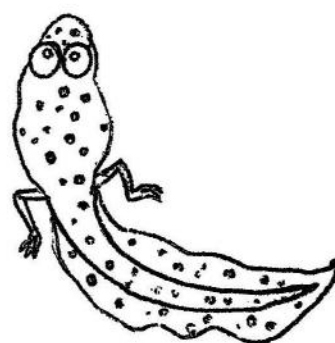
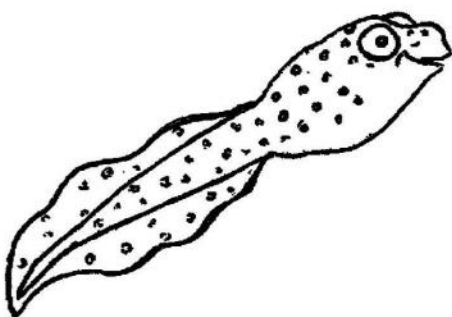
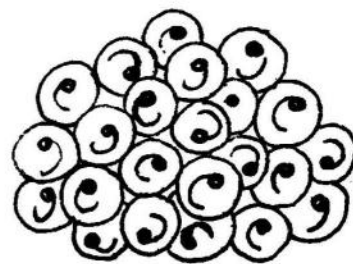
Egg – Larva – Pupa – Adult





## Frog Life Cycle

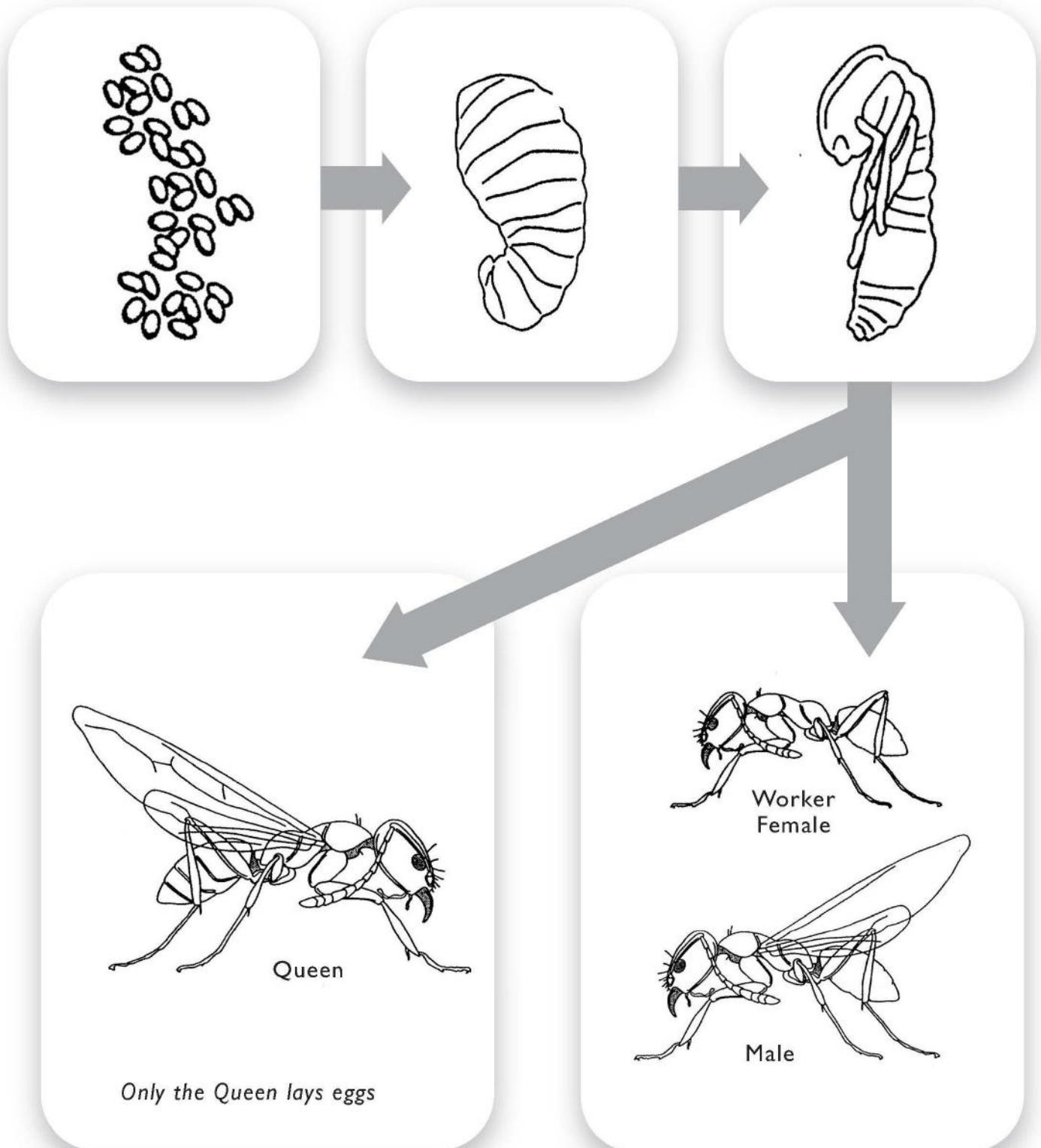
Frog Spawn – Tadpole –  
Tadpole with legs – Adult



