



Bumblebee Bonanza

What do bumblebees do all day?

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BEST FOR GRADES

K-5

ESTIMATED TIME

10-15 Minutes

You Will Need

- Good weather—warm, dry days are best
- A good place outside to observe bees
- Bee Observation Sheet* (provided below)
- Something to write with

Bee Observation Safety Tips

1. Children should always have adult supervision while observing insects.
2. DO NOT touch or disturb the bees. Most bees will not sting if you only observe them.
3. Do not collect bees due to safety reasons for both you and the bees. Close observation can be done without collection.
4. While observing bees, they might come to check you out, especially if you are wearing bright colors. Stay calm, if you don't alarm them, they will just fly away.

Experiment Extensions:

- Try repeating the color count at different points throughout the summer. Different color flowers will bloom at different times in the summer, and the bees may change their preferred color.

Directions

1. Print the observation sheet or handwrite your own observation sheet using the examples below.
2. Find bumble or carpenter bees somewhere outside. Good places to look include on or around flowers and around the eaves of buildings. You can also locate them by listening for the buzzing sound they make.

The best time to find these bees in the Northeastern United States runs from about April to September. It may vary based on where you live.

3. Sit and watch the bees for about 2 to 5 minutes.
4. Record how many legs, antennae, and body segments one bee has.

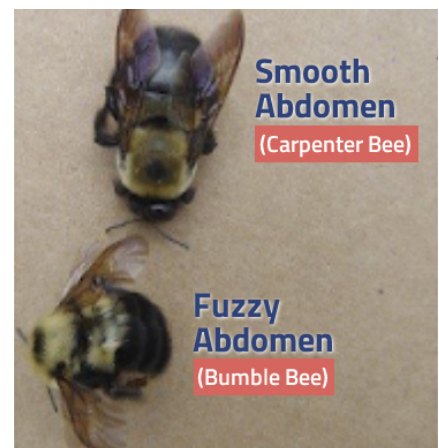
What colors do you see on the bee?

What are they doing while you observe them?

5. Watch the bees for the behaviors listed in the *Bee Observation Sheet* chart and then count how many bees you observe completing each behavior.

Remember to be respectful and observe the bees from a distance.

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Images of the two types of bees you are looking for. They are usually about 1 inch long.



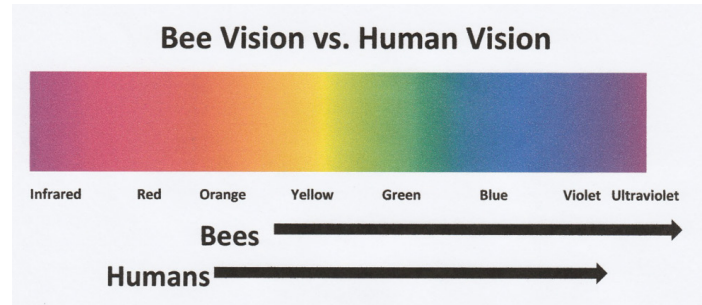
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Bumblebee Bonanza Discovery Questions & Keywords

Directions Cont.

6. You may notice the bees are attracted to one type of flower more than another. Bees can see different colors than humans can, as demonstrated by this chart.

To see this in action, record the colors of flowers your bees land on using the *Bee Observation Sheet*.



Experiment Extensions:

- Try repeating the color count at different points throughout the summer. Different color flowers will bloom at different times in the summer, and the bees may change their preferred color.

Discovery Questions

Beginning the Experiment

What do bees do all day?
What behaviors might you observe in the bees?
Where might you find the most bees?

During the Experiment

What are the bees doing?
Do the bees prefer a certain color flower?
Do the bees interact with one another?

After the Experiment

What would the bees do in colder weather?
How about if it was raining?
Which color flowers did the bees land on most often? Why?
Which color flowers did the bees land on least often?

Keywords

Pollen

The very tiny grains produced by the stamens of a flower which usually appear as yellow dust.

Nectar

A sweet liquid produced by plants and used by bees in making honey.

