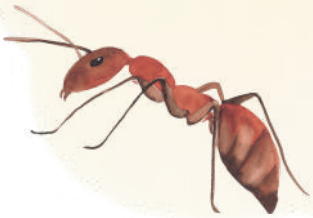
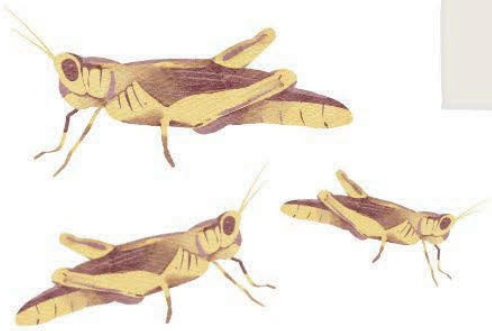
Insect unit

These insect posters are best printed on thick paper,. They are created to be printed on one standard size A4 piece of paper and simply cut out to make mini cards. Add them to a frame, laminate them, mix them with other animal units.Create your own questions for them or even other activities. These worksheets are created to be adaptable



COLLECTIVE NOUNS

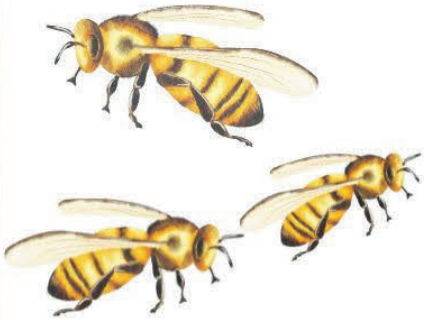
INSECTS



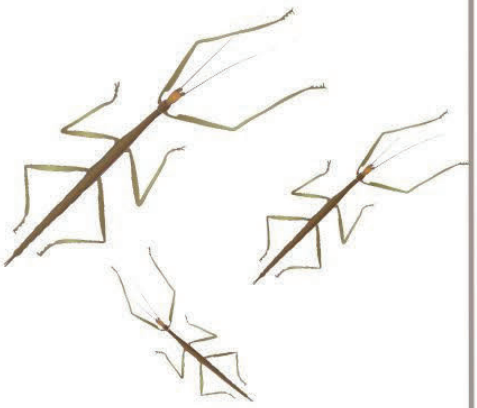
A cloud of grasshoppers

A ramble of butterflies

A colony of ants

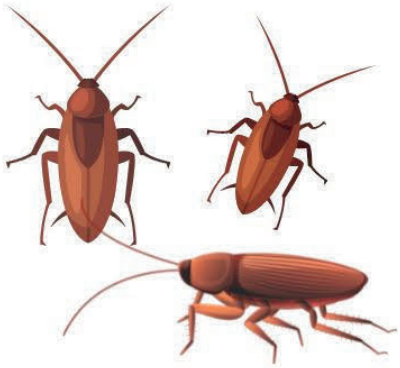


A swarm of bees

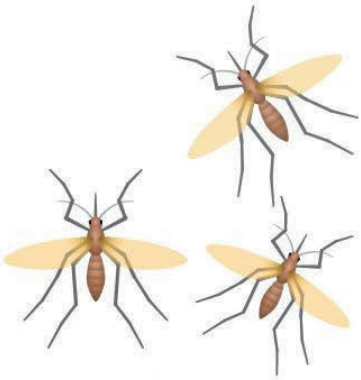


A bushel of stick insects

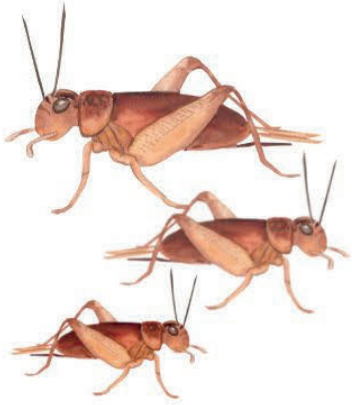
A loveliness of ladybugs



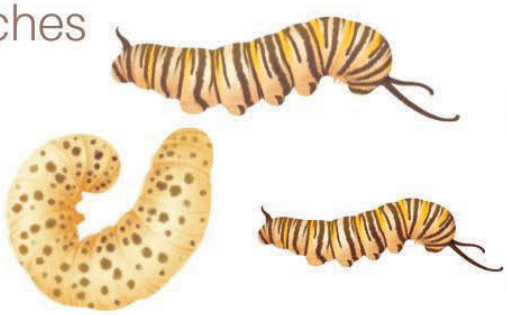
An intrusion of cockroaches



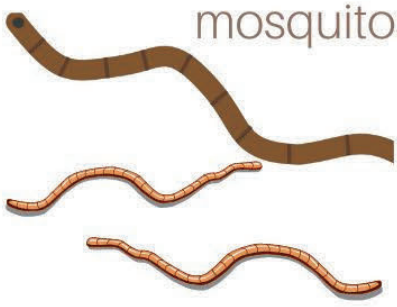
A scourge of mosquitos



A orchestra of crickets

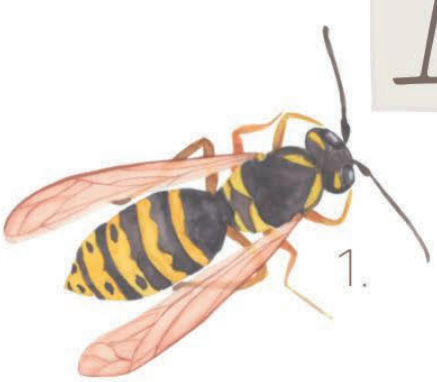


An army of caterpillars

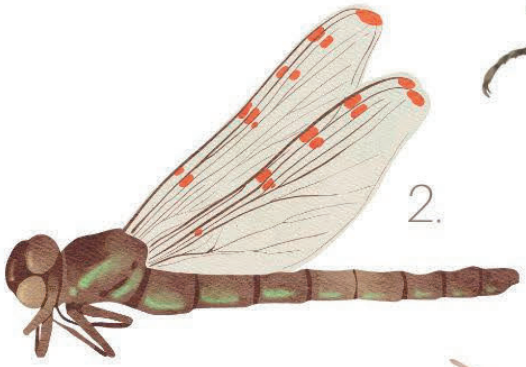


A clew of worms

Insects



1.



