

# LEEDS CASTLE'S MINI BEAST ACTIVITY BOOK

## MINI BEAST ACTIVITY BOOK FUN & FACTS

### THIS BOOK BELONGS TO:

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There are billions of insects to be found in the grounds of Leeds Castle.



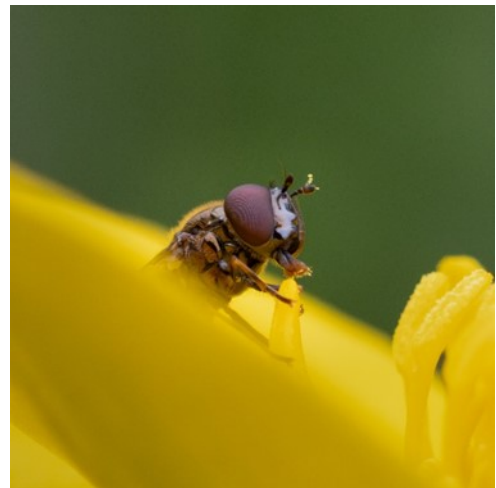
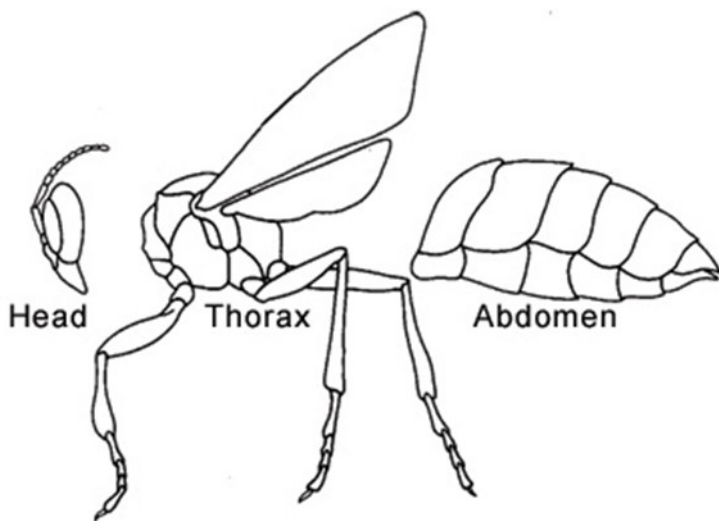
Look out for them, learn about them and enjoy the games and activities as you complete this mini beast booklet.

## WHAT IS AN INSECT?

Invertebrates are animals without a backbone. These include multi-legged, hard-bodied minibeasts known as arthropods\*, as well as corals, slugs and snails, worms and soft-bodied sea creatures. Arthropods can then be separated into groups including crustaceans\*\* spiders and insects.

Insects all share a number of characteristics to help you identify them:

- Six legs
- Three body sections (head, thorax and abdomen)
- A pair of antennae
- An exoskeleton \*\*\*
- Compound eyes (*an eye made of a large number of parts, each with a separate lens*)
- Wings (in most cases)
- A three or four-stage life cycle (egg, larva, pupa and adult).



Three body sections

A hoverfly collecting pollen—compound eye clearly visible

\*Arthropod is the name for animals that have an exoskeleton: a hard outer covering. There are more than a million different arthropod types. Insects, spiders and scorpions are arthropods.

\*\*Crustaceans are animals that have a hard outer shell and many legs, many live in water. Crabs, woodlice, lobsters, and shrimps are crustaceans.

\*\*\*An Exoskeleton is a hard covering that supports and protects the bodies of some types of animals.

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## INSECT FUN FACTS

The beetle has the most species, accounting for 25% of all known insects.



Most insects have 2 pairs of wings.



There are about 1 million found and named species of insects, but probably another 5 million not found yet!



Fruit flies were the first living creatures to be sent into space!



Some moths can fly up to 25 miles per hour!

Insects form part of the food chain, for reptiles, amphibians and birds.



Grasshoppers existed before dinosaurs!



Insects are major pollinators



The Greater Water Boatman breathes through its bottom!

A bee's wings beat 190 times a second, that's 11,400 times a minute.

## THE LIFE CYCLE OF A BEETLE

Beetles are not born as beetles. There are four stages to go through first.

### Stage 1 The Egg

A beetle usually lays her eggs on a leaf



### Stage 2 The Larva

The larva must eat and eat  
It sheds its skin 4 or 5 times and  
can grow 100 times its size



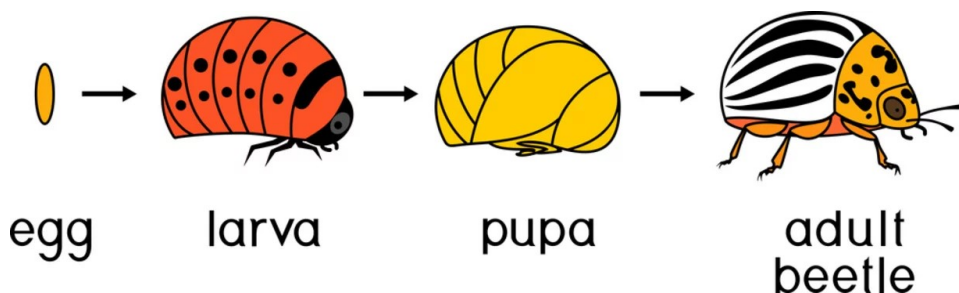
### Stage 3 The Pupa

When the larva is full grown and stops eating it becomes a Pupa.



