

BACKYARD ECOSYSTEM

A THE AMAZING BEE SCIENCE @ HOME Grades 3-6 ACTIVITY



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Parent Resources for Amazing Honey Bee

Goals of this lesson:

- Students will read facts about the honey bee from a bulleted list and will identify parts of the honey bee using definitions
- Students will be introduced to bee's silent communication: the waggle dance
- Students will complete a Crossword Puzzle

For additional information, copy and paste these links into your browser:

Making honey and beekeeping:

<https://clever.discoveryeducation.com/learn/player/9f7554bc-dfb6-497f-ac33-604d676000f1>

Sid the Science Kid investigates honey and honey bees:

<https://clever.discoveryeducation.com/learn/player/e909d586-d0a7-40c7-9a15-a05b03bca133>



The Amazing Honey Bee

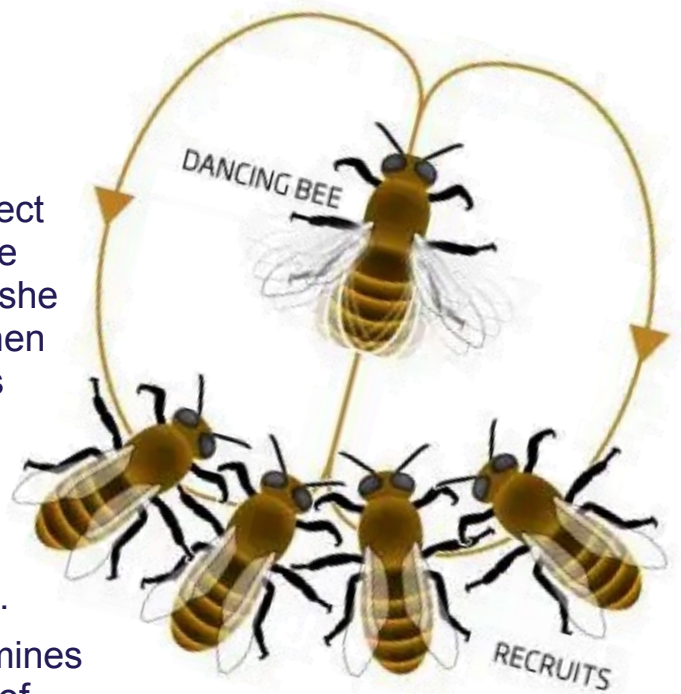
Bees are important because they pollinate about 130 crops in the United States including fruit, fiber, nut, and vegetable crops. Here are more amazing facts about the bee:

- Bees have 5 eyes and can see 5 ways at once
- Bees are insects, so they have 6 legs
- Bees have 2 pairs of wings
- Male bees in the hive are called drones
- Bees fly about 20 mph (The average human runs about 7-1/2 mph, so most people cannot outrun a bee)
- Female bees in the hive (except the queen) are called worker bees
- The queen bee can lay up to 2000 eggs per day
- Losing its stinger will cause a bee to die
- Bees have been here about 30 million years!
- Bees carry pollen on their hind legs in a pollen basket (or corbicula)
- An average beehive can hold around 50,000 bees
- Foragers must collect nectar from about 2 million flowers to make 1 pound of honey
- The average forager makes about 1/12 of a teaspoon of honey in their lifetime
- Americans consume an average of 1-1/3 pounds of honey per person, per year
- The main ways bees communicate is through dancing and the scent of the flowers where they have found nectar.

