

HONEY BEE RELAY RACES LESSON



SUMMARY/BIG IDEA:

Students feel what it is like to be a forager honey bee as they quickly collect nectar and pollen and bring it back to the hive.

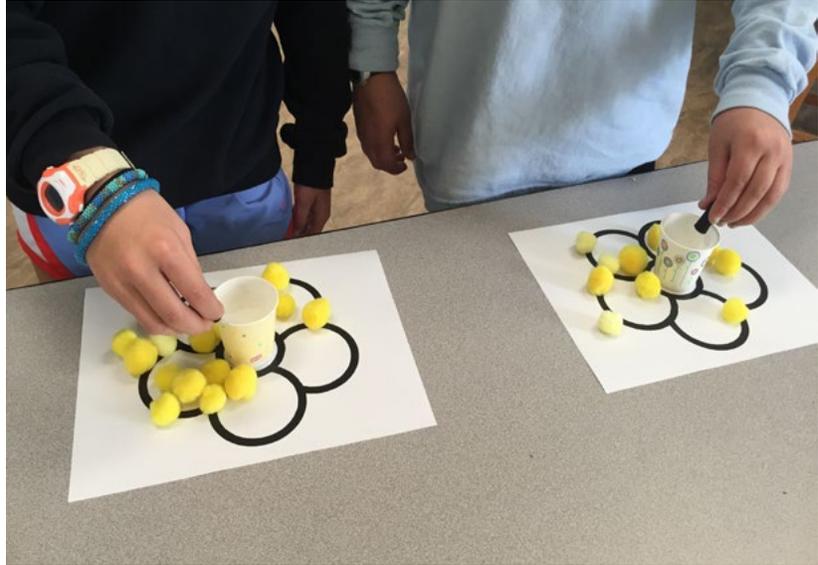
MATERIALS & RESOURCES:

- Cardboard bee hive cells (one per group)
- [How to make a cardboard bee hive cell \(for teacher\)](#)
- [Paper cups with flower pattern](#)
- [Yellow Pom-poms](#)
- [Eye droppers, set of 20](#)
- [How the honey bee make beebread as part of pollination](#)
- [Bee pollen slow motion](#)

STEPS:

PART ONE:

1. Remind students that the final job of a worker bee is to go outside of the hive and collect nectar and pollen. We call that a forager bee.
2. Use observation hive to show students the yellow cells filled with pollen, the liquid cells filled with nectar, and the forager bees entering hive with nectar and pollen. Teacher can use video from Materials & Resources to show the students the pollen use in the hive.
3. Today you will all be forager bees and participate in a pollen and nectar relay race! Divide the class into four different hives.
4. Set up four different cardboard bee hives on one side of the room. Place an empty paper cup in three of the cells (this is where they will store the “nectar”- water). Leave the rest of the cells empty (this is where they will store the “pollen” – yellow pom-poms).
5. On the other side of the room set up four “gardens”. Place one paper cup half filled with water on each flower printable. Sprinkle twenty yellow pom-poms around the paper cup.
6. Have each group line up single file in front of their hive.
7. Demonstrate what a student does on his/her turn:
 - Walk fast (fly) to the garden and use the dropper (bee proboscis) to suck up water from the cup (flower nectar)
 - Place one yellow pom-pom in your pocket or hand (pollen basket)
 - Walk quickly back to your bee hive and deposit the nectar in one of the paper cup cells. Drop the pollen in one of the other cells.
 - Then the next member of your bee family repeats those steps.
 - Continue until all of the nectar and pollen is gone from your garden.
 - The bee family that finishes first is the winner.



ASSESSMENT/REFLECTION:

Ask students to fan the cups of “nectar” to help turn it into honey. Bees also use a special enzyme to turn nectar into honey. Show students $\frac{1}{12}$ th of a teaspoon. That is how much honey an average worker bee makes in her lifetime. Honey bees travel 112,000 miles and visit 4.5 million flowers to make a 16 oz jar of honey.



Bee Journal Entry - Imagine you are a forager bee. Where do you get the energy to fly and collect pollen and nectar? Where do plants get their energy from? Write a short story about your day collecting pollen and nectar.

HONEY BEE RELAY RACES LESSON STANDARDS

NEXT GENERATION SCIENCE

4-PS4-3; 4-LS1-2

5-PS3-1

ELA COMMON CORE

W.3.3; W.4.3; W.5.3