AT-HOME SCIENCE LEARNING

#6
PLANTS AND POLLINATORS

PARENTS

At-Home Science Learning is all about you and your children exploring science in a fun, hands-on way using simple supplies found around your home. Use the "Parent Guide" to help support your children through the activities plus see a list of required materials needed. Print out the "At-Home Science Journal" for your child to follow along with each activity. The activities are designed to take 15 – 30 minutes. Get your whole family exploring science together!

This project is funded by the California Collaborative for Educational Excellence in collaboration with the Office of the Fresno County Superintendent of Schools.

FOR THE PARENT:

#6 PLANTS AND POLLINATORS

Overview: Spring is the perfect time of the year to explore the different plants and pollinators found in children's backyards or nearby green spaces. Explore the relationship between plants, their flowers, and special pollinator friends (bees, butterflies, birds, and more).

Materials/Supplies:

- An electronic device connected to the internet to watch videos and take pictures.
- 2 small bowls, 1 paper towel or napkins cut into smaller square pieces, and approximately 10 cheese puffs, and 4 of your child's favorite candy, 2 shallow bowls or dishes, water, a few small rocks, one of the following fruits: orange, watermelon, strawberry, or mango.
- Copy of the "Student Science Journal" and a pencil.
- Optional supplies: colored pencils or crayons.

Each of the activities is designed to take 15–30 Minutes.

Activity 1: Springtime Bingo

1. Have your child go to their Science Journal – Activity 1 section to create their "Springtime Bingo" card. Use the list of organisms at the bottom of the page to fill in the Bingo card. Your child can choose any of the organisms at the bottom of the page to write or draw in the boxes of the Bingo card.
2. For added fun, have everyone in your family create a Bingo card.
3. Now take your Bingo card outside and put an "X" in the box when you find one of the organisms on your card. Keep searching until everyone has crossed off at least 3 boxes in a row (across, down, or diagonally).
4. For an additional challenge, see if you can cross off every organism on your list!

Activity 2: Pollinator Research

1. Have your child go back to their "Springtime Bingo" card from Activity 1 and count how many insects and animals they found and then count how many flowers they found and record this in their Science Journal – Activity 2 section. Have your child compare which group of organisms they found more of during the game. Did your child find more insects and animals or flowers?
2. Ask your child to think about where they found the insects during their "Springtime Bingo" activity. Chances are, they were found on or near flowers. All of these organisms play an important role in our backyard ecosystems – they are pollinators.
3. To learn more about these special organisms, use your electronic device to go to the website: kidsgrowingstrong.org/pollinators/
4. Have your child read the descriptions of each of these pollinators and draw and write what they learned about each category in their Science Journal – Activity 2 section. (For younger children, read the information out loud for each of the pollinators and let your child draw each organism in their science journal.)

Activity 3: Bees

1. Go outside with your child and see if you can find a flowering bush or flowering plant that has bees buzzing around it. Encourage your child to observe the bees closely and quietly for a few minutes. Careful – don't get too close!
2. Ask your child what they observed while watching the bees. Encourage your child to answer using complete sentences. Some examples to help them begin are,
    a. While watching the bees, I observed...
    b. Something else I observed is...
    c. I noticed...
    d. I wonder...
3. Help your child record their bee observations in their Science Journal – Activity 4.
4. To really see what the bees are doing while on the flowers, use your electronic device to take a slow-motion video of the bees. Watch this slow-motion video and help your child add any new observations to their science journal.

