

Insects, spiders, and all sorts of other creepy crawlies are called **Arthropods**, which have exoskeletons. Keep an eye out for these arthropods on the ground.



Ants

The three body segments of an ant are distinctly separated, with the abdomen attached by a thin "waist." Ants are usually wingless, have a bulbous abdomen, and visible mandibles.



Beetles

Beetles have very solid and tough bodies with modified wings. The first set of wings act as a hard covering to protect a second set. Most adult beetles are black or brown.



Centipedes

Centipedes have long, segmented bodies with a tough, flexible exoskeleton. Their bodies are fairly flat, and each body segment has one pair of jointed legs. They can have 15 to 177 pairs of legs.



Earthworms

Earthworms are not arthropods, but you still might find a few in the ground. They are decomposers who help break down dead plant material in the soil.



Grasshoppers and Crickets

Grasshoppers and crickets both have enlarged back legs for jumping. They look similar, but grasshoppers are bigger than crickets, with more noticeable wings and shorter antennae.



Millipedes

Millipedes have long, rounded bodies composed of many segments, where each body segment has two pairs of legs. Millipedes can have anywhere from 20 to 200 pairs of legs.



Pillbugs (Roly-polies)

Pillbugs are gray and oval-shaped, with seven overlapping plates along the middle section of their bodies. Each plate has a pair of legs. When threatened, the pillbug will roll up into a ball.



Spiders

All spiders have two body segments and eight legs. They also have a pair of visible, smaller limbs by their mouths called pedipalps which they use to grab prey.

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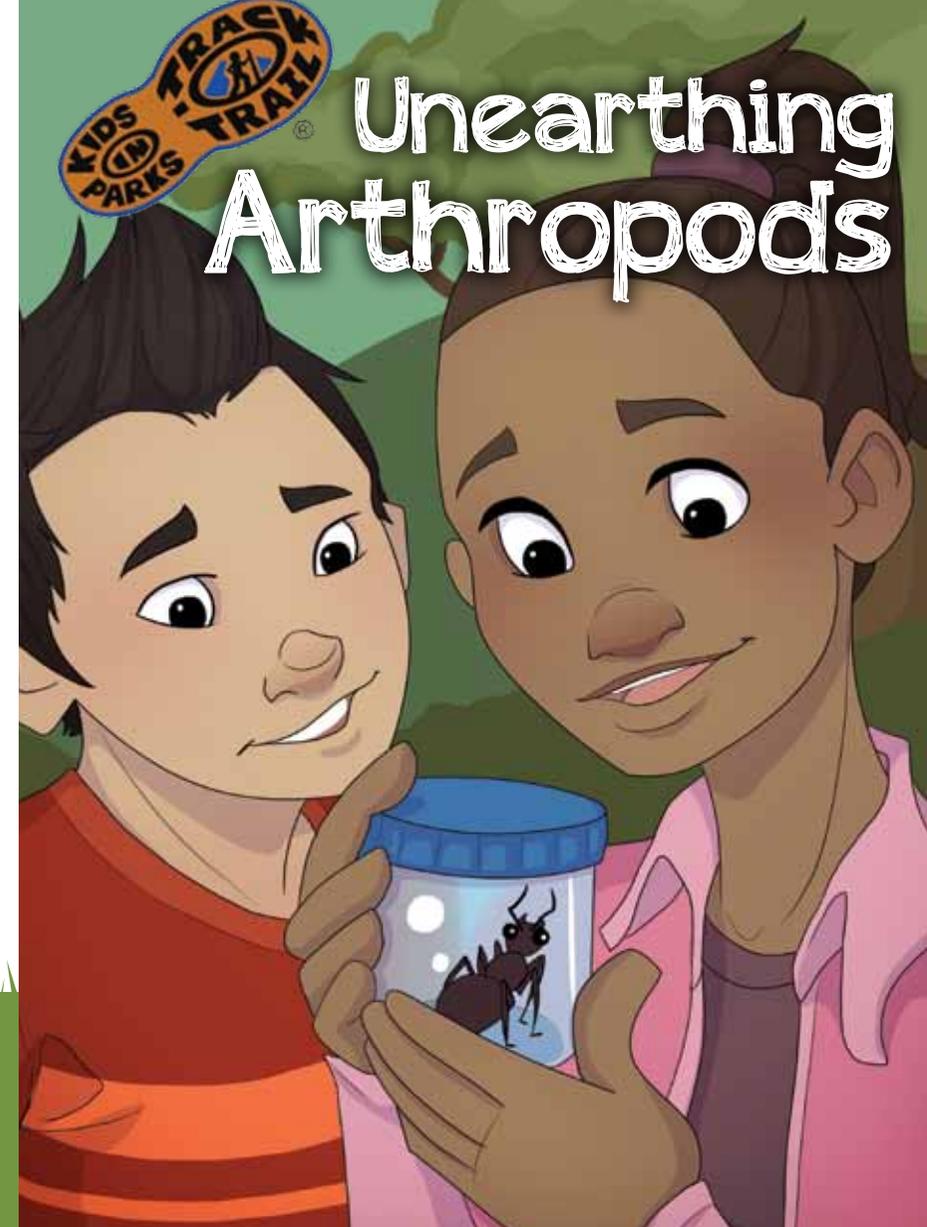
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Unearthing Arthropods