## Activity 6

### Ant Life Cycle

Egg – Larva – Pupa – either Worker Female / Male or Queen





## Activity 7



*Little Miss Muffet  
sat on a tuffet*

*Eating her curds  
and whey;*

*Along came a spider,  
Who sat down beside her*

*And frightened  
Miss Muffet away!*

## Curds and Whey

Milk can be changed into different foods. Using the Little Miss Muffett rhyme, this small experiment demonstrates what curds and whey are.

It also demonstrates how cheese is formed from milk.

### **You will need:**

- See-through glass / jug
- Milk
- Vinegar
- Muslin (or J-Cloth will do)

### **What to do:**

- Fill the clear cup half-way with milk,
- Add 2 tablespoons of vinegar and stir
- Let it sit for about 2-3 minutes
- The vinegar makes the milk separate into a solid, called curd, and a liquid, called whey.
- You can separate them further by draining it through the muslin.  
(Not meant to be eaten!)

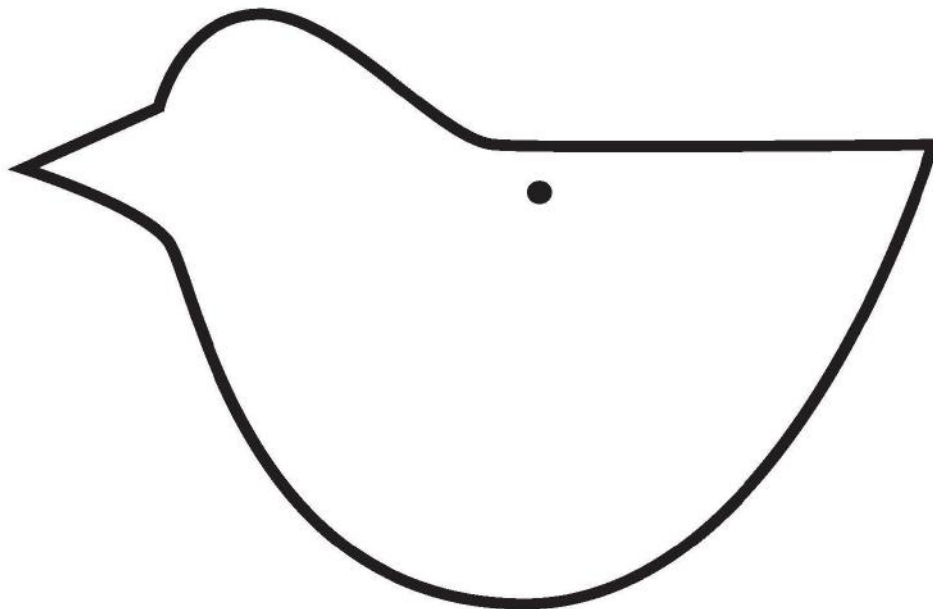


## Activity 8

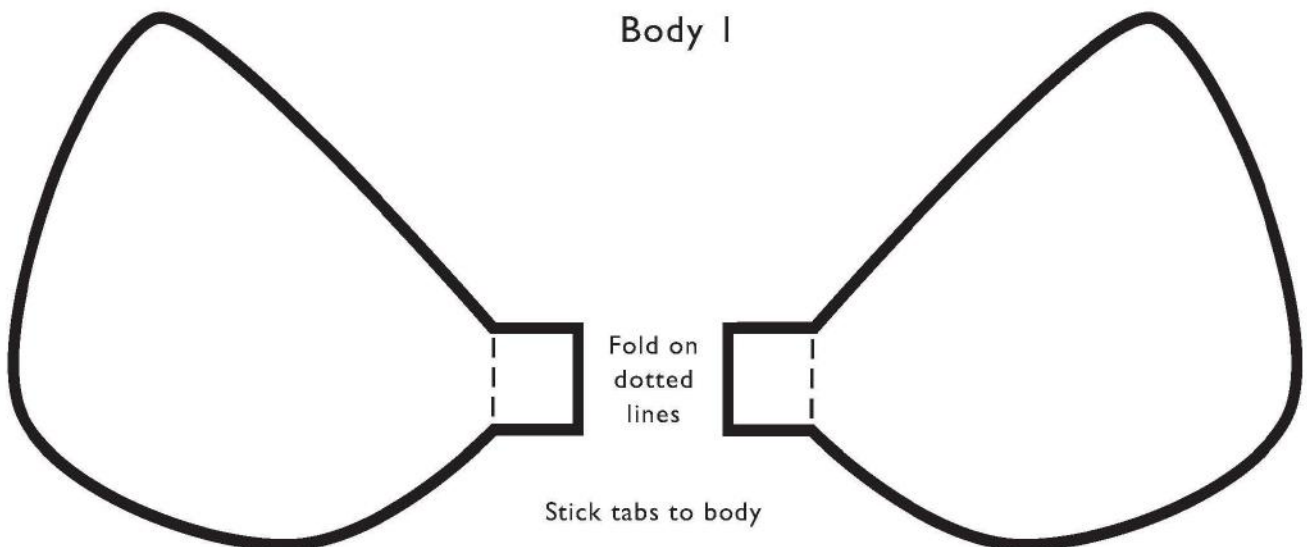
### Building Birds

This activity is aimed at establishing an understanding of the different parts of the bird, their balance and how they can fly.

The wings and tail feathers of the bird are essential to the flight of the bird. The Primary and secondary flight feathers (Remiges) are carried on the bird's wings. They provide lift and propel the bird through the air during flight. The Tail Feathers (Retrices) act as a rudder and are concerned with steering and maintaining balanced flight. The Tail feathers (Retrices) are symmetrical and provide stability during flight similar to the rudder on an airplane.



