AMAZING EARTH
2ND GRADE - LIFE CYCLES + BEES ACTIVITIES

Adult Helper Preparation

NOTE: All supplies are stored in two boxes marked 'Amazing Earth 2nd Grade' in the teacher workroom.

Choose 1 adult helper to lead the activities - you can each take a turn or have 1 who will instruct the students on what to do.

If the weather is nice and you can go outside to the NEST Outdoor Classroom…

- During the presentation, set up for “Be the Bee” (Activity # 3) in the grass around the NEST:
    - Bring the “Be the Bee” supply box with you AND fill the two blue buckets with water before going out.
    - Once outside, fill the measuring cups with water and place them in the grass around the NEST – to make it fun, spread out the cups and do not place them right by the NEST!
    - Place a laminated flower sheet in front of each measuring cup.
- After setup, go back to the class.

If you are unable to go outside, conduct all activities inside…

- During the presentation, adult volunteers who are not presenting should set up for “Be the Bee” (Activity # 3) in the classroom:
    - Fill the measuring cups with water and place them around the room.
    - Place a laminated flower sheet in front of each measuring cup.
    - Place a handful of yellow pompoms on each flower sheet.
- Following the presentation, students go to their table spots for all activities.

ACTIVITY 1: ADOPT A BEE

Materials:

- Felt bees
- Black pipe cleaners

Directions:

1. Pass out bees

   Adult Activity Leader says:

   "Today as we learn more about bees, we are going to adopt a pet bee of our own!

   Honeybees are not pets. Honeybees are actually agricultural livestock - similar to cows or sheep!

   But today, we are going to pretend and have a little fun!

   So as we pass out the bees, think of a good name for your little critter."

2. Pass out pipe cleaners.

   Adult Activity Leader says:

   "Let's make sure your pet bee doesn't fly away. We will use this pipe cleaner as a leash.

   Wrap one end of the pipe cleaner under the front of the bee and twist it closed at the top.

   Then make a loop on the other end that your finger could go through."






3. Explain the Waggle Dance

   Adult Activity Leader says:

   "Notice how your honeybees waggle and dance!

   In a real hive, the honeybee waggle dance is how bees tell each other which way to fly and how far to go to find a great patch of flowers using the sun as their map."

ACTIVITY 2: POLLINATE THE FLOWERS

Materials:

- Laminated 'Pollinate the Flower' sheets
- Grated Parmesan cheese ('pollen', < 1/4 tsp per paper)

Directions:

1. Walk outside

   Adult Activity Leader says:

   “Now let’s take our bees for a walk! Everyone line up so we can go to the NEST.”

2. Stop by the butterfly garden at the NEST.

   Adult Activity Leader says:

   “Everyone, let’s observe the butterfly garden. Do we see any bees?”

3. Ask students to walk to the NEST and sit on benches.

4. Adults place laminated 'Pollinate the Flower' sheets on the tables and sprinkle a little grated Parmesan cheese ('pollen') on ONE flower.

5. Pollinate the flowers.

   Adult Activity Leader says:

   “Take turns landing your fuzzy bees on the pollen-covered flower, then fly it to other flowers.

   “Did the pollen transfer?”

6. Share an extra fun fact.

   Adult Activity Leader says:

   “Pollen sticks to bees because of two main secrets:

   - *Bees have fuzzy, branch-like hairs that trap pollen.*
   - *Also, as bees fly, their rapidly flapping wings generate static electricity that pulls pollen off flowers and onto their bodies before they even land!*

ACTIVITY 3: BE THE BEE

Materials:

Queen Bees
- "Honeycombs" – Silicone pot holders
- "Eggs" – Rice
- Plastic cups labeled "Eggs" and filled with rice
- Queen bee role cards

House Bees
- "Honey bellies" – Plastic droppers
- "Nectar" – Water filled in the plastic cups labeled "Nectar"
- "Enzyme" – Water filled in the plastic cups labeled"Enzyme" cups
- "Honeycombs" – Silicone pot holders
- House bee role cards

Forager Bees
- Bug eye glasses
- "Pollen balls" – Yellow pompoms
- "Honey bellies" – Plastic droppers
- "Nectar" – water filled in the measuring cups
- Laminated flower sheets
- Forager bee role cards
- Empty blue bucket

Goal:

Students will take on the role of 3 different bees in the hive: queen bee, house bee, and forager bee. The class should be split into three groups, with each group starting off as one of the roles. Queen bees will lay eggs by putting rice into honeycomb cells. House bees will make honey by mixing nectar with enzymes and filling the mix into honeycomb cells. Forager bees will fly out in search of flowers, collect nectar and pollen, and bring it back to the hive. Do three rounds so each student can try all roles.

Set Up
- Queen Bees station: Place 6 honeycomb mats and 6 egg cups filled with rice on the tables near each other.
- House Bees station: Place 4 honeycomb mats, 6 nectar cups filled with water and 6 enzyme cups filled with water on tables near each other.
- Nectar bucket: Place an empty blue bucket at the entry to the NEST. This is where the forager bees will deposit the nectar they collect. They can place the pollen balls they collect on the ground by the bucket.
- Flowers:
    - Fill the measuring cups with water and place them in the grass around the NEST – to make it fun, spread the cups around the yard and do not place them right by the NEST!
    - Place a laminated flower sheet in front of each measuring cup.
    - Place a handful of yellow pompoms on each flower sheet.

Directions & Roles:

1. Split the class into 3 groups and hand out role cards to the groups. *NOTE: We will take turns and students will have a chance to try all the jobs.*
2. Read each role card to the whole class. (Role cards on back)
3. Have the house bees and queen bees go to their stations.
4. Hand out the bee goggles and droppers to the forager bees.
5. Tell the bees to begin!
6. After 5 mins or so, call all bees back to the hive and switch roles.

Bee Roles

FORAGER



FORAGER

Fly to a flower, collect nectar and pollen, and bring it back to the hive.

1. Put on bug goggles.
2. Find a flower.
3. Collect one squeeze of nectar and one pollen ball.
4. Bring it back to the hive.
5. Only go to the same flower once.

QUEEN



QUEEN

Stay at the hive and lay eggs.

1. Place 1 egg (grain of rice) at a time into a cell on the honeycomb mat.

HOUSE



HOUSE

Make honey and food.

1. Add enzyme to the nectar and squeeze up the mix. Do this 5 times.
2. Fill the honeycomb with the nectar enzyme mix.
3. Evaporate the water by flapping your wings.