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**Ants**

In one ant colony there may be several thousand ants all living together in an underground nest. Some ant species build nests in the form of a mound which may rise as much as 2 metres above the ground. Other ants live in wood or build a nest of leaves in a tree.

There are two types of ant which do not build a proper, permanent type of nest. Instead, these driver and legionary ants spend most of their time travelling in large masses, looking for prey and carrying their young with them. When not moving, these ants briefly nest underground or in hollow trees. They travel by night or on cloudy days. The soldiers will attack any animal that is in their way. They bite the prey and slowly tear it apart, piece by piece.



**Bees and Wasps**

The black and yellow wasps (sometimes called yellow jackets) are social insects as are the honeybees and bumblebees. However almost all of the thousands of species of bee and wasp are solitary.

Many females will build a nest for themselves and live alone. The cuckoo bee and many other wasps do not even build nests.

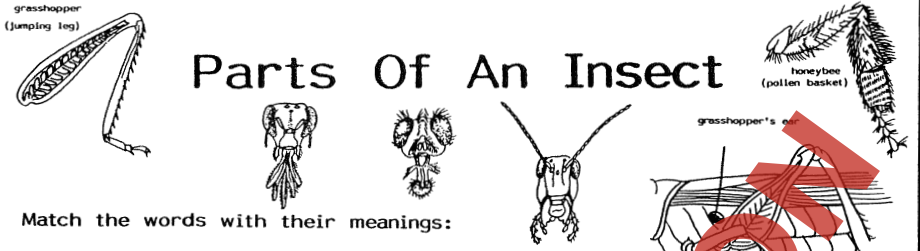
All nesting wasps are hunters and feed their larvae (grubs) on insect prey. Bees are vegetarian, feeding their young on the pollen and nectar which they collect from flowers.

Bees have many more hairs than wasps, making them furrier. They are covered with branched hairs which serve to trap pollen between them when the bee visits a flower. The

