



# On The Move



## Summary/Purpose:

This activity provides resources that foster a student's understanding of insect leg types. Students will identify the different leg types, and associate leg types with their functions in the survival of insects. They will also relate each leg type to a specific insect

**Grade Level:** 5<sup>th</sup> – 7<sup>th</sup>

**Time:** 1 hour

## Standards:

## Materials:

- 5 insect boxes, 30 corks and various insects
- Handout: Insect Leg Types
- Laminated drawings of leg types (teacher use only)
- Hand lenses or dissecting scope

## Objectives:

Students will observe various insect legs and be able to relate their structures to their functions. Students will be able to relate leg types to specific insects.

## Procedure:

<b>Introduction: Prior Preparation</b>	In the wooden frame box labeled "Teacher's Box," find the five small, white insect boxes that are labeled "On The Move." Each box contains several insects that have the same leg types, but together, all five boxes will represent all five leg types. Box #1 contains a cockroach, two ants, and two earwigs (walking/running legs). Box #2 contains several grasshoppers and crickets (jumping legs). Box #3 contains two praying mantids (grasping legs). Box #4 contains 5 predacious water beetles (swimming legs), and box #5 contains 3 Jerusalem crickets. Remove the purple label that indicates the leg type, but be sure to replace the label when the students have completed the activity. Make copies of the handout that shows the different leg types – one for each student or one for each group. Have laminated leg types ready for conclusion.
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<b>Body</b>	<ul style="list-style-type: none"><li>• Divide students into 5 groups. Have each group sit together at a table or group of desks.</li><li>• 2. Distribute the following items to each group: a box of insects, the handout of insect leg types, and hand lenses or dissecting scopes.</li><li>• 3. Have the students look closely at the legs of the insects in their container. Do any of the insects have legs similar to the drawings on the handout?</li><li>• 4. Pose the following questions to the students: What do you think the functions of these leg types are? If your insect were in the Olympics, what events would it win?</li><li>• 5. Have the group's report back to the class.</li></ul>
<b>Closure</b>	<ul style="list-style-type: none"><li>• To conclude, tape a drawing of each leg type on the board and have one student from each group come to the board to label the leg type. Have a second student from each group come to the board, and under the label of each leg type, write the name of an insect that has that type of leg.</li></ul>



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## Key Vocabulary:

### Assessment possibilities:

Provide each student with a worksheet displaying the five leg types (but without the labels). Ask each student to write the name of the leg type beneath the picture, along with two examples of insects with those kinds of legs.

### Extensions:

## Links to other lessons:

### Background information:

In addition to mouthparts, antennae, and wings, another adaptive feature of insects is their legs. Legs are important not only for different types of locomotion, but insects also use legs to capture prey, create shelter, and in mating. There are five basic leg types that have allowed insects to specialize in certain niches: walking/running, jumping, swimming, grasping, and digging.

Walking/running legs are seen on most insects, particularly on ants, cockroaches, and flies. This is the most typical leg type. Grasshoppers and katydids have legs that are built for jumping. Their hind legs are modified with enlarged femora to accommodate muscles for jumping. Aquatic insects, like water beetles, have swimming legs. The middle and hind legs are usually flat and have several rows of hairs to facilitate swimming. Grasping legs are usually forelegs that have been modified with spines used for capturing prey. The praying mantis has grasping legs. Finally, if the forelegs have very hard (sclerotized) claws, they are used for digging. Mole crickets and periodical cicadas have these types of legs.

Some insect legs are specialized in other ways as well.

Honeybees and bumblebees have two rows of hairs on their hind legs called pollen baskets. These areas are adapted to collect pollen so the bee can transport it back to the hive. Crickets

have oval auditory organs on their front legs to receive sound. Flies and butterflies have pads on their feet with chemoreceptors that allow them to taste