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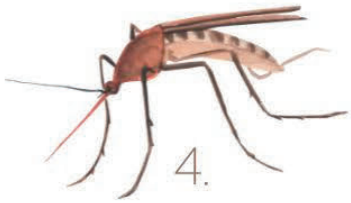

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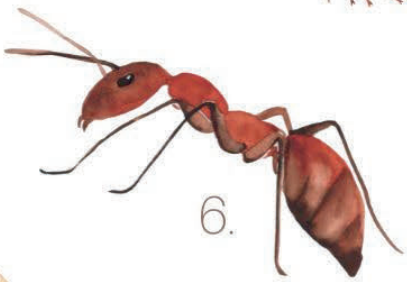

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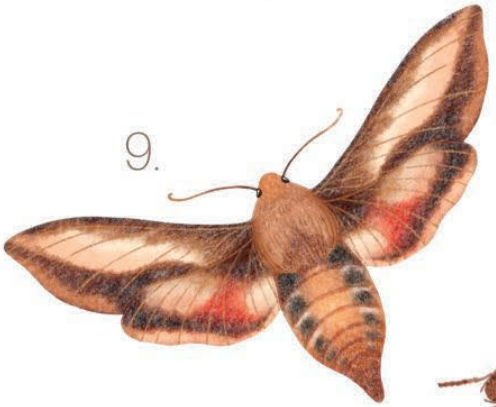

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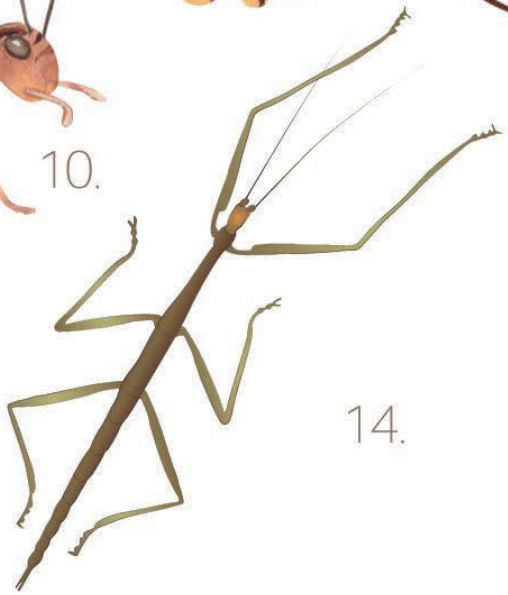


14.

1.wasp 5.flea 9.moth 12.ladybug

2. dragonfly 6.ant 10.grasshopper

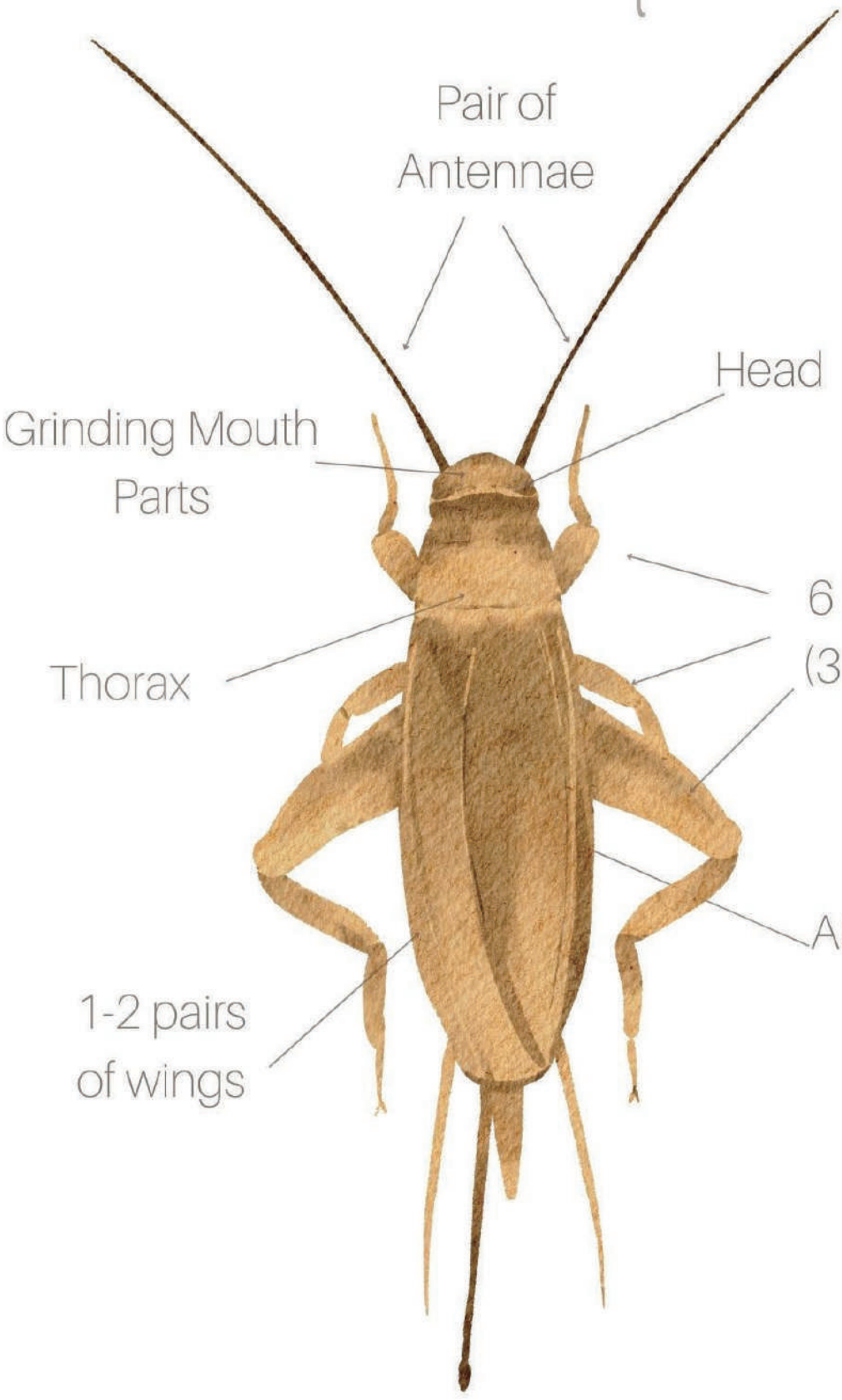
3.beetle 7.butterfly. 11.caterpillar 13.termite

4.mosquito. 8.bee 14.stick insect

What is a INSECT ?