APHIDS GNATS CRICKETS GRASSHOPPERS WASPS BEETLES

GNATS BEETLES MOSQUITOES TERMITES COCKROACHES DRAGONFLIES

**Parts Of An Insect**

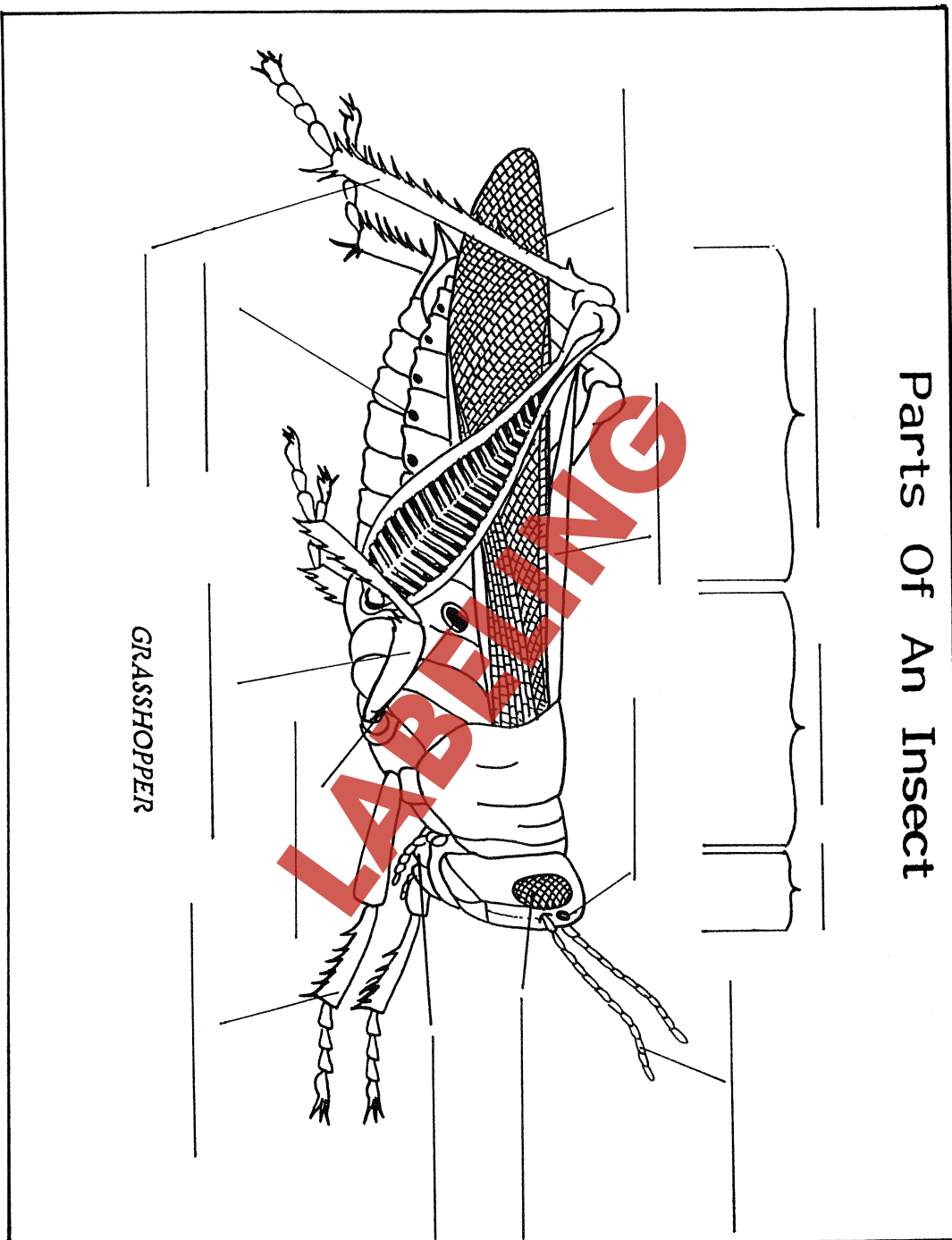


Match the words with their meanings:

- 1. spiracles \_\_\_\_\_ the hard forewings of beetles
- 2. typanum \_\_\_\_\_ the ear found on insects
- 3. hamuli \_\_\_\_\_ the main jaws of the insect's mouth
- 4. moulting \_\_\_\_\_ tiny holes on the sides of the insect's body that open and close to let air in
- 5. ocelli \_\_\_\_\_ small tubes to carry oxygen throughout the body
- 6. mandibles \_\_\_\_\_ the process of shedding an exoskeleton
- 7. halteres \_\_\_\_\_ hooks used to lock a bee's and wasp's two pairs of wings together
- 8. chitin \_\_\_\_\_ the hard exoskeleton is made up of this protein
- 9. elytra \_\_\_\_\_ simple eyes
- 10. tracheae \_\_\_\_\_ balancing organs found on flies

Answer each question carefully.

1. Every insect has two antennae. Why? \_\_\_\_\_
2. Why can't an insect break a leg as people do? \_\_\_\_\_
3. Why do you think an ant has only 9 lenses per compound eye but a dragonfly has a staggering 28 000 lenses per eye? \_\_\_\_\_
4. Why are there so many different types of legs found in the insect world? \_\_\_\_\_



Parts Of An Insect

GRASSHOPPER

APHIDS GNATS CRICKETS GRASSHOPPERS WASPS BEETLES

GNATS BEETLES MOSQUITOES TERMITES COCKROACHES DRAGONFLIES

**Insect Orders "Fact Sheet"**

Select one of the major orders of insects and read the information sheets which have been provided. Complete the fact sheet below with as much detail as possible.

ORDER: \_\_\_\_\_

INSECT SPECIES WITHIN THE ORDER \_\_\_\_\_

TYPE OF METAMORPHOSIS \_\_\_\_\_

TYPE OF MOUTHPARTS \_\_\_\_\_

FEEDING HABITS \_\_\_\_\_

WINGS \_\_\_\_\_

IMPORTANCE TO MAN \_\_\_\_\_

Order	Metamorphosis	Type of Mouthparts	Wings	Insect Types
Odonata				
Orthoptera				
Hemiptera				
Homoptera				
Hymenoptera				
Coleoptera				
Lepidoptera				
Diptera				

**MOSQUITOES    TERMITES    DRAGONFLIES    COCKROACHES**

**The Honeybee**

HONEYBEE QUIZ: Circle whether the statement is true or false.