### Stage 4 The Beetle

Some beetles live for only a couple weeks, while other species can survive for several years.



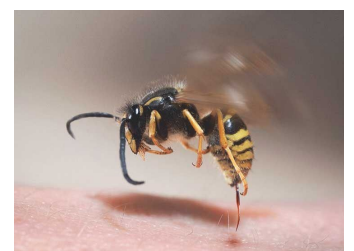
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## ANT & WASP FUN FACTS



- There are more than 12,000 different types of ants all over the world!
- Ants can lift 20 times their own body weight.
- Ant colonies are run by a single queen ant, who control all the other ants
- Some queen ants can live for many years and have millions of babies
- Ants don't have ears. Ants "hear" by feeling rumbles in the ground .
- Ants don't have lungs. Air enters and leaves through tiny holes all over their body.
- Ants leave an invisible trail (called a pheromone trail) everywhere they go, so they know where they've been.
- There are about 9,000 species of wasp in the UK. Only 9 of these form the large nests we usually think of. The rest are solitary.
- We all think wasps are bad, but they pollinate fruit, vegetables and flowers and they eat a lot of the pests that eat our crops!
- Wasps aren't all black and yellow. They come in a wide variety of shapes, sizes and colours, some are only 1mm long!
- Wasps have a sting to allow them to capture and immobilise their prey (such as aphids, caterpillars, flies and spiders). They may also sting to defend their nest.
- How can you tell the difference between a wasp and a bee? Usually just by looking at them. Wasps are different from bees because they have pointed (instead of rounded) lower abdomens, and a much narrower waist than bees.



## WHAT GOOD ARE INSECTS?

Some insects are pretty, beautiful even, but let's face it, most are not. Even the names 'bugs', 'creepy crawlies' make us think they are horrible. They bite us, they sting us, eat the flowers in the

garden, and spread diseases. And they are heavy!! Yes a little known fact...

*If all the insects living on this planet were put on a weighing scale, they would easily weigh 300 times more than all the existing humans "combined".*

So, what would happen without insects?

- The food chain would collapse—Almost all birds eat insects, and even those that eat seeds as adults still feed insects to their young. It takes 200,000 insects to raise a swallow chick to adulthood. Insects also break down plant matter and help recycle nutrients into the soil. **Without any insects at all, most bird and amphibian species would be extinct in two months.**

- No pollination—more than 75% of the crops produced in the world are pollinated by insects.

We get food from pollinated fruits, vegetables, etc. Plants are cultivated using seeds. If there is no pollination, we will not get anything to sow and our food sources will collapse. This is where the insects play a remarkable role. They pollinate flowers and assist in taking the first step in the formation of fruits and seeds. **If there are no insects, there will be no plants to support our basic food requirements.**

And finally—what if we lost the dung beetle—we would all be overwhelmed with poo!



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## I SPY AT LEEDS CASTLE

Be a Bug Detective and see how many of these insects you can find at Leeds Castle today.



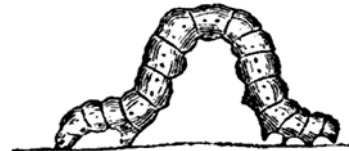
Spider



Ladybird



Earthworm



Caterpillar



Beetle



Snail



Dragonfly



Butterfly



Centipede



Ant

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## JUST FOR FUN

### INSECT WORD SEARCH

F G F E B I Q D E S L U J Q P  
L E U G L U E A R B P E A A H  
Y I U L B T T Z I I C I V V O  
I L F U A H E T E E B P D J V  
S T Z N R B N E E U I Y R E E  
G Y T W P M B M B R H I D B R  
G C O L D R A G O N F L Y A F  
K R R I B B V L S H U L L V L  
M H T A N H W A M D P E Y K Y  
K S V N B C Y D G R Y A U C S  
V J M S Z M S Y P L P W P Y R  
E R N O Y R V B Q U Y N S G T  
E G J R A L L I P R E T A C T  
S T K G W E X R S Z O Z W T W  
K O T D Z Q E D E P I T N E C

Ant  
Bee  
Beetle  
Butterfly  
Caterpillar  
Centipede  
Dragonfly  
Earthworm  
Hoverfly  
Ladybird  
Slug  
Snail  
Spider  
Wasp

## COLOUR ME IN