Insects are invertebrates meaning they don't have a backbone. The body of all insects consists of three parts – the head, abdomen, and thorax. Most insects have six legs on their body and two antennae on top of their head.Some insects also have 1 to 2 sets of wings. As insects are cold-blooded, their body temperature changes as per the temperature of their environment. Insects are vital to every ecosystem. They pollinate plants, decompose plant and animal matter, and are themselves a source of food. Birds alone are estimated to eat 400 to 500 million tons of insects per year. It's estimated that there are currently 10 quintillion insects on the globe. So far scientists who study bugs, called entomologists, have named one million insect species but studies estimate that four million are still uncategorized.

THE PARTS OF A *Insect*



MORE FACTS ABOUT INSECTS

INSECTS ARE MOSTLY SOLITARY

Most insects like to be by themselves but some, such as certain bees, ants and termites, are social and live in large, well-organized colonies.

WHAT DO INSECTS EAT ?

Insects eat a huge range of foods. Around half are plant-eaters, feeding on leaves, roots, seeds, nectar, or wood. There are insects that eat other insects, and some even drink blood. And some insects will eat whatever scraps of food you leave lying around

INSECTS AND HUMANS

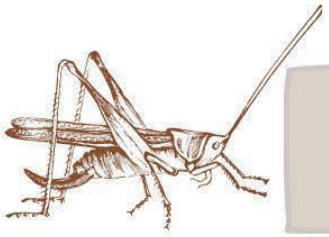
Silkworms and bees have been used extensively by humans for the production of silk and honey, respectively.In some cultures, insects, especially deep-fried cicadas, are considered to be delicacies, whereas in other places they form part of the normal diet.Insects help pollinate human crops like the busy bee.

SO MANY INSECTS

There is around 200 milion insects to 1 human.Insects are the most versatile animal group in the world and roughly over 90% of the animal life forms on Earth are insects.

WAYS INSECTS COMMUNICATE

Insects have many different ways of communicating. They communicate through touch with their antennae and mouths; visually through combinations of flashes of light and combinations of colour; they make sounds to attract others of their own species or to send out signals to other species; and by smell: they produce chemicals called pheromones to send signals to within a species and chemicals called allomones for the warning signals that insects send out to other species.



The antennae

All insects have sense organs that allow them to see, smell, taste, hear, and touch their environment.The main sense organs of most insects are the antennae (feelers) on their heads. These are often long and slender That are covered with tiny sensitive hairs. The antennae helps insects to ,be able to sense touch, air motion, heat, vibration (sound), and especially help insect with smell and taste.Some insects use their antennae as a way of communication with each other.

Some insect characteristics

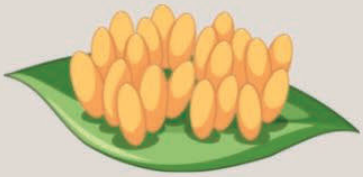
Instead of lungs, insects breathe with a network of tiny tubes called **tracheae.** Air enters the tubes through a row of holes along an insect's abdomen. The air then diffuses down the blind-ended tracheae.Adult insects typically move about by walking, flying or sometimes swimming.Many insects are camouflaged, so that predators do not see them. Some species are armed with stingers or foul-tasting poison. Many of these have bright colors, such as black-and-yellow stripes, to warn enemies away.

LIFE CYCLE OF A INSECT

Hemimetabolous metamorphosis

VS

Holometabolous metamorphosis



Egg

Young nymph

Larger nymph

Adult

Egg

Larva

Pupa / or cocoon

Adult

Incomplete metamorphosis

Complete metamorphosis

Cut out the arrows and place them next to the correct metamorphosis facts column down below

INSECTS LIFE CYCLE

Most insects begin life as an egg. Once they hatch, they go through several stages of physical development in their lifetime, from starting life of as a egg to their final adult stage.The physiological changes that occur and differentiate one stage of an insect's life from another is called metamorphosis. While some insect species go through what is called "incomplete metamorphosis," others go through complete metamorphosis.

Holometabolous (complete metamorphosis)

Some insects that develop using holometabolous life cycle stage include Beetles, ,moths, butterflies, skippers sawflies, wasps, ants, bees and flies. All of these groups have a life cycle where the egg hatches into a larva (e.g. a caterpillar, grub, maggot) which goes through an inactive, pupa stage (e.g. wrapped up like a cocoon) before emerging as an adult (e.g. a butterfly, beetle, wasp).

Hemimetabolous (incomplete metamorphosis)

Some insects that develop using hemimetabolous life cycle stage include Scales, Aphids, Whitefly, Cicadas, Leafhoppers,True Bugs Grasshoppers,Crickets, Praying Mantids,Cockroaches,Earwigs Dragonflies and Damselflies. These groups go through gradual changes as they turn into adults. Immature forms of these insects are called nymphs and these gradually increase in size and change form. As the insect grows, it sheds its skin (called moulting). After each moult, the nymph looks a bit different or a bit bigger. After a final moult, the full adult form emerges

Types of Insect Metamorphosis

In general, entomologists divide insects based on the kind of metamorphosis they go through. There are 3 main classifications of insects based on metamorphosis.