Body 1



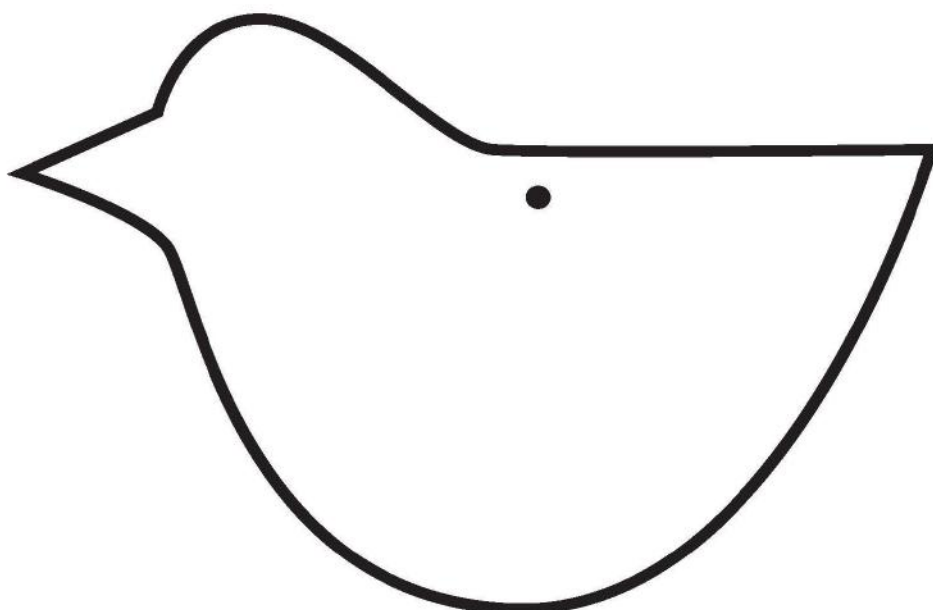
Wing 1

Wing 2

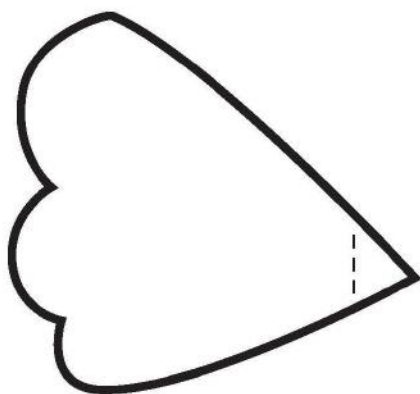


## Building Birds continued

Using the outlines below, cut out the shapes, decorate them and hang them from the ceiling to make a flock of birds. Fan out the tail and fold out the wings to show the bird in flight. You can talk to your students about how the wings and tail are essential for helping the bird to fly and controlling its direction. You could use a lighter paper for the wings that would enable them to flap up and down.



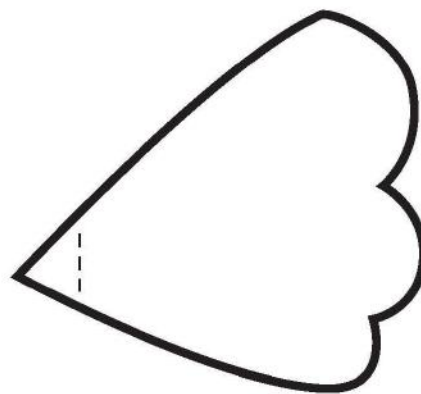
Body 2



Tail 1

Stick tabs to inside of body

Fold on  
dotted  
lines



Tail 2