- Worker bees can make a new queen by feeding a larva continuously with royal jelly. T F
- A winter honeybee will live for about 6 weeks. T F
- In addition to nectar, workers will collect water to feed the thirsty grubs. T F
- Worker bees can lay eggs. T F
- The strongest drone will chase all the other drones out of the hive come winter. T F
- A queen bee will live for up to 5 years. T F
- Honeybees collect honey and pollen with their pointed 'proboscis' and store them in their 'honey-stomach'. T F
- The first job of a new worker is to make royal jelly for the young grubs. T F
- Brood cells come in three different sizes. T F
- When bees 'swarm', they are looking for a new hive with their queen. T F
- If a honeybee stings an insect, it will not die but if it stings you, it will. T F
- Guard bees rest motionless at the entrance to the hive, waiting to catch any intruder trying to sneak into the hive. T F
- Beekeepers look after apiaries. T F
- An insect is social if it lives in a colony where all the insects live together and help each other. T F
- Queens must lay up to 1 500 eggs a day because most of the eggs do not hatch. T F

**BUTTERFLIES    MOTHS    ANTS    BUGS    BEES    EARWIGS**

**BUSY AS A BEE**

Language

Complete the similes by supplying the appropriate ending.

wise as an _____	bear
gentle as a _____	ox
brave as a _____	bug
snug as a _____	hornet
slippery as an _____	lion
clumsy as an _____	eel
proud as a _____	owl
mad as a _____	lamb
cross as a _____	peacock

Think of other appropriate words that could be substituted for the last word...  
or  
Look through magazines to find pictures to go with the simile. Maybe your class can start a mini-book on similes.

**BELONGING TOGETHER**

Language

Match the words that belong together.

cactus	music
waist	horse
chorus	ballet
bee	desert
sleigh	wax
wand	tobacco
ax	belt
hockey stick	puck
pipe	wood
tutu	magician

Choose any insect and make a word collage that can later be put up in the classroom. Brainstorm words that are associated with your insect. See the example above.

**GOOD GUYS AND BAD GUYS**

Research

Some insects are useful, others are not. Copy the chart below to show five insects that are helpful and five insects that are harmful.