Ametabolous

- **Ametabolous organisms exhibit very little or no metamorphosis throughout their lives. As such, ametabolous insects go through gradual development through their lives and larvae and adults have more-or-less the same body plans. Examples of ametabolous insects include silverfish, springtails, and bristletails**

Hemimetabolous

- **Hemimetabolous insects show simple or partial metamorphosis throughout their lives. Hemimetabolous insects exhibit gradual physical and behavioral changes through the stages of their life. Hemimetabolous nymphs often resemble adult specimens but may develop wings or extra appendages as they mature. Hemimetabolous insects include cockroaches, mantids, termites, grasshoppers, and dragonflies.**

Holometabolous

- **Holometabolous insects undergo what is called "complete" metamorphosis where each stage of their life is marked by a distinct physical appearance. Holometabolous insect larvae generally bear no resemblance to their adult forms and may exhibit wildly different diets and behaviors. The most common examples of holometabolous insects are butterflies and moths. Both butterflies and moths begin life as caterpillars that have a drastically different appearance than their adult forms. As they mature, they go through metamorphosis into a pupal resting stage and then emerge as winged adults. While in the pupal stage, the insect's tissues and organs completely liquify and rearrange into the adult form.**

Insect unit

These insect worksheets are best printed on normal paper, so it makes them easy to fill out.Get your child to read and research the questions (which are all in this insect facts unit pack) These worksheets are created to be adaptable

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Complete the insect

Name:_____

Draw the other half of the ladyBug and then colour it

TELL ME ABOUT INSECTS

Now that you have learnt some interesting insect facts , its now time to answer some insect questions

1) What is a insect ?

2) Can you List 2 insects that go through a incomplete metamorphosis growth stage ?

3) How many insects on the planet is there estimated to be?

4) What is a group of caterpillars call ?

5) What are some different ways insects use to communicate with each other?

6) What are the 2 main groups insects can be divided into ?

7)How many species of Ladybugs are there?

TELL ME ABOUT INSECTS

Now that you have learnt some interesting insect facts , its now time to answer some insect questions

8) What is the name of the oldest ever found insect fossil?

9) How do most insects begin life?

10)What are the 3 ways insects move around?

11) What percentage of insects live on land ?

12) How long do lady bugs typically live for?

13) What insects are socially and like to live amongst others?

14)If you were a insect which insect would you be and why ?

Insect unit

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INSECT
Scavenger Hunt

Ant

Snail

LadyBug

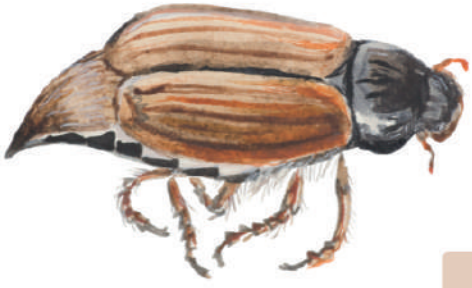
Bee

Mosquito

Worm

Cricket

Butterfly

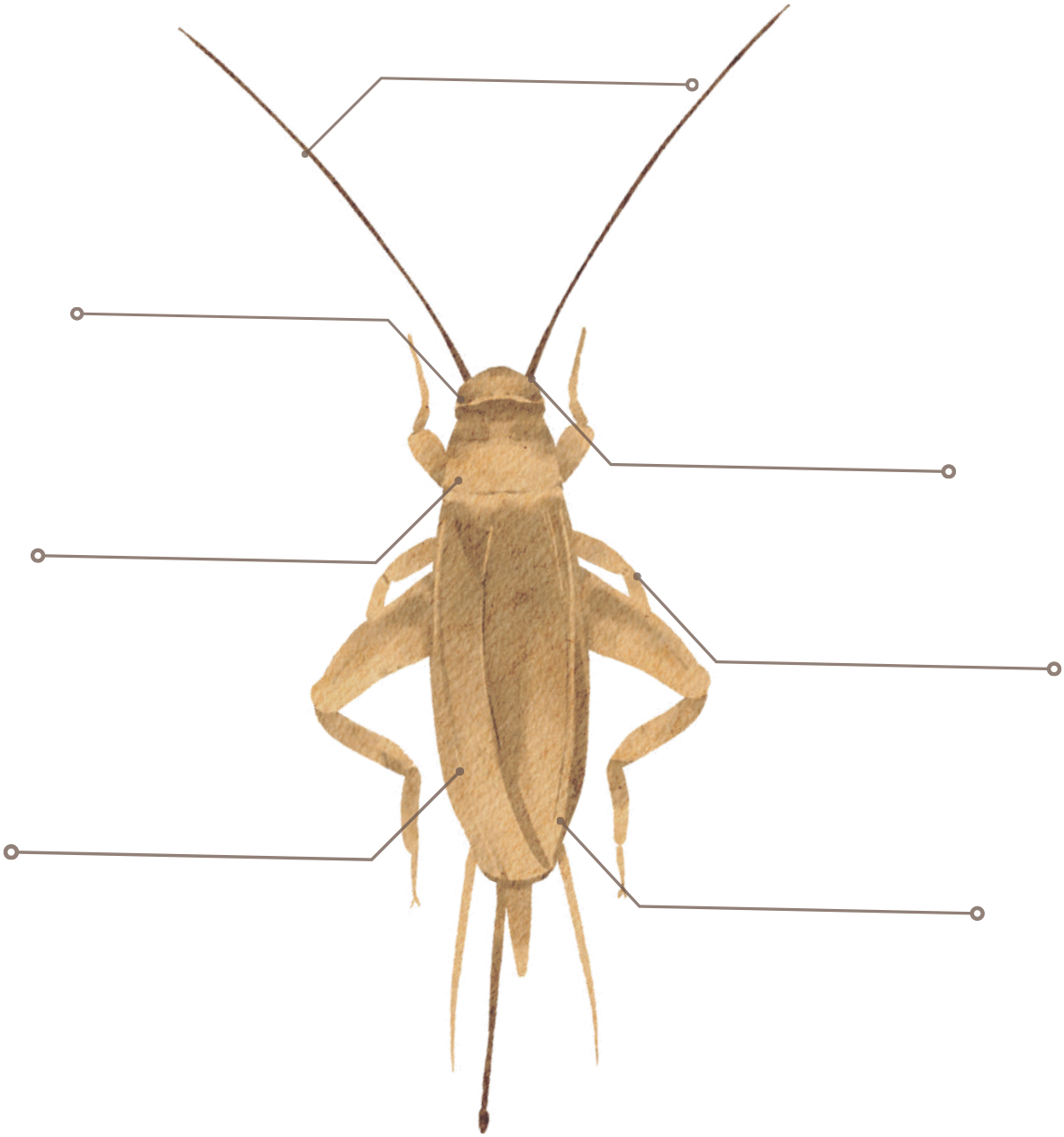


Beetle

Caterpillar

Can you list

THE PARTS OF A INSECT?