Hive

An above ground nest of bees.

Queen Bee

The largest bee in a hive who is in charge of laying eggs and running the hive.

Pollen Basket

A smooth area on the back legs of bees that is edged by a fringe of stiff hairs that helps the bees collect and transport pollen.



Bumblebee Bonanza Bee Observation Sheet

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Number of legs: _____

Number of antennae: _____

Number of body segments: _____

Colors on the bee: _____

Behavior

Number of Bees Doing this Behavior

Flying	
Sitting	
Collecting Pollen	
Chasing	
Walking	
Drinking Water	
Cleaning its head or body	
Other Behavior:	

Flower Color

Number of Bees that Landed on the Flower

Red	
Orange	
Yellow	
Green	
Blue	
Purple	
White	
Other Color:	



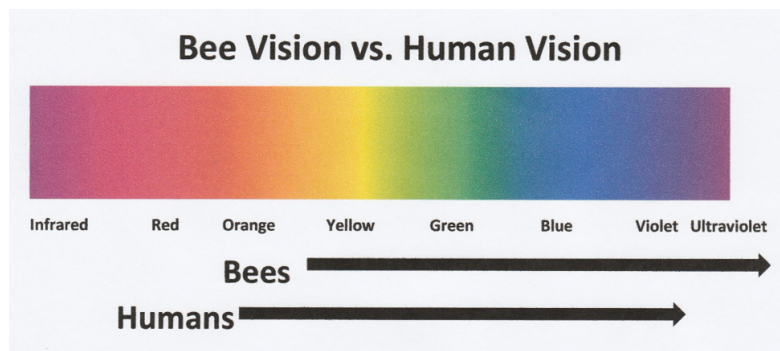
Bumblebee Bonanza

What do bumblebees do all day?

How does it work?

Most species of bees are only active during the warmer times of the year, in the late Spring and Summer. During this time they are gathering pollen to bring back to their hives to feed themselves and the queen. Some species of bees make honey but others eat pollen or nectar. You can observe bees in action, collecting pollen and nectar from flowers. There are many different species of bees that do this, including bumblebees, honey bees, wasps, and hornets. There are even some flies that look like bees!

Bees can see different colors than humans can, as demonstrated by this chart:



Bees will choose which flowers to land on based on the colors they can see.



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Bumblebee Bonanza

Discovery question answer key for parents and teachers.

Beginning the Experiment

What do bees do all day?

Each species of bee is different. Many native bees are solitary and do not live in a hive. Instead, they have their own holes, sometimes in the ground, sometimes in the wood on trees and houses. Most bees spend their days collecting pollen and nectar to eat or make honey from, digging their burrows, interacting with other bees, flying, grooming themselves, or a variety of other activities.

What behaviors might you observe in the bees?

Most of the bees you observe will be collecting pollen and nectar to eat or make honey from, digging their burrows, interacting with other bees, flying, grooming themselves, or a variety of other activities. These are typical daily activities for most bees.

Where might you find the most bees?

Most bees are going to be around flowers during the day. They need to collect pollen and nectar to eat or bring back to their hives to make into honey.

During the Experiment

What are the bees doing?

Answers will vary based on what the scientist observes.

Do the bees prefer a certain color flower?

Fill out the color observation chart and look at your results. Bees tend to be attracted to blues and purples, as those are the colors they can see best.

Do the bees interact with one another?

Answers will vary based on what the scientist observes.

After the Experiment

What would the bees do in colder weather?

How about if it was raining?

*Try observing them on a cold or rainy day!
Most species of bees are not active in the rain or cooler weather.*

Which color flowers did the bees land on most often? Why?

Answers will vary based on what the scientist observes. Bees tend to be attracted to blues and purples, as those are the colors they can see best.

Which color flowers did the bees land on least often?

Answers will vary based on what the scientist observes. Bees tend to land less on flowers that are red and orange because they cannot see these colors as well.

Want to take this experiment further?

Try repeating the color count at different points throughout the summer. Different color flowers will bloom at different times in the summer, and the bees may change their preferred color.