The Waggle Dance

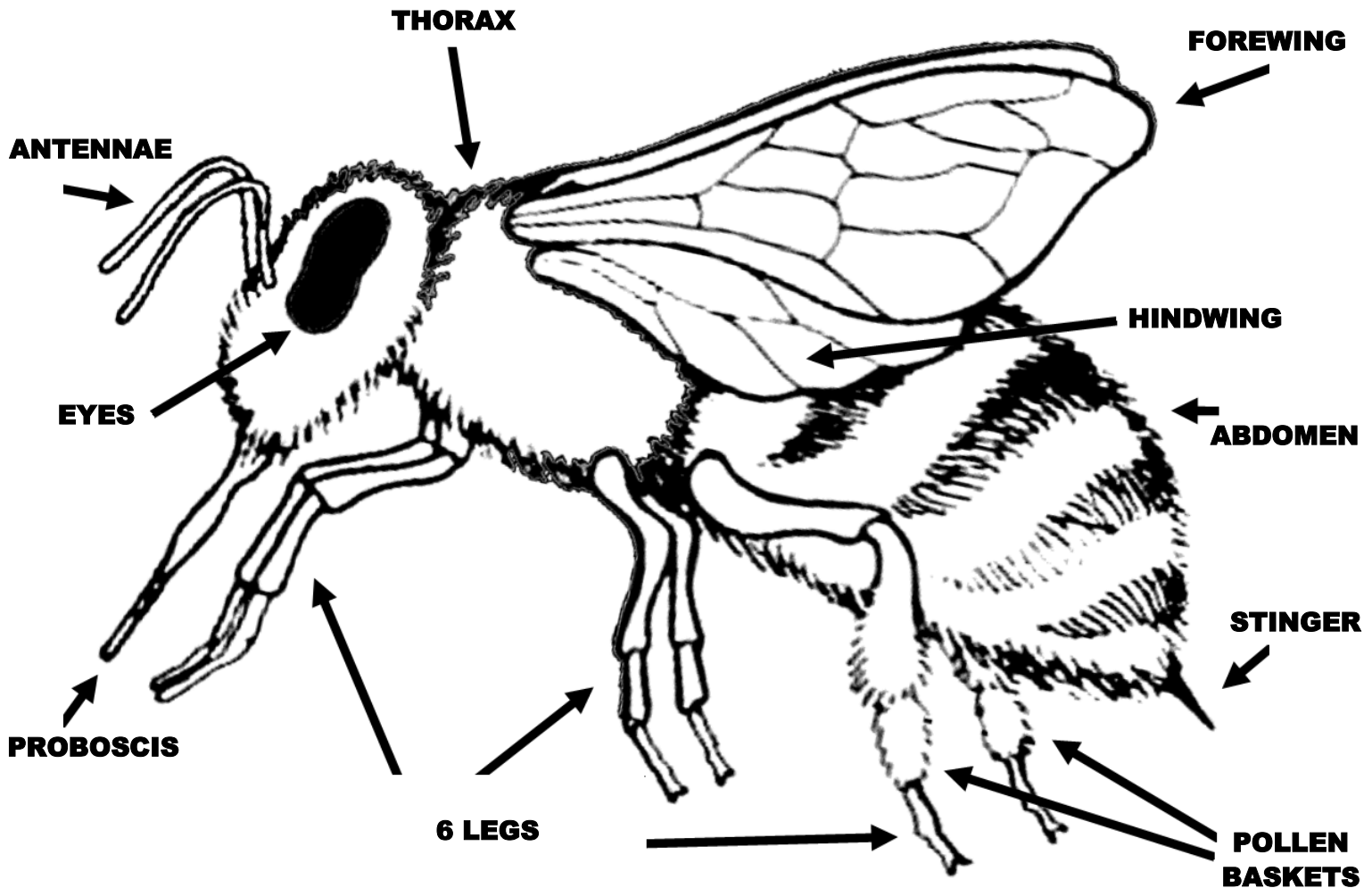
Bees are social animals and work together to collect nectar from flowers for their hive. When a scout bee returns to the hive she recruits forager bees. First, she begins by distributing nectar to bees in the hive. Then the dancing begins. This is how she communicates where the nectar was found. The pattern of the dance, along with the fragrance from the pollen on the scout's body, indicate the location of the flowers. There are 2 types of bee dances: the round dance and the tail-wagging or waggle dance.

The quality and quantity of the food source determines the liveliness of the dances. If the nectar source is of excellent quality, scouts will dance enthusiastically to attract many recruits. If the food source is of lower quality, the scout will perform a shorter and less vigorous dance. This recruits fewer foragers.



Parts of the Honey Bee

Adaptations are changes in living things that make them better able to live in their environment. Adaptations have happened over millions of years of evolution. Bees are specially adapted to collect nectar and transfer pollen from one flower to another.



- **Eyes** - bees can see in 5 directions at once
- **Antennae** - the bee's nose
- **Proboscis** - the bee's mouth which acts like a straw, allowing the bee to suck in nectar
- **Legs** - bees are insects and all insects have 6 legs
- **Forewing** - mainly used to fly
- **Hindwing** - used to cool the hive
- **Thorax** - the mid-section of the bee's body with many muscles
- **Pollen Baskets** - where the bee collects pollen on it's hind legs
- **Abdomen** - contains the bee's stomach
- **Stinger** - a part of the bee's abdomen, the stinger is the bee's protection

The Amazing Honey Bee

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The Honey Bee Crossword Puzzle

Use the clues below to complete the crossword puzzle. A few of the letters have already been filled in. Need more help? Refer to the descriptions on the previous page.

Across

2. every insect has 6 of these
4. held in "baskets" on the bee's hind legs
5. this bee can lay up to 2000 eggs per day
8. used by the bee to smell things
9. the top bee's wing used for flying
10. protects the bee from enemies
12. worker bees are this gender
13. the middle section of the bee's body

Down

1. a male bee
3. the bee has 5 of these to see all around
6. bees make honey using this liquid from plants
7. the lower bee's wing used to cool the hive
11. miles-per-hour that a bee can fly

