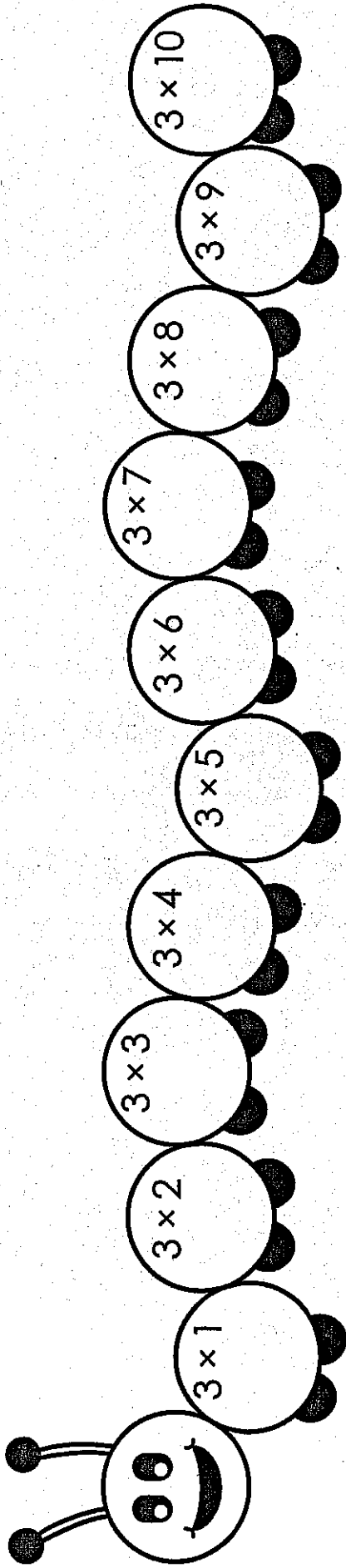


Name: _____

Multiplying by 3s

Multiplication Caterpillar



6×1

6×2

6×3

6×4

6×5

6×6

6×7

6×8

6×9

6×10

6×11

6×12

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4×11

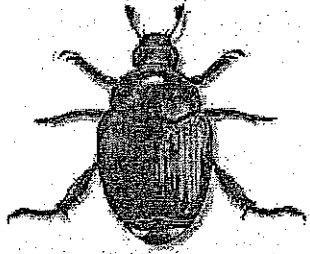
4×12

Name: _____

Going Buggy

by Guy Belleranti

Your friend sees a beetle, spider or centipede moving along the ground getting closer... closer and screams, "Eeek! Look at that bug!" But what is a bug? How are beetles, spiders and centipedes alike? How are they different?



How They Are Alike

All three are arthropods. Arthropods have a hard outer skin or exoskeleton. Arthropods also have segmented bodies and jointed legs.

How They Are Different

These animals each belong to a different subgroup of arthropods. Beetles are insects. Spiders are arachnids. Centipedes are myriapods.

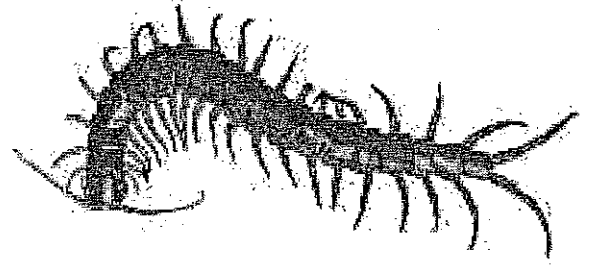
Insects have six legs and three body sections or segments. Their body sections are the head, the thorax (or middle section) and the abdomen. Insects also have one pair of antennae, and most have wings. In addition to beetles, insects also include butterflies, grasshoppers, ladybugs, flies, crickets, ants, bees, wasps, roaches, stink bugs, praying mantises and more. In fact, there are at least a million different kinds of insects in the world, and maybe a lot more than that. New species are still being discovered all the time. You could live to be over two thousand seven hundred years old and see a different kind of insect every day and still not see them all!