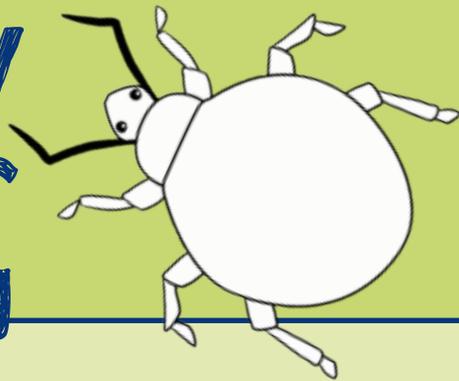
Use this brochure to record the information you collect at the Bug Stations along the trail. Remember to keep the materials at the stations.

5



Some of our bug friends have ways to protect themselves that can be harmful to you. Be careful observing critters like ants, spiders, bees, wasps, and centipedes. Look. Don't touch.

Crawly Critter Collecting



Today's date: _____

What is the weather like today? Circle one.



Once you've collected your data on the right, add up the total number of critters found at each station you visited.



At which station did you find the most bugs?

Which critter did you find the most of?

Did you find any bugs that are not on the list? If you know their names, write them here.

Record the data you collect at each station you visit in the spaces below. You can use numbers or tally marks to keep track of the critters you find.

Blue Station

Look around your square, check the features below that best fit the area.

- Sunny
- Dry
- Many leaves
- Pine straw
- Sandy
- Live tree
- Deciduous tree
- Shrubs
- Shady
- Damp
- Few leaves
- Grassy
- Rocky
- Dead tree
- Evergreen
- Flowers

- Ants _____
- Beetles _____
- Centipedes _____
- Crickets _____
- Earthworms _____
- Grasshoppers _____
- Millipedes _____
- Pillbugs _____
- Spiders _____

Red Station

Look around your square, check the features below that best fit the area.

- Sunny
- Dry
- Many leaves
- Pine straw
- Sandy
- Live tree
- Deciduous tree
- Shrubs
- Shady
- Damp
- Few leaves
- Grassy
- Rocky
- Dead tree
- Evergreen
- Flowers

- Ants _____
- Beetles _____
- Centipedes _____
- Crickets _____
- Earthworms _____
- Grasshoppers _____
- Millipedes _____
- Pillbugs _____
- Spiders _____

Purple Station

Look around your square, check the features below that best fit the area.

- Sunny
- Dry
- Many leaves
- Pine straw
- Sandy
- Live tree
- Deciduous tree
- Shrubs
- Shady
- Damp
- Few leaves
- Grassy
- Rocky
- Dead tree
- Evergreen
- Flowers

- Ants _____
- Beetles _____
- Centipedes _____
- Crickets _____
- Earthworms _____
- Grasshoppers _____
- Millipedes _____
- Pillbugs _____
- Spiders _____

Buggy Numbers

Scientists can use data collected from a small area and estimate numbers for a larger area. Pick an insect from one of the stations you visited and complete the calculations below to predict how many of that creature you might find in a larger area.

If you found _____ in a one-meter square.
Number Insect

How many might you find in a 7-meter square?

_____ x 7 = _____

What about a 16-meter square?

_____ x 16 = _____

Or a 120-meter square?

_____ x 120 = _____

Look at your data. Were there similarities between the stations, or were they each different? Think about what made them different and how those differences could have affected the amount and types of insects you found. Write your thoughts below.