Pair of Wings

Antennae's

Abdomen

Head

Pairs of legs

Thorax

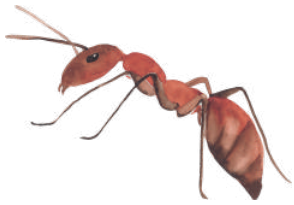
mouth

Insects

Write the correct answer!

Name : _____

1. _____



2. _____

3. _____

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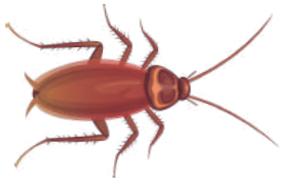
5. _____

6. _____

7. _____

8. _____



9. _____

10. _____

11. _____

12. _____

Butterfly	Cockroach	Flea	Bee
Grasshopper	Ladybugs	Dragonfly	Moth
Mosquito	Caterpillar	Ant	Fly

Life Cycle of a LADYBUG

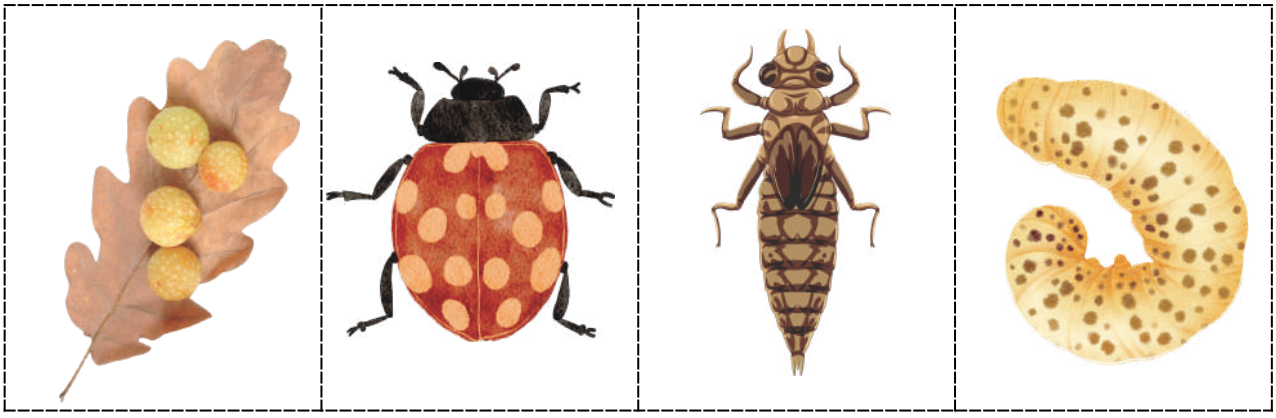
Name _____

EGGS

LARVA

PUPA

LADYBUG



Cut around the images and place in order on the lifecycle diagram above

Insect unit

These insect worksheets are best printed on THICK card stock or watercolour paint paper, .They are all created to be printed on one standard size A4 piece of paper and simply cut out to make mini cards.Page 6 can be printed on normal A4 paper -easy to fill out
Add them to a frame, laminate them, mix them with other animal units.Create your own questions for them or even other activities.
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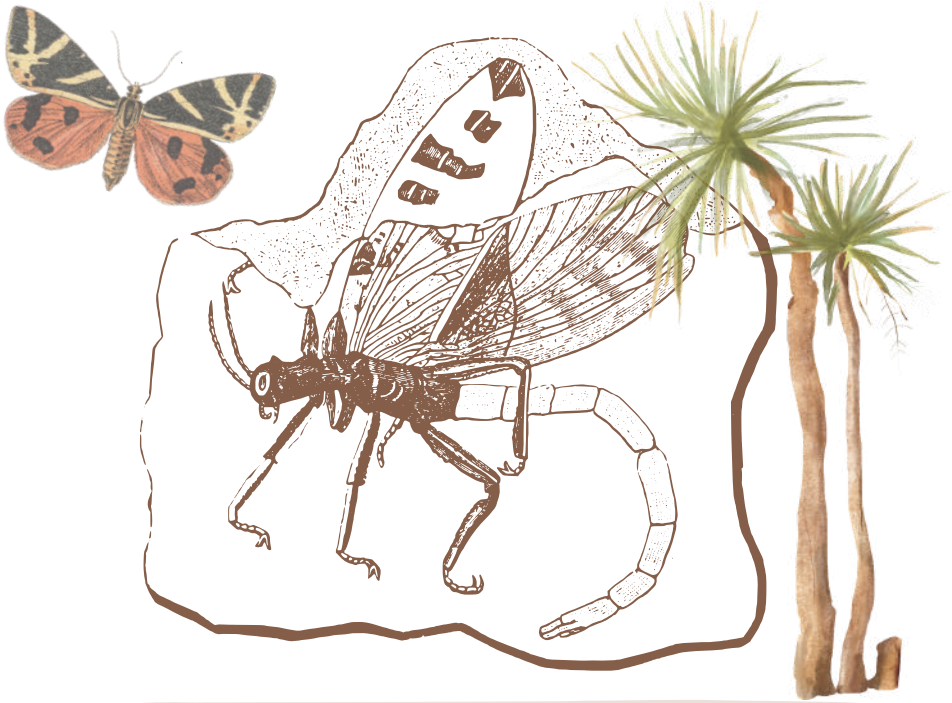


The oldest insect ever found is the fossilised Rhyniognatha hirsti, which lived in what is now Aberdeen, Scotland, UK, approximately 410 million years ago - that is 30 million years older than any other known insect fossil! Although no wings survive, its triangular jaw structure is similar to those of winged insects, suggesting that insect flight was 80 million years older than previously thought. It could also hint at why insects started to fly. Shortly before Rhyniognatha lived, the world's plants had sprouted from dwarfs no more than a metre high into giants more than 30 metres tall. It is possible that insects coped with the new environment by learning to glide from treetops to the ground.