Arachnids have eight legs and two body sections or segments. Their body sections are the cephalothorax (the head and middle section joined into one) and the abdomen. Sometimes these two sections are joined so they look like only one section. Arachnids have

no antennae and no wings. In addition to spiders, arachnids also include scorpions, mites, ticks and harvestmen. What are harvestmen? Another name for the daddy longlegs. That's right, the daddy longlegs is not really a spider.

Myriapods have more than eight legs and more than three body sections or segments. They also have one pair of antennae and no wings. The most well known myriapods are centipedes and millipedes.

Centipedes have one pair of legs per body section and millipedes have two. Most myriapods have anywhere from 20 to 400 legs. And one rare species of millipede has up to 750 legs. Good thing they don't have to wear shoes!



So the next time someone says, "Look at that bug!", see if you can tell if it's an insect, arachnid or myriapod.

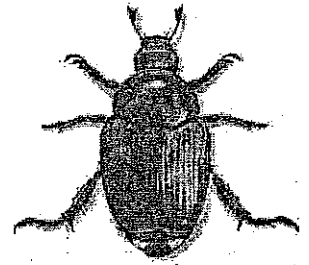
About the Author

Guy Belleranti works as a docent at Reid Park Zoo in Tucson, Arizona. The information in this article comes mainly from his experiences working with animals and teaching others.

Name: _____

Going Buggy

by Guy Belleranti



1. What do arachnids, insects, and myriapods have in common?

- a. They are all six-legged animals.
- b. They all have jointed legs.
- c. They are all types of spiders.
- d. They all have antennae.

2. Tell whether each bug is an arachnid, insect, or myriapod. Write A, I, or M on each line.

ant - _____

scorpion - _____

centipede - _____

tick - _____

mite - _____

fly - _____

According to the article, how are millipedes and centipedes different?

4. The author says that one rare species of millipede has up to 750 legs. Which sentence below says the same thing?

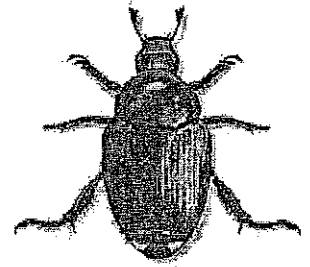
- a. One rare species of millipede has up to 325 pairs of legs.
- b. One rare species of millipede has up to 375 pairs of legs.
- c. One rare species of millipede has up to 425 pairs of legs.
- d. One rare species of millipede has up to 475 pairs of legs.

5. What is an exoskeleton?

Name: _____

Going Buggy

by Guy Belleranti



Match each vocabulary word from the article with the correct definition.

_____ 1. segments

_____ 2. antennae

_____ 3. abdomen

_____ 4. thorax

_____ 5. cephalothorax

_____ 6. thousand

_____ 7. million

_____ 8. jointed

a. able to be bent; able to be moved at a joint

b. ten hundreds

c. ten thousand hundreds

d. body sections

e. back body section of an insect or arachnid

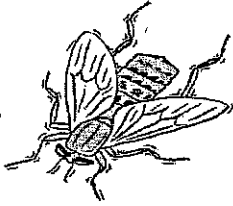
f. middle body section of an insect

g. front body section of an arachnid

h. long, thin body parts on the heads of some bugs

◆ **Now try this:** On a sheet of lined paper, use each vocabulary word from above in a sentence.

Name: _____



Insects

invertebrate

head

thorax

abdomen

egg

two

three

six

eight

wings

antennae

exoskeleton

metamorphosis



Choose the best word from the box to complete each sentence.