Activity 4: Pollination

1. To understand how pollination works with bees, butterflies, and other pollinators, set up this exploration for your child. You will need 2 small bowls, 1 paper towel or napkin cut into smaller square pieces, 10–15 cheese puffs, and 4 of your child's favorite candy (use a small candy, if possible). In Bowl #1, place 2 of your child's favorite candies in the bottom of the bowl and then fill the rest of the bowl with the cheese puffs. In Bowl #2, place the other 2 pieces of your child's favorite candy at the bottom of the bowl and then cover the candy with 8–10 small pieces of paper towel or napkin.
2. Share these directions with your child: Your task is to get all four pieces of candy at the bottom of the bowls. Start with Bowl #1 with the cheese puffs. Reach in and grab 1 candy. Now go to Bowl #2 and pick up 1 candy. Now repeat this one more time. Go get the other candy at the bottom of Bowl #1 and then go to Bowl #2 to get that last candy.
3. Encourage your child to look at what happened in Bowl #2. What do they see on the paper towels? Where did it come from? If your child was a bee (or another pollinator), can they explain what the bowl, candy, cheese puffs, and orange cheese powder represent in the pollination process? Help your child answer the questions in their Science Journal – Activity 4 section.
    a. If your child is struggling, give them these hints: the bowl is like a flower and the bee is searching the flower for sweet nectar (candy). As you are looking for the nectar, the pollen (cheese powder) from the flower gets on you. Then when you go to another flower (the other bowl) the pollen (cheese powder) on you transfers to the other flower (we used the paper towel pieces so we could see the pollen.) This pollen transfer from one flower to another flower results in pollination and the making of seeds!

    Some ways to help your child begin their responses are,
    a. I see_____ on the paper towels. This came from...

Activity 5: Flower Colors

1. Ask your child: "Why do you think flowers are different colors? Why do you think some flowers smell pretty, some smell yucky, and some have no smell at all?" Help your child record their thoughts in their Science Journal – Activity 5 section.
   Continue encouraging your child to answer you using complete sentences. Some ways they might begin are,
   a. I think flowers are different colors because...
   b. Another reason I think this is...
   c. I think some flowers smell pretty, yucky, or have no smell is because...
2. To explore the answers to these questions, use your electronic device to listen to the book, "Flower Talk." Go to this link: tinyurl.com/flowertalk
3. After listening to the story, your child should now understand that the different flower colors can invite different animals (pollinators) to visit. Have your child complete the chart in their science journal with their new understanding.

Activity 6: Drawing a Flower

1. One of the best ways to get your child to make good observations is to get them to look carefully at something in order to draw the object. This activity will help your child look closely at flowers.
2. Go outside with your child and help them find a flower that they find interesting. Be sure the flower is at a location that is easy for your child to sit and observe. Ask your child to look closely at the flower and share their observations about the flower out loud. If they are struggling, ask questions such as "What colors do you see? What shapes do you notice?"
   a. "I notice..." or "One observation I have is..."
3. Have your child go to their Science Journal – Activity 6 section and record their observations.
4. Now it's time to draw their flower. This is a great opportunity for you to draw a flower alongside your child. Have your child start drawing the general shape of the flower using a pencil. Encourage your child to think about the shape of the flower and its petals. Also, have your child count the number of petals or other features of the flower so that their drawing is accurate. Once your child is happy with the outline of their flower, have them start using color pencils or crayons to represent the different colors they see on their flower. Remind your child to take their time as they draw and color.
5. Have your child document the date, time, and location of where they found their flower.
6. Allow your child to draw another flower from a different plant and compare the similarities and differences between the two flowers.

Activity 7: Inside a Flower

1. Have your child go outside and choose one large flower. This could be the same flower they drew in Activity 6 or a different flower. Let your child pick one flower off of the plant and carefully pull off just the petals of the flower. Encourage your child to make observations. What do they notice? Do they see pollen (yellow powder)? Where is the pollen? Have your child record their observations in their Science Journal – Activity 7 section.
   Some examples to give them to help them respond in complete sentences are,
   a. I notice...
   b. One observation I have is...
   c. I notice the pollen is...
2. Using the labeled flower drawing in their science journal, see if your child can find the different flower parts. Your child might have to dissect the flower by carefully opening the part of the flower where the petals were attached. Have your child draw what they see inside their flower and label the different parts they can identify.