Stick tabs to inside of body

## Activity 9

### Spider Feet

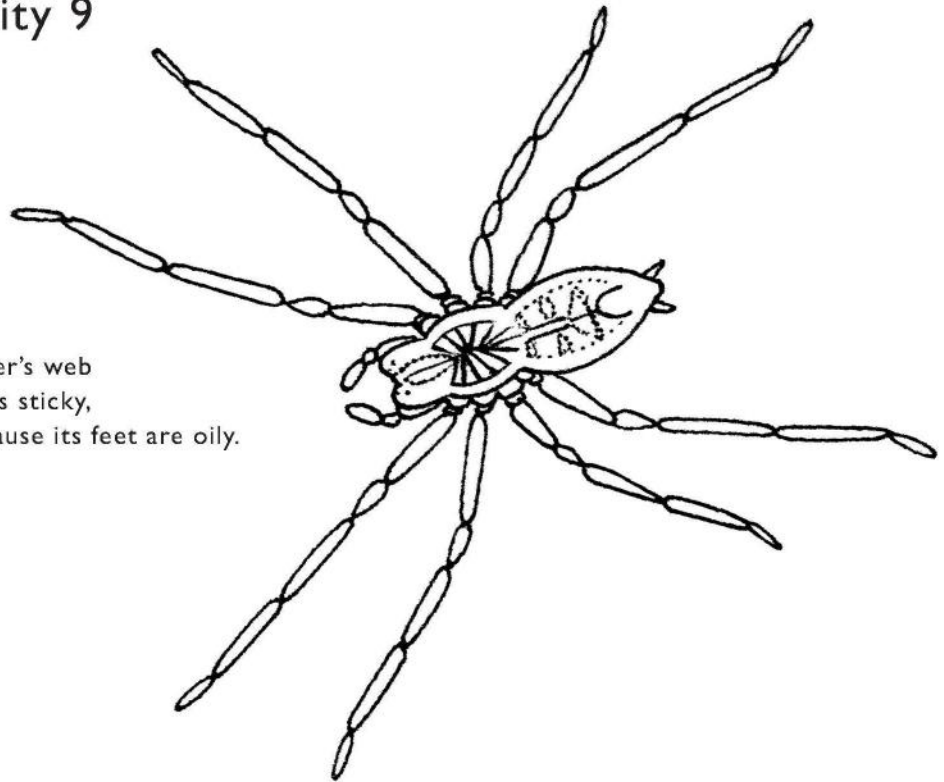
Insects get stuck in a spider's web because the spider's web is sticky, but a spider does not because its feet are oily.

#### You will need:

- Sticky back plastic
- Permanent marker
- Oil
- Tape

#### What to do:

- Draw a web on the non-sticky side of the sticky back plastic.
- Peel off the backing and tape its sticky side up to the desk.
- Get the students to try and walk their fingers across the plastic – can they do it?
- Get them to lightly oil their fingertips.
- Get the students to move their fingers over the sticky back plastic – is it easier now?