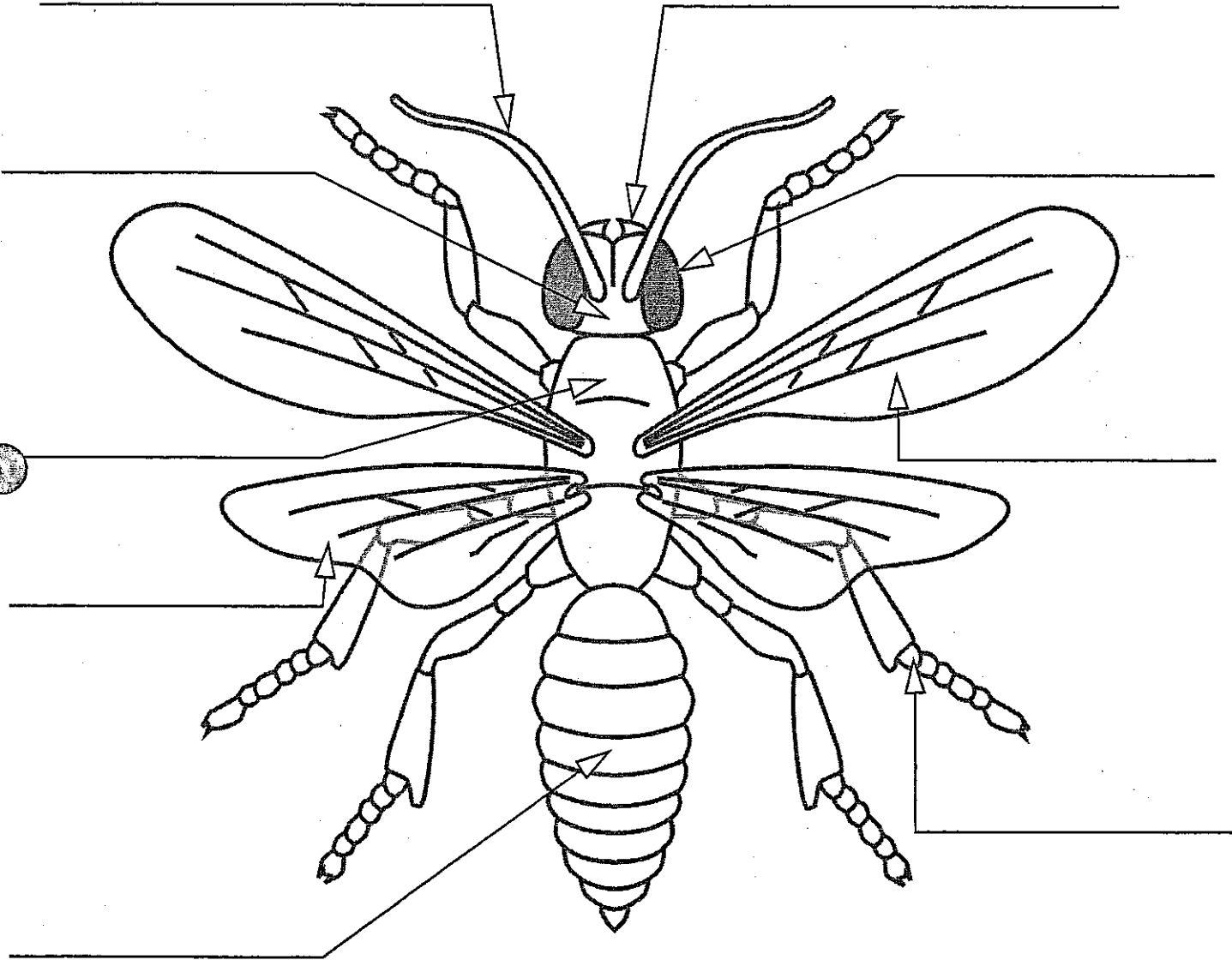
1. An insect has _____ main body sections.
2. The front part of an insect's body is called the _____.
3. The back part of an insect's body is called the _____.
4. Insects have _____ jointed legs.
5. An insect's legs are attached to its _____.
6. Insects do not have a backbone. They are _____.
7. An insect's body has a hard outer covering called an _____.
8. The first stage of an insect's life cycle is an _____.
9. Some insects have _____ attached to their thorax so they can fly.
10. Insects have two _____ on their head for feeling and smelling things around them.
11. A spider is not an insect because it has _____ body sections and _____ legs.
12. The changes of an insect as it develops from an egg to adult is called _____.



Name: _____

Insects

Color the insect. Label the insect body parts on the illustration. Use the words from the word box at the bottom of the page.



Word Box

abdomen

antennas (2)

eyes

fore wings

head

hind wings

jointed legs (6)

mandibles

thorax