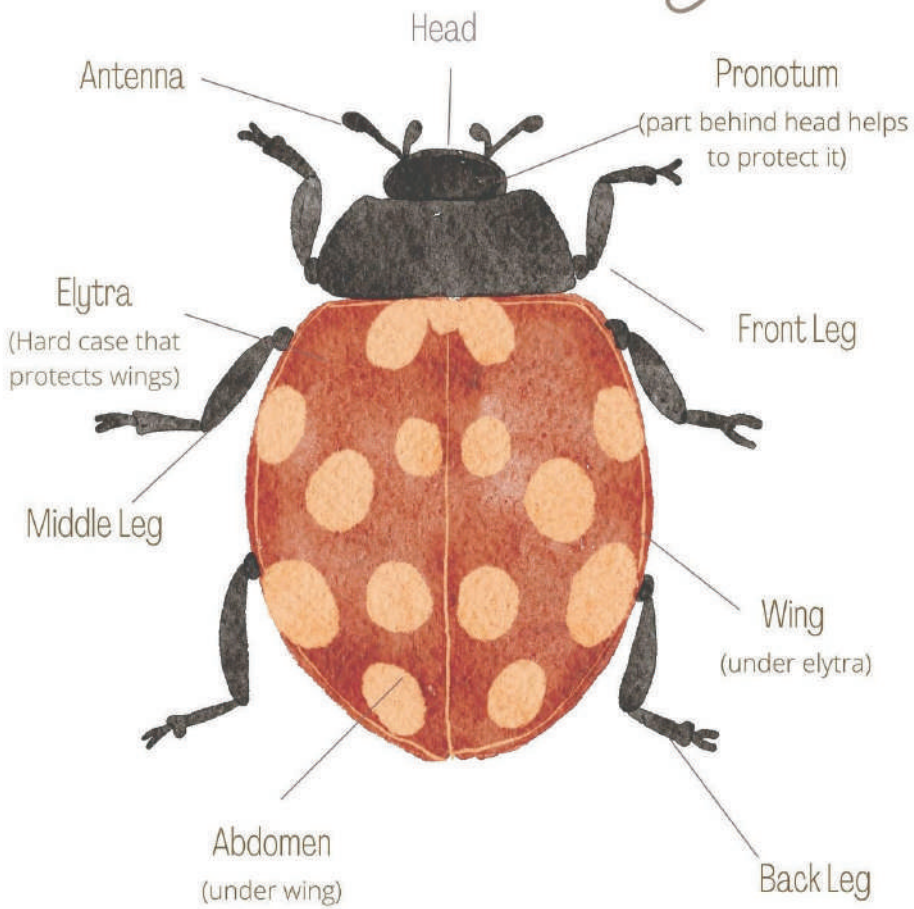
FACTS ABOUT *Insects*

Studies estimate the total number of species on Earth is between six and ten million and potentially represent over 90% of the differing animal life forms on Earth.
Insects live in just about every habitat on Earth, from the sands of hot deserts to cold snowy mountain streams. Most insects live on land, in fact about 97% do.There are about 1.4 billion insects for every person on Earth. Insects eat a huge range of foods. Around half are plant-eaters, feeding on leaves, roots, seeds, nectar, or wood. There are insects that eat other insects, and some even drink blood. And some insects will eat whatever scraps of food you leave lying around

