

# Lesson Plan: The Bee Waggle Dance Challenge

## Materials Needed

- Colored paper (yellow, blue, purple - or any colors you have)
- Scissors
- Tape or sticky tack
- A small, desirable "nectar" reward (e.g., a single grape, a small cracker, a piece of chocolate)
- A designated "hive" location (e.g., a specific chair, a pillow on the floor)
- A blindfold (optional, for an extra challenge)
- A watch or timer

## Learning Objectives (1 Hour)

By the end of this lesson, the student will be able to:

- Explain why honey bees forage and what they are looking for (nectar and pollen).
- Demonstrate how honey bees communicate the location of a food source using a simplified "waggle dance."
- Successfully interpret movement and direction cues to find a hidden "nectar" source.

---

## Lesson Procedure

### Part 1: The Busy Bee's Job (5 minutes)

1. **Engage with a Question:** Start by asking, "If you were a tiny bee and you found a whole field of amazing flowers, but it was too much for you to carry alone, how would you tell your bee friends back at the hive where to find it? You can't talk or text!"
2. **Brief Explanation:** Explain that honey bees are expert foragers. Their job is to fly out from the hive to find flowers, which have two things they need: **nectar** (sugary water that they turn into honey) and **pollen** (protein dust that they eat). When a bee finds a great patch of flowers, she has to go back and tell everyone else where it is.
3. **Introduce the Dance:** Tell the student that bees have a secret code to share this information—a special dance called the "Waggle Dance." Today, they are going to become a forager bee and learn this amazing dance.

### Part 2: The Foraging Challenge (15 minutes)

1. **Setup:** While the student covers their eyes, you will act as "Mother Nature." Cut out 5-10 simple flower shapes from the colored paper. Place them around the room. On the back of ONE special flower, tape the "nectar" reward.
2. **The Task:** Tell the student they are now a forager bee. Their mission is to leave the "hive" (the designated pillow or chair) and "forage" for nectar. They must fly around the room and check each flower until they find the one with the reward. Time how long it takes them to find it on their own.
3. **Discussion:** After they find the reward, ask: "That took a little while, didn't it? What if you had a map or directions? Do you think it would be faster?" This highlights the problem that bees need to solve: finding food efficiently.

## Part 3: Waggle Dance School (25 minutes)

### 1. Learning the Moves:

- **Direction:** Explain that the most important part of the dance is showing the *direction* of the flowers. Inside a dark hive, bees use the top of the hive to represent the direction of the sun. For our game, we'll make it simpler: the dancer will face the direction of the food source.
- **The "Waggle":** The bee walks in a straight line while wiggling her body. Let's practice! Stand up and wiggle as you walk in a straight line for a few steps. This is the "waggle run."
- **The "Return":** After wagging, the bee circles back to the starting point to do it again. She can circle to the right or the left.

### 2. Let's Be the Teacher Bee: Now it's your turn to be the scout who found the food.

- Have the student close their eyes at the "hive."
- You hide a new "nectar" reward on a new flower.
- Return to the "hive." Now, perform the waggle dance for the student. Face the direction of the hidden flower and do a "waggle run" (wiggling while walking a few steps), then circle back. Repeat the dance a few times so they can see the direction clearly.
- Let the student open their eyes and try to find the nectar by following the direction you indicated.

### 3. Student's Turn to Dance: Now, swap roles!

- You close your eyes at the "hive."
- The student hides the nectar reward on a flower.
- The student returns to the hive and performs their own waggle dance to show you the direction.
- Try to find the flower based on their dance. Cheer for their excellent communication!
- Play a few rounds, taking turns hiding the nectar and performing the dance.

## Part 4: Wrap-up and Assessment (5-10 minutes)

### 1. Connecting the Dots: Gather back at the "hive" and discuss the experience. Ask questions like:

- "Was it easier to find the nectar when you had the waggle dance to guide you?"
- "Why is it so important for bees to be good communicators?" (Answer: It helps the whole colony survive by finding food quickly and efficiently).
- "What do you think is the coolest part about how bees work together?"

### 2. Exit Ticket (Verbal or Written): To check for understanding, ask the student: "If you were a bee and found a big, juicy flower right by the kitchen door, how would you dance to tell me where it is? Stand up and show me!" Their ability to point their body in the correct direction and perform a simple wiggle demonstrates they've met the core objective.

## Differentiation and Extensions

- **For Extra Support:** If the student is struggling with direction, use a long piece of string or tape on the floor pointing from the hive to the flower to make the "flight path" more visual during the dance.
- **For an Advanced Challenge (The Distance Dance):** Introduce a new rule from the real waggle dance: the length of the wiggle tells the other bees how far away the food is.
  - A short waggle (1 second) = The flower is very close.
  - A long waggle (3-4 seconds) = The flower is far away, on the other side of the room.
 Try to incorporate this into your game!
- **Creative Extension:** Have the student draw a comic strip of a bee character finding flowers and returning to the hive to do the waggle dance for her friends.