Activity 8: Butterfly Bath and Feeder

1. Now that your child has learned so much about pollinators, it is fun to build a bath and a feeder that will encourage pollinators to visit your backyard. All you need is a shallow plastic bowl or plate, water, a few rocks, and a few pieces of fruit.
2. Butterfly Bath: Fill a large shallow bowl, plate, or another type of shallow dish with water. Place a few rocks in the bowl, making sure the top of the rocks are above the surface of the water. The butterflies (and other pollinators) will come to sit on the rocks and drink water. Be sure to check the water in your butterfly bath every day and add water as needed.

3. Butterfly Feeder: Have an adult cut a piece of fruit in half. Some fruit options could be oranges, watermelon, strawberries, and mangoes. If the fruit is really ripe, that makes it even more attractive to the butterflies. Place the fruit halves or large slices on a plate or shallow dish. Place the dish outside near flowering plants or bushes.

4. In your child's Science Journal – Activity 8 section, have your child draw the butterfly bath or feeder they made for the pollinators.
5. If you have an electronic device, set it up to take a timelapse video of your bath or feeder. Let it record for a few hours. Watch the timelapse video and see all of the pollinators who visited your backyard.

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NAME:_____

Activity 1: Springtime Bingo

Fill in your Bingo Card by choosing 9 organisms from the list below.

Organisms to write or draw in your bingo card:

- Butterfly
- Hummingbird
- Ladybug
- Yellow or white flower
- Red or pink flower
- Sweet-smelling flower
- Flower with 5 petals or more
- Bee
- Moth
- Fly

Activity 2: Pollinator Research

From my Springtime Bingo Card from Activity 1, I found

_____ insects/animals and _____ flowers.

Therefore, I found more _____ than I did _____.

Draw or write what you learned about each of these pollinators.

BATS	
BEES & WASPS	
BEETLES	
BIRDS	
BUTTERFLIES	
FLIES	
MOTHS	

Activity 3: Bees

Draw  or write  what you observed while closely watching the bees.

While watching the bees, I observed...

Write two questions you have about bees based on your observations:

I wonder...

Activity 4: Pollination

Draw and label what was in each of the bowls before the activity:

BOWL #1 (CHEESE PUFFS)

BOWL #2 (PAPER TOWEL PIECES)

After doing the activity, answer these questions:

1. What did you see on the paper towel?

2. Where did the stuff on the paper towel come from?

3. If you are a “bee” and the bowls are the “flowers,” describe how this activity represents what happens when a bee pollinates a flower.

Activity 5: Flower Colors

I think flowers are different colors because...

I think some flowers smell pretty because...

Draw  or write  what is attracted to each flower color:

RED FLOWERS	BLUE & PURPLE FLOWERS	YELLOW FLOWERS
WHITE FLOWERS	BROWN FLOWERS	GREEN FLOWERS

Activity 6: Drawing a Flower

Record your flower observations:

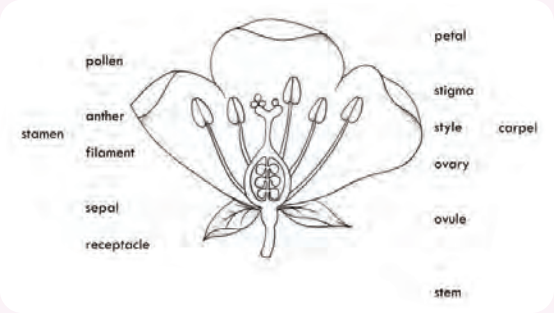
I notice...

Draw your flower.

Date:_____ Time: _____ Location: _____

Activity 7: Inside a Flower

Draw what you see when you open your flower and be sure to label any of the parts you can identify using the diagram below.



Activity 8: Butterfly Bath and Feeder

Draw or write about the bath or the feeder you created for the butterflies in your backyard.