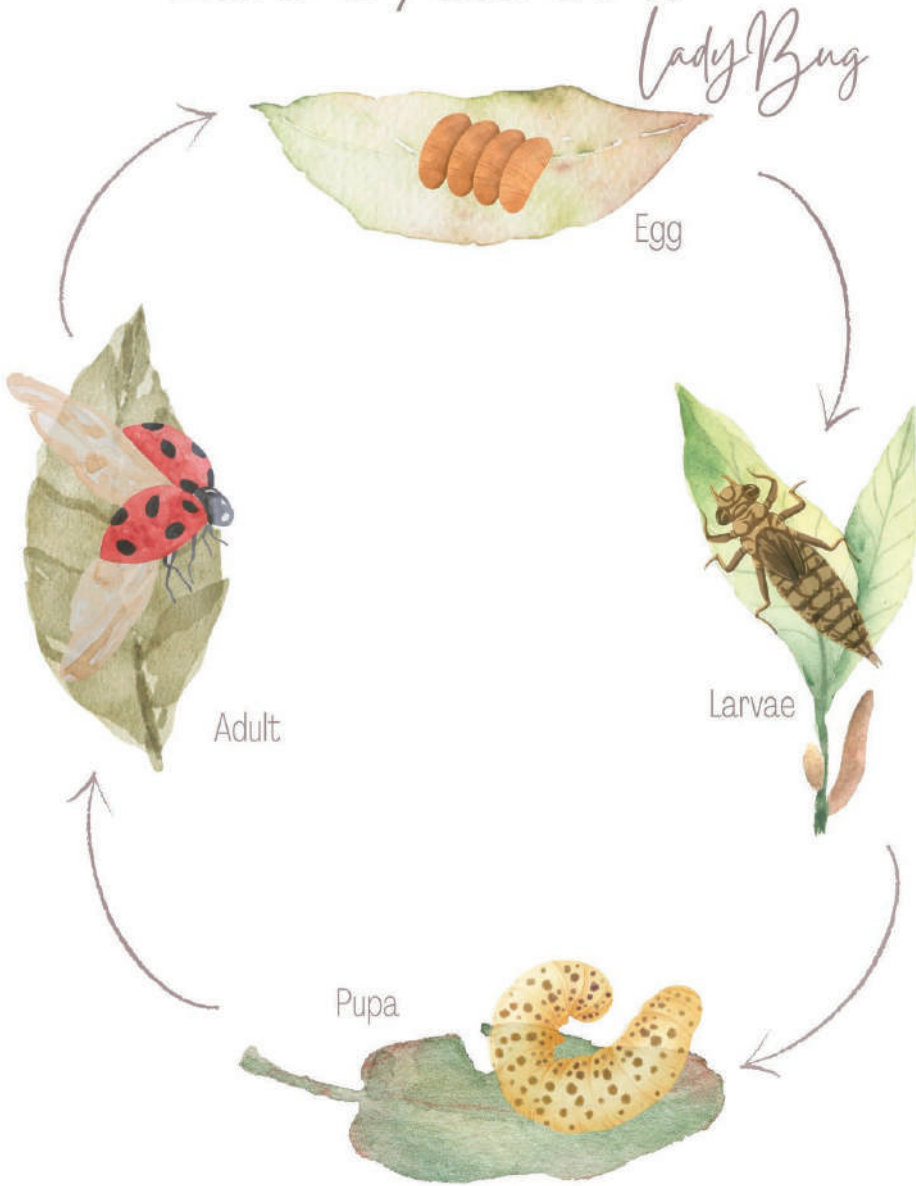
FUN FACTS ABOUT THE *Lady Bug*

There are 5,000 different species of ladybugs,450 of which live in North America alone. The most common colour found in ladybugs are red and black or yellow and black, but some are as plain as black and white, others as exotic as dark blue and orange.In fact Some species of ladybug are spotted, others have stripes, and some have a checked pattern. Ladybugs love to eat scale insects, whiteflies, mites, and aphids .A hungry adult ladybug can devour 50 aphids per day,farmers and gardeners love lady bugs as they help keep crop and plant pests down.A adult lady bugs life span is about 1-2 years.

Anatomy of a *LadyBug*



Life Cycle of a *LadyBug*



Insects can be divided into *Two* main groups

Wingless Insects

subclass: apterygota

&

Winged Insects

subclass: pterygota

Adult insects typically move about by walking, flying or sometimes swimming.
Many insects are camouflaged, so that predators do not see them. Some species are armed with stingers or foul-tasting poison. Many of these have bright colours, such as black-and-yellow stripes, to warn enemies away.

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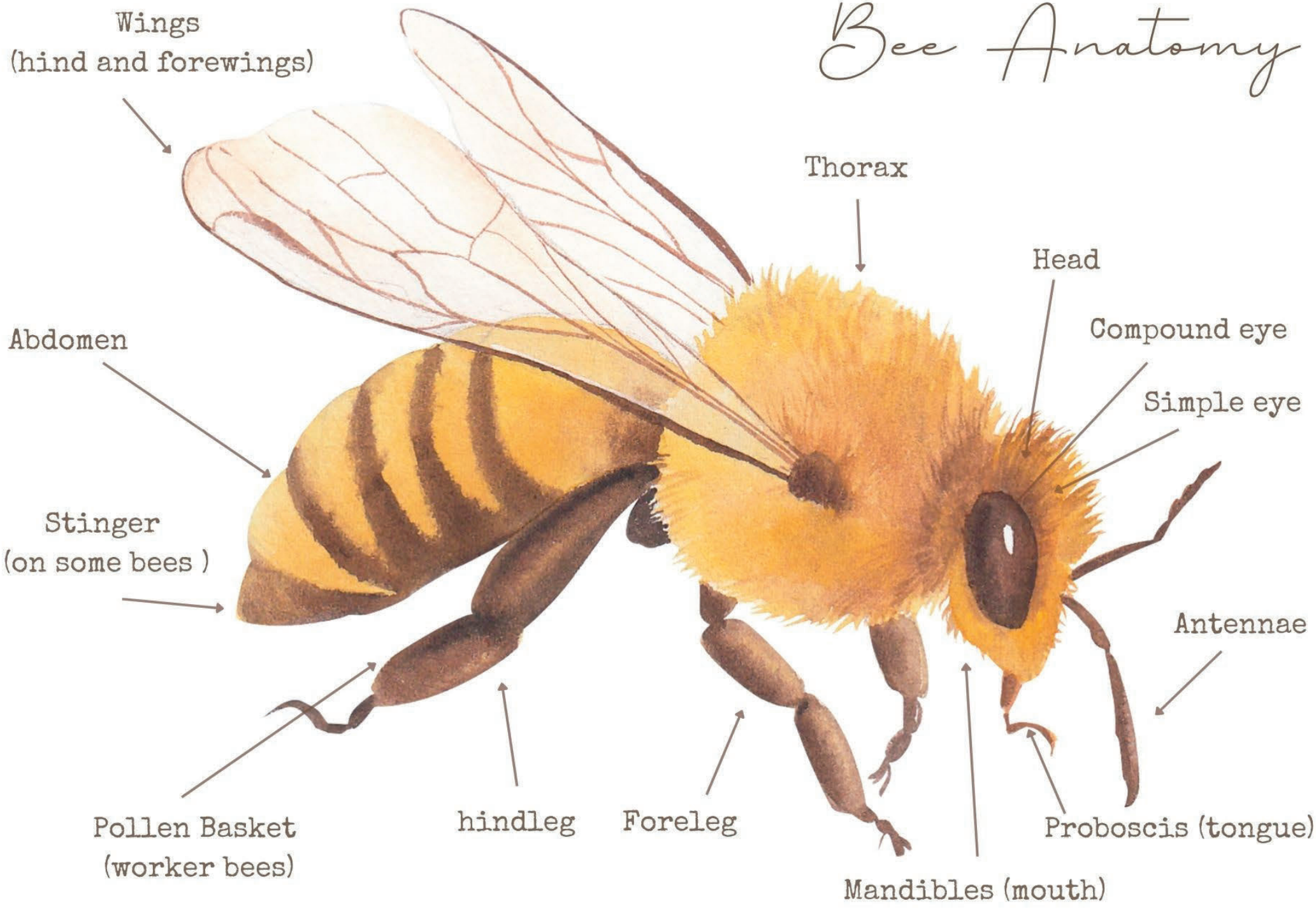
Bee Anatomy


Wings
(hind and forewings)
Thorax
Head
Compound eye
Simple eye
Abdomen
Stinger
(on some bees)
Antennae
Pollen Basket
(worker bees)
hindleg
Foreleg
Mandibles (mouth)
Proboscis (tongue)