## Activity 10

### Fun Feathers

Feathers are made from Keratin – which is the same substance that makes up our fingernails! As they are growing they receive nourishment through the open ended base, but once they are fully formed they are dead structures receiving nothing more than strong physical support from the skin in which they are embedded. They can last for a long time and are replaced as they wear out during a process called moulting. There are 3 types of feathers;

- Down - These are the small, fluffy feathers found close to the skin and they help to maintain the body temperature of the bird.
- Contour - These feathers cover the body of the bird. These feathers help to keep the wind and rain away from the bird's body while providing a more aerodynamic shape.
- Flight - These feathers provide the lift for flight and stability for the bird.

Using the outlines right, you can decorate and pin up your feathers to make a large bird display for your classroom.





## Activity 11

### Build a Nest

Using small twigs, leaves, grasses and anything else you can find in your school yard – can you build a nest?

Birds get a cue from day length about when to start nest-building, as the days get longer there will probably be more sun, more warmth, and more food, so it's the right time to build a nest and raise babies.

Birds will use anything they can find to make their nests – in some urban environments this can mean rubbish and litter is used. Why do you think the birds use it, and why do you think it could be dangerous for the baby birds?

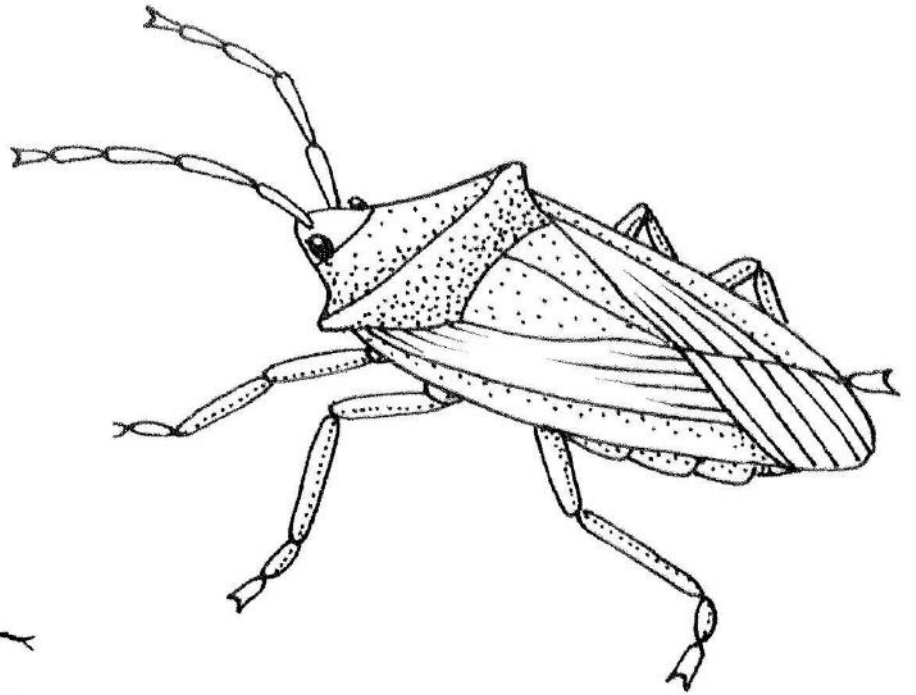
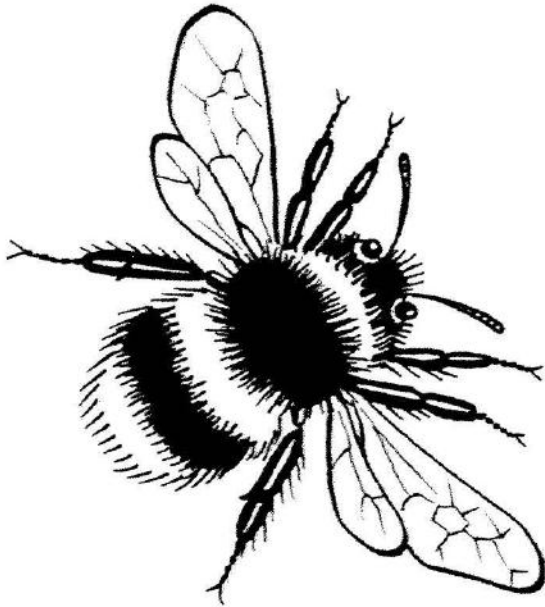
Some birds are really smart and bring herbs and strong smelling plants into their nests. This helps keep the amount of parasites in the nest at a low number so the young can grow faster. Most birds will leave their nests and build a new one after the chicks have fledged as the old one could be filled with mites and fleas.

