

Dancing Like Bees

A lesson from the New Jersey Agricultural Society Learning Through Gardening Program

Overview: Get your students moving with this lesson that teaches them how bees communicate with each other. Teach them the "Round" Dance and the "Waggle" Dance and send them out to find a treat.

Grades: 3-5

Objective: The student will be able to:

- Demonstrate how bees communicate the location of food through different movements.

Materials

Bags of treats (candy, cookies, honey sticks, raisins)

The number of bags depends on the number of teams

- you'll need one bag per team.

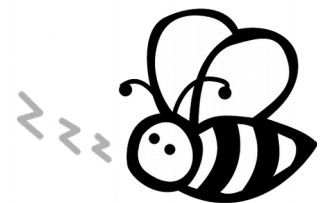
A copy of "Honey, I'd Love to Dance" for each student.

Introduction:

Ask students how humans communicate nonverbally (body language, hand signals, facial expressions). Have a few of them demonstrate in a charades-type manner.

Have students read "Honey, I'd Love to Dance" or read it aloud as a class.

Review the messages bees communicate through their dances. Review and model both dances and what each movement means. Tell the students they now have the opportunity to find food (treat bags) and to communicate its whereabouts to fellow team members.



Procedure:

This activity requires a lot of room - do it outdoors if possible.

Divide the class into teams of four. Have each team choose a scout - the bee that originally found the food source and needs to communicate its whereabouts through bee dances to the team members.

Give each scout written directions to a different treat bag and send the scouts out to find them. Do not let the other students see their search.

When the scouts return, have them communicate the direction and distance of the treat bag to their team members using either the Round Dance or the Waggle Dance. *No verbal or "human" body language is allowed.*

Once all the teams have found their reward, follow-up with a class discussion about the ease or difficulty of communicating through dance. Is it difficult to judge distance without a tape measure or other food? Do they believe honey bees are intelligent creatures?

Evaluation:

Successful completion of the dancing bees activity.



Honey, I'd Love to Dance

Honey bees communicate with each other by dancing. After a honey bee has found food she tells the other bees the location of the food when she returns to the hive. The bee will dance on the honeycomb, while the other bees feel the dancing bee and learn where the food is. By smelling the dancing bee and getting a taste of her load of nectar, the other bees can tell what type of flower she has visited. Different dances are used when the food is close to or far away from the hive. Bees have receptors on their feelers and legs that they use to feel the dance.

There are several bee dances, but the most common are the Round Dance and the Waggle Dance.

Round Dance

When food is close to the hive (less than 100 yards), a worker bee performs the Round Dance. She goes round and round, first one way and then the other. The round dance does not show the exact location of the flowers so fellow worker bees must fly out in a circular pattern near the hive until they find the flowers.

Waggle Dance

If the flowers are more than 100 yards away from the hive, the returning bee performs the Waggle Dance. The dancing bee makes a figure-eight. She waggles her body in the middle.

If a bee waggles straight up, the other bees fly toward the sun to find the flowers. If a bee waggles to the left, the other bees fly to the left of the sun. If a bee waggles to the right, the other bees fly to the right of the sun.

The distance between the hive and the food is communicated by the speed of the dance and the buzzing sound made by the dancing bee. The faster the worker dances, the closer the food. The waggle dance shows both location and distance of the flowers, so the bees know where to fly.