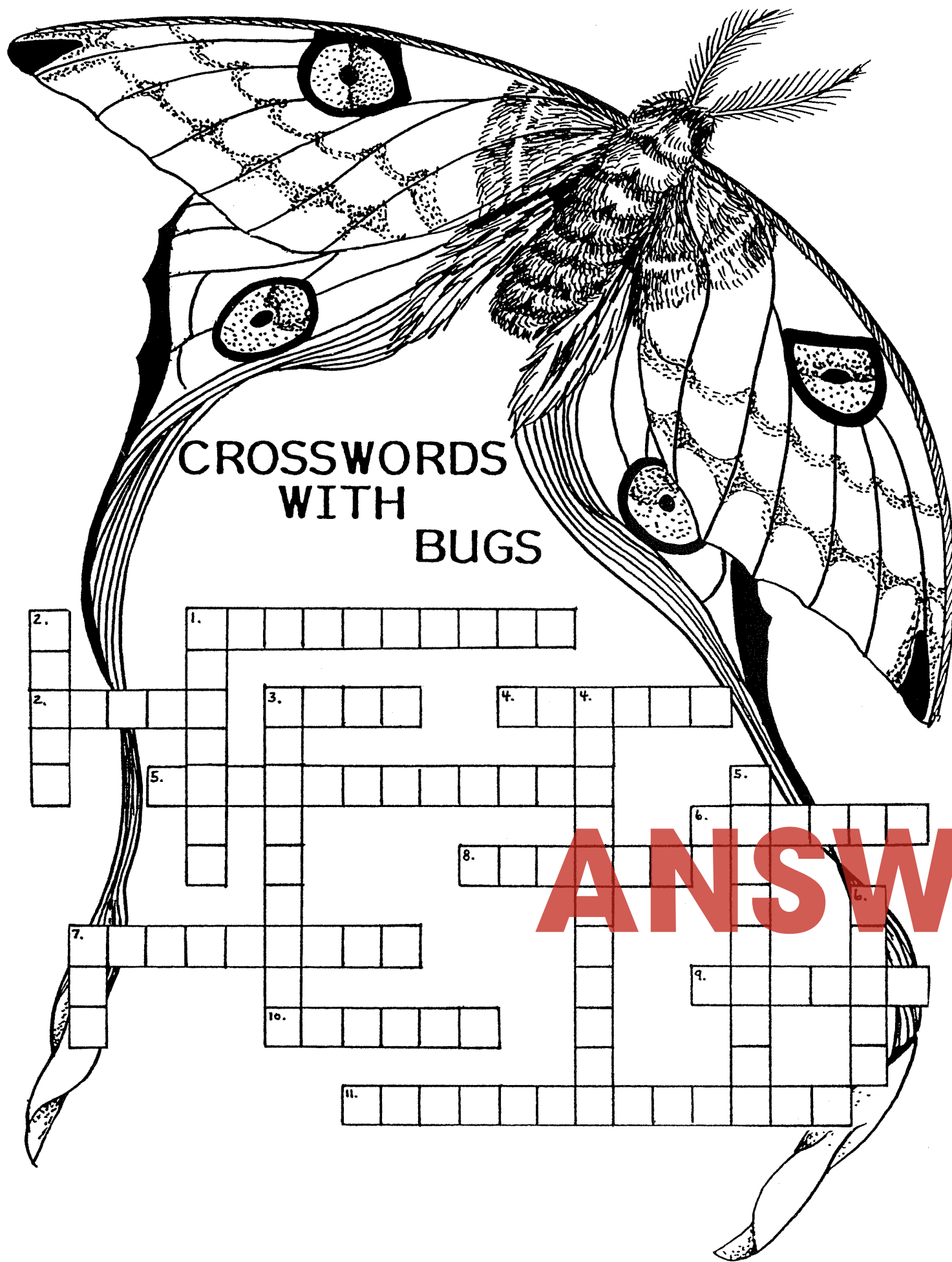
NAME OF INSECT	HELPFUL	HARMFUL	REASON
honeybee	✓		-makes honey -helps to pollinate flowers