#### ***Some hints and tips for building a nest.***

- Gather Grass and Mud
- Collect grass and small twigs that are about 6 inches long. You should try and gather about four good handfuls. Mud can also be helpful to bond the grass and twigs together, so maybe collect this too.
- Weave, stick and sculpt
- Weave the grasses and twigs together and use the mud to hold it all together. Try to keep the soft grass to the inside of the nest where the chicks would be living.
- Birds use their chests to smooth out the inside of the nests – but we can use our fingers.
- Use some soft grasses – or any other soft material you have found to make the inside of the nest ready for chicks!

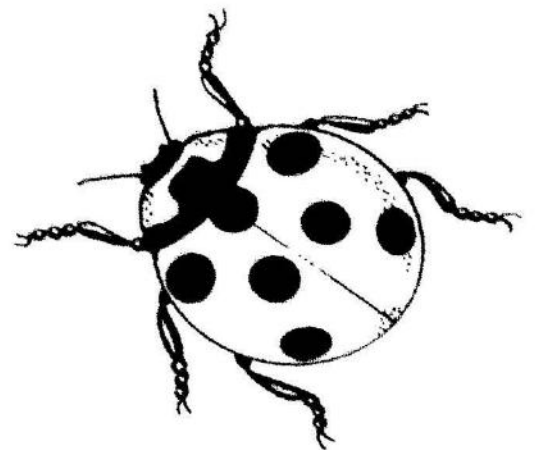
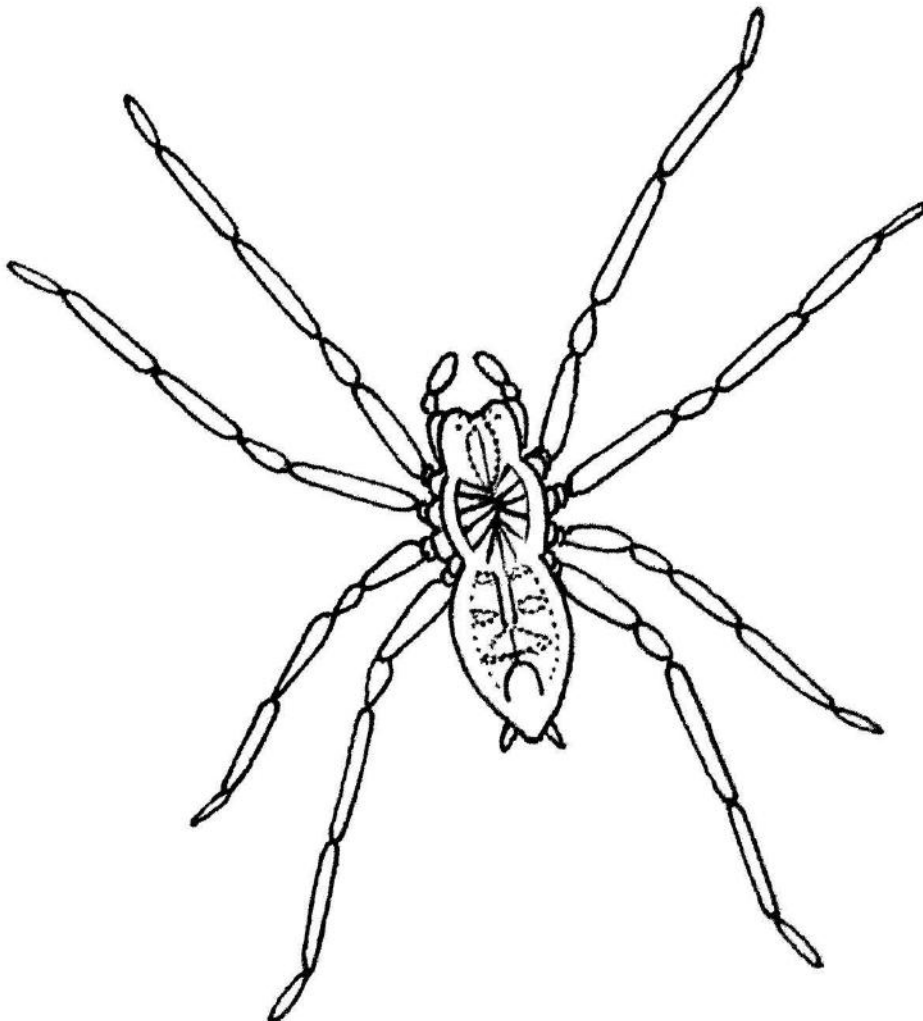