Moth

1 2 3 4 5 6 7 8 9 10

DRAW THE INSECT

Draw pictures to show the different types of insects

Butterfly

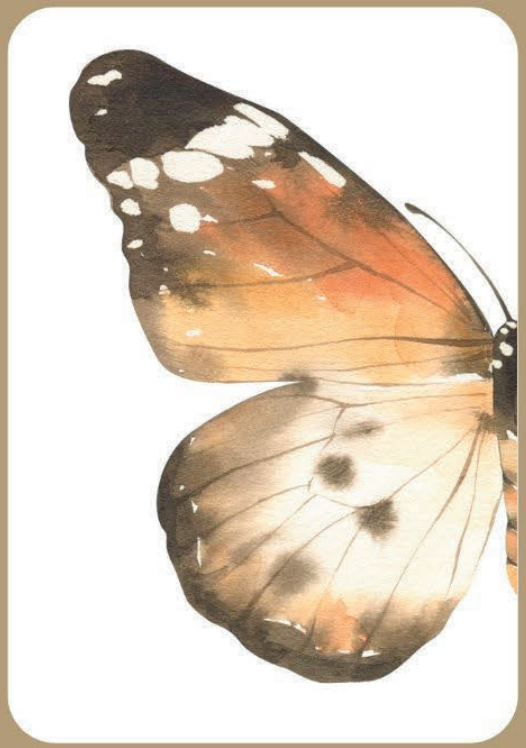
Grasshopper

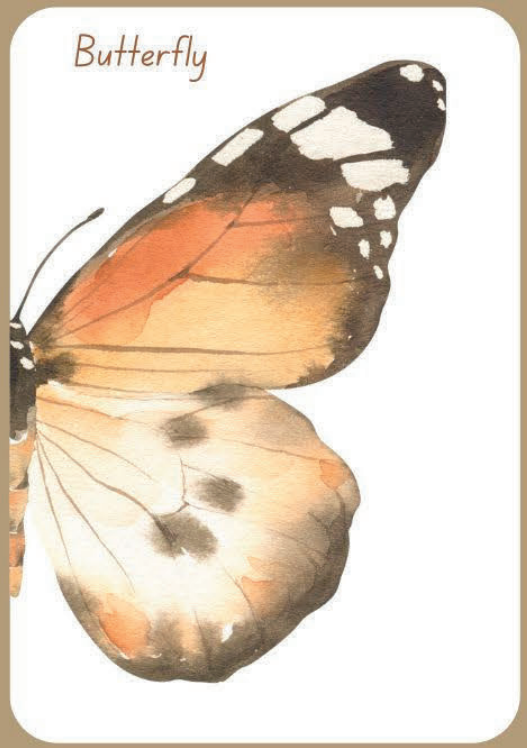
Bee

Beetle

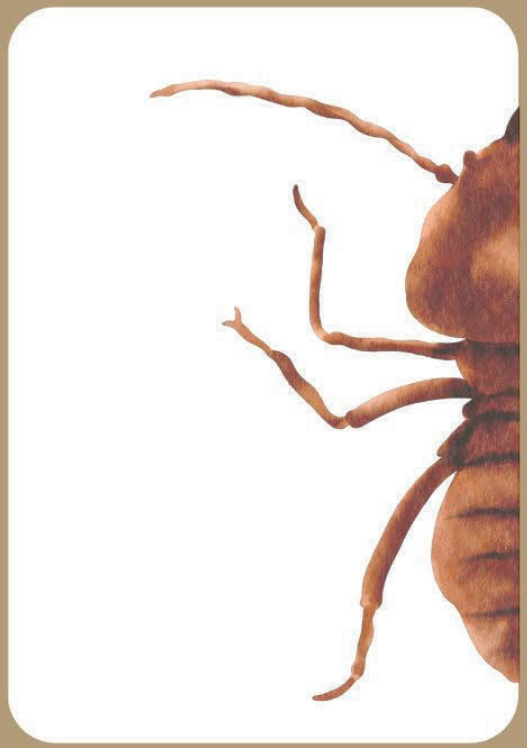
Ant

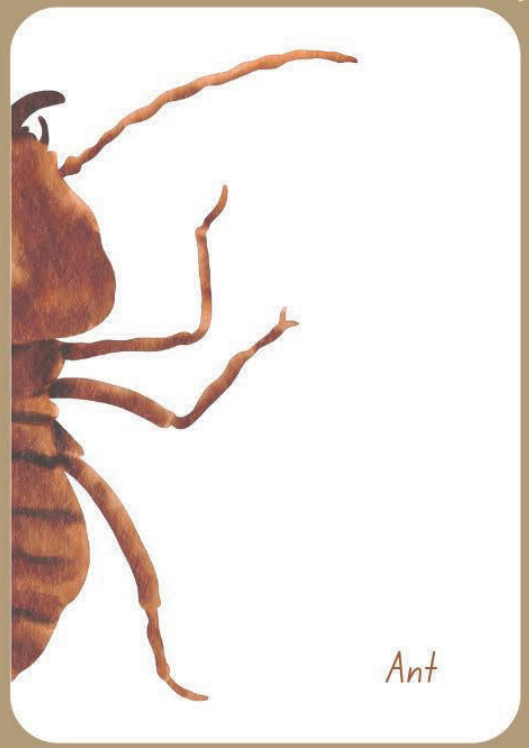
LadyBug



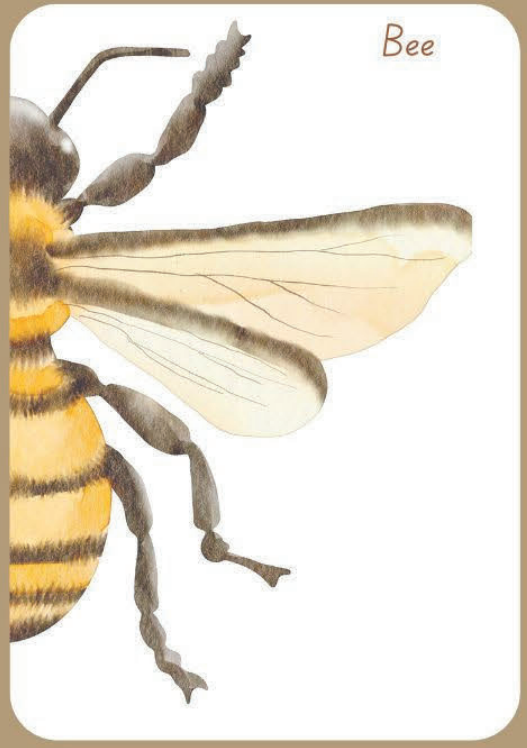


Butterfly





Ant



Bee

Grasshopper