**WINGING IT**

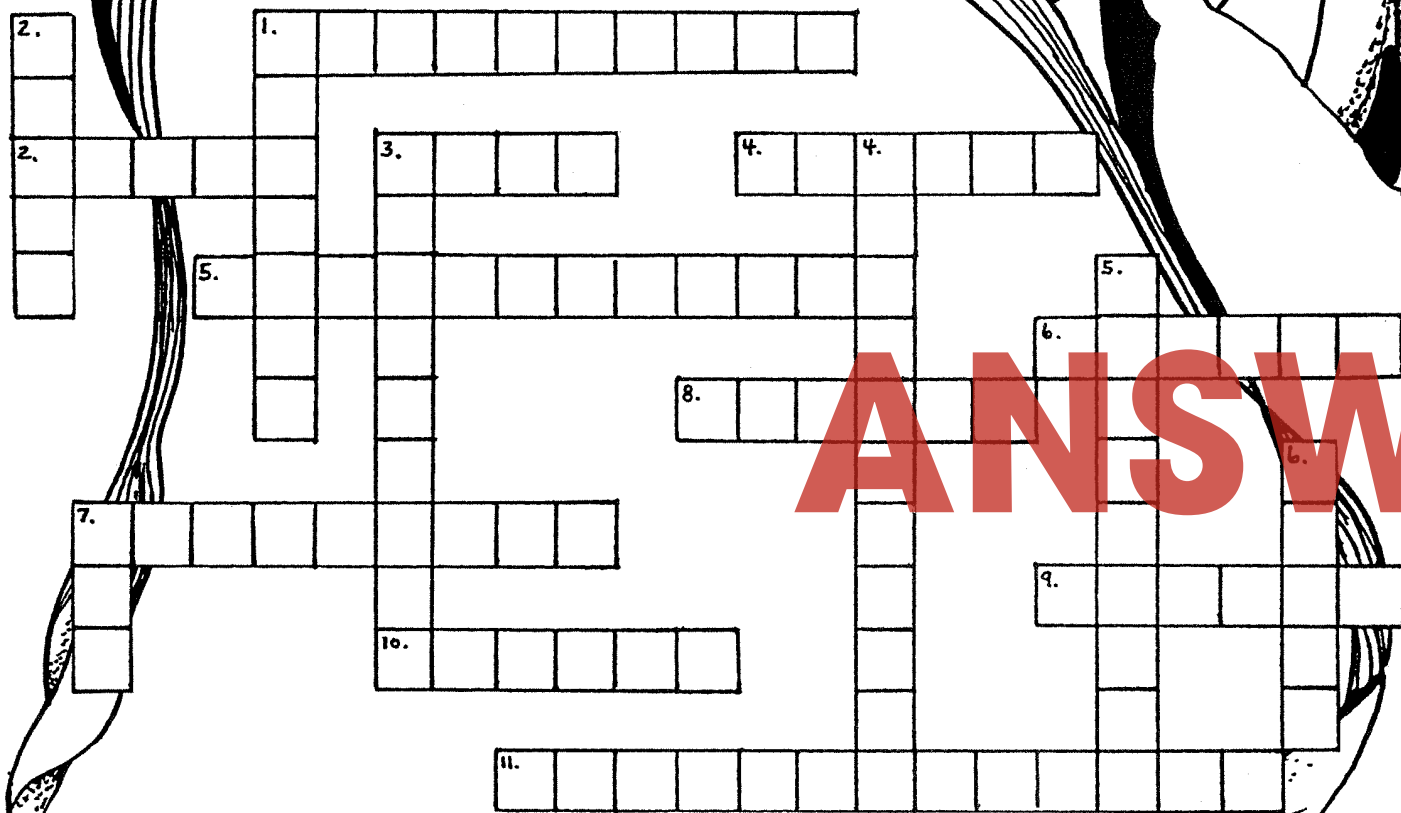
Research

Some insects have two pairs of wings. Some have one pair, and a few have no wings at all. Make a chart to show how many wings insects have. Try to find at least five insects for each column.

TWO PAIRS OF WINGS	ONE PAIR OF WINGS	NO WINGS



## CROSSWORDS WITH BUGS



**ANSWER KEY**

### MYSTERY INSECT CODE

A or B    L or M  
 D or E    N or O  
 F or G    R or T  
 H or I    U or Y

1. H O R N E T  
 2. D R A G O N F L Y  
 3. B U M B L E B E E  
 4. T E R M I T E  
 5. L A D Y B U G  
 6. F L E A

The symbols above spell out six different kinds of insects. Each symbol stands for one of two possible letters. Break the code and fill in the blanks with the right names.

### CROSSWORDS WITH BUGS

ARTHROPODA  
 MOULT PUPA COCOON  
 ENTOMOLOGIST CHITIN  
 SPIRACLES THORAX  
 SCALES MAGGOT  
 METAMORPHOSIS

### MIXED-UP HONEY JARS

Unscramble the letters in each honey jar to spell the name of an insect. To solve the riddle, decipher the circled letters in the blanks.

1. D R A G O N F L Y  
 2. C R I C K E T  
 3. W A S P  
 4. G R A S S H O P P E  
 5. C O C K R O A C H  
 6. T E R M I T E  
 7. A P H I D  
 8. C I C A D A

Riddle: Where does an ant go when it gets too hot?  
 A N T A R C T I C A

- ### RHYME TIME
- free bee
  - dry fly
  - ant's pants
  - bug drug
  - mean queen
  - mice lice
  - drone phone