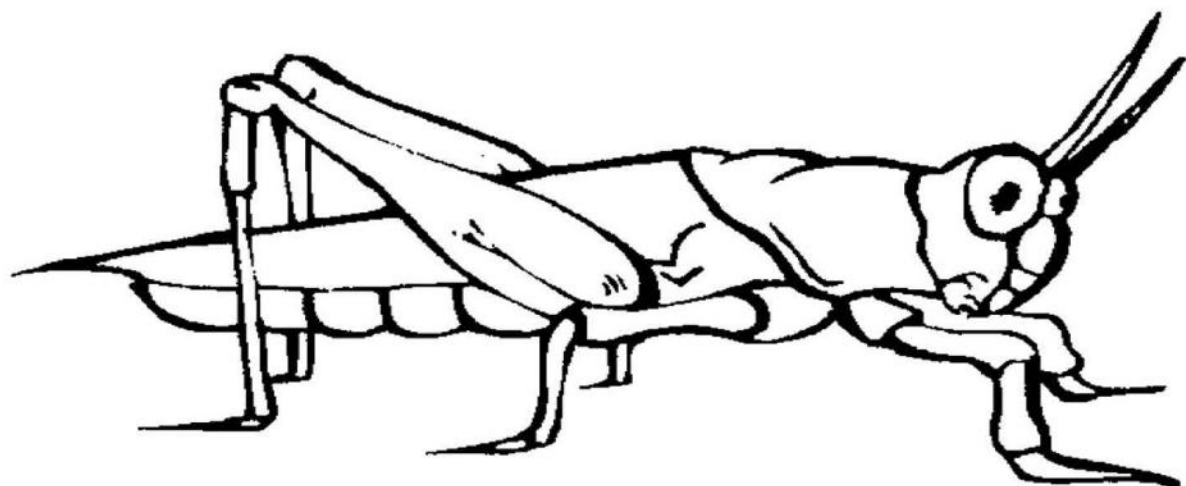
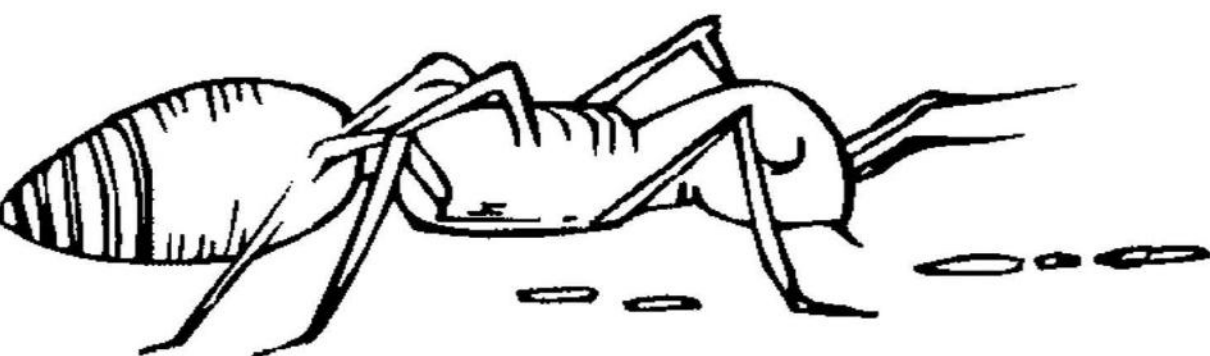
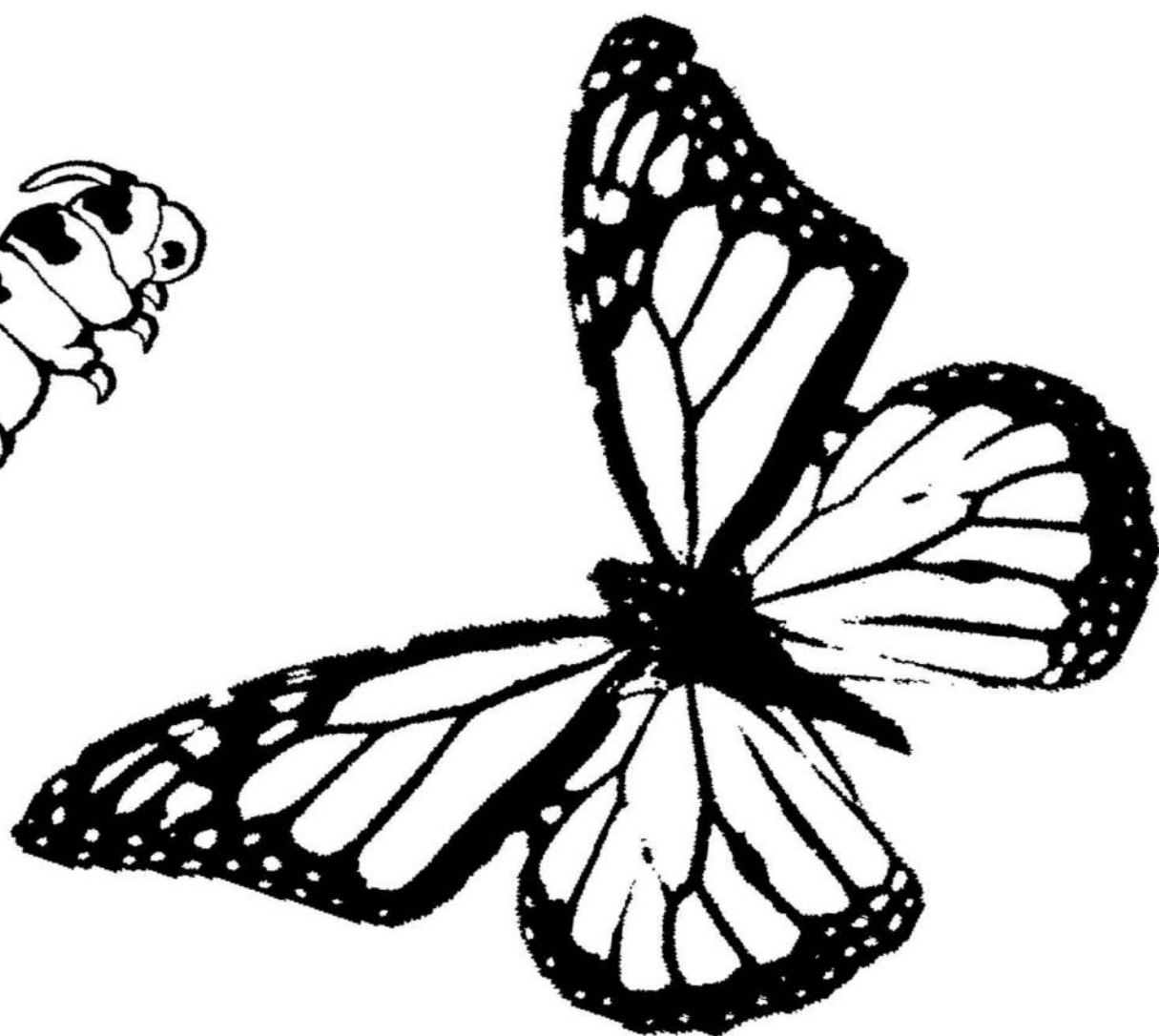
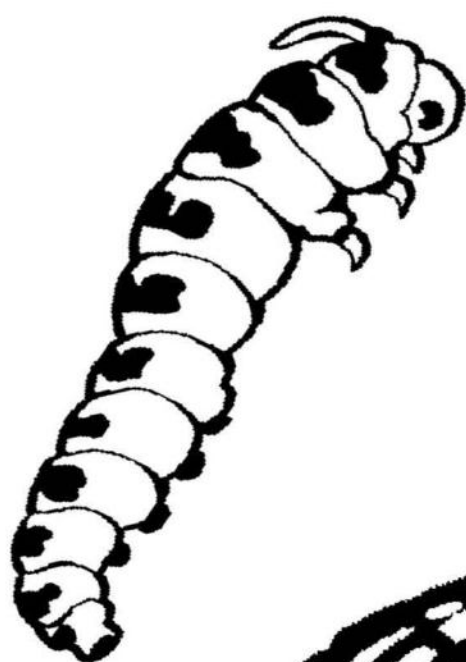
## Cut out the insects

You can cut out the  
insects on these pages or  
photocopy them too.





## Notes







airfield  
estate

Can you find one  
of Airfield's busy  
bees at work?