

## Lesson 5                      Why Bees Dance

**Learning Objective:** Students will gain an understanding of bee biology and behavior.

**Question:** It's dark inside of a bee hive so honey bees certainly can't see each other in there. What's more, they can't talk, so how do they communicate with each other inside of a hive?

**Introduction:** Honey bees are amazing little animals! They have a complex society with specific roles for different individuals within the colony. They have an elaborate way of communicating with one another that involves activities normally attributed to humans, such as using astronomy, geometry, mapping, and even dancing! When a forager bee returns to the hive she exhibits one of the most fascinating examples of behavior seen in the animal kingdom. With her dance moves she can communicate to the other bees in the hive vital information such as how far away a patch of flowers is that she has found, the specific location of that food source, and even the quality of the food source.

### **Facilitating the Activity:**

- Have your students learn about bee communication by watching the video entitled *Why Do Honey Bees Dance?* at [www.youtube.com/watch?v=2S-ozxpIrdI](http://www.youtube.com/watch?v=2S-ozxpIrdI)
- Have them complete the *Why Do Honey Bees Dance?* worksheet
- This video worksheet could be used as a graded homework assignment, an in-class individual or small group assignment, or discussed with an entire class.

**Classroom Discussion:** In addition to going over the questions in the worksheet, here are some other suggested questions you might discuss with your students after completing the video worksheet.

- How do honey bees use astronomy in their communication? Geometry? Mapping? Interpretive dance?
- What do you think would happen if honey bees went extinct worldwide?

**Additional Information:** An excellent resource for teachers can be found in the Purdue University extension publication entitled *The Complex Life of the Honey Bee*, available for download at <https://ppp.purdue.edu/wp-content/uploads/2017/PPP-116.pdf>

**Next Generation Science Standards:** TBD

**Fly Higher:** If you have a museum or university nearby that maintains an observation bee hive, you or your students might produce a video of a bee actually performing a waggle dance for her sisters. Some students who are interested in the performing arts could demonstrate their own waggle dance to communicate to their classmates the distance and location of their favorite pizza restaurant or ice cream shop! Another follow-up activity could be for students to visit the produce section of a grocery store and write down examples of foods made possible by pollinators such as honey bees.

**Glossary:**

- **hive** – a structure, such as a hollow log or man-made box that bees live in
- **waggle** – the part of a honey bee's dance in which she shakes her abdomen vigorously to communicate both the location and distance of a food source from the hive