

Fly It and Spy It



What Is This Activity?

Is your neighborhood teeming with wildlife?

Surprisingly, yes—but families will have to look very closely to see it. They will discover what’s living under their feet and above their head, and then imagine seeing the world from the viewpoint of an ant!

Learning Goals

Big Science Idea:

- Animals live in lots of places where they find food, water, shelter, and space to survive.

Skills kids will use to investigate it:

- Model the defense and attack behavior of ants
- Predict, observe, compare, and document where animals live based on survival needs
- Model and communicate information about animal behavior and survival

How Do You Get Ready?

- Read the activity and gather the materials.
- Print out one “Fly It and Spy It” handout per family.
- Scout out a space that has soil and grass and other plants, such as a park or another unpaved area.
- Optional: Before starting the activity, place slices of fruit and dampen soil around the fruit in a few spots to attract animals.
- Troubleshoot safety concerns (traffic, poison ivy, sharp objects, etc.).
- Look up the estimated population of your city or town (for Wrap-Up).
- Optional: Review all the “Animal Fact Cards” and select, print, and cut out cards that apply to your region.
- If you don’t plan to show the “Wild, Wild Life” video that is paired with this activity on the website, watch it ahead of time and jot down concepts to share with families during the activity.



pbskids.org/plumlanding/parents

Curriculum Topics

habitats, biodiversity, ecosystems

Activity Type

outdoors (best on warm dry days when bugs are out, but works in all weather except snowy or freezing temperatures)

Group Size

whole group, small groups

Activity Time

40–60 minutes

Materials

One per family of first three items:

- Ball (or another object to throw, such as a flying disk or a paper airplane)
- Paper plate or other object
- “Fly It and Spy It” handout
- Pen or pencil
- Optional: Fruit slices and a water bottle to attract animals
- Optional: “Animal Fact Cards”
- Optional: “Explore Animals Around You” handouts

Next Generation Science Standards

Disciplinary Core Ideas

LS1.D: Information Processing
LS4.D: Biodiversity and Humans

Science and Engineering Practices

Asking Questions and Defining Problems
Using Mathematics and Computational Thinking
Planning and Carrying Out Investigations
Obtaining, Evaluating, and Communicating Information

Crosscutting Concepts

Cause and Effect: Mechanism and Prediction

Warm-up (5-10 minutes)

(Science Skills: Model the defense and attack behavior of ants)

Raider Ants!

- 1. Kids play “Soldier Ants” who defend their family’s shelter, a “Nest”** (ball), while trying to raid other Nests.
- 2. Adults play “Queen Ants” who don’t defend or raid.** They stay at their family Nest to give advice and supervise. The game works best with three or more nests. If necessary, combine families so that each nest starts with at least two children—one to raid and one to defend. If you don’t have enough kids, assign an adult to defend each nest and have kids focus on raiding.
- 3. Each family places their Nest anywhere on the ground.** They should strategize and pick an area that is easy to defend but close enough to other nests to raid them.
- 4. The game begins on your signal.**
- 5. To raid another Nest:** One or more Soldier Ants try to grab a Nest without being tagged. If they succeed, the two “colonies” join at the raiders’ Nest and play the rest of the game together.
- 6. To defend the family Nest:** Soldier Ants tag raiders to send them back home, empty-handed. The raiders must return to their Nest before they can stage another raid.
- 7. The game ends when everyone is in the same Nest**—the one that raided and defended the best! **Wonder aloud:** *Why do ants raid other ants? Why do they have to defend their nests?* Explain that all animals need shelter to survive. Shelter provides a safe place to hide from enemies, to store food and water, and to raise young.
- 8. Ask families to briefly describe what strategies worked best.** (Where to place the Nest and whether to have more defenders or more raiders, for example.) Play again, time permitting.

Activity

Fly It and Spy It (15-25 minutes)

(Science Skills: Predict, observe, compare, and document where animals live based on survival needs)

- 1. Look around and wonder aloud:** *Where are animals living around us?* Explain that animals can be tough to find because they can move and hide. But they’re out there! One way to find them is to “follow the food”—or the water, or the shelters that they need to survive.
- 2. Ask:** *What do you need to survive? How and where do you find those items?* Point out that all animals (including people) have the same survival needs: food, water, shelter, and space. So if you want to find animals, look for those four things.

Wrap-up (5 minutes)

(Science Skills: Communicate information about animal behavior and survival)

- **Ask for a show of hands:** Is everyone back to normal size? (A joke.)
- Have the **families discuss what they found.**
- **Gather on grass and tell kids to look at their feet. Ask:** *What animals might be living under your feet right now, in the soil?* (Worms, roly-poly bugs, ants, centipedes, etc.) *What do you think they are doing?* (Surviving—searching for food or water, eating, digging a shelter, hunting, defending themselves, etc.)



- **Encourage families to take home the “Fly It and Spy It” handout** to repeat the activity in their neighborhoods and point out the “Explore Some More” activities. If you wish, **give them “Explore Animals Around You” handout** to provide them with more ideas on how to continue investigating animals together.

Cool Fact

The nest of one queen ant can be deeper than you are tall (five feet or more) and have a million or more ants! Compare that number to the population of your city. **Ask:** *What would it be like to live in a nest like that?*

Explore Some More

Pigeon Love

Pigeons love cities and depend on humans for food and shelter. Encourage families to follow and observe a pigeon (or other bird). *How does it interact with people and the things people built or made?* Have kids pretend to be a pigeon! As families walk on the sidewalks, tell them to look for ways to survive: *Where could you sleep tonight? Where can you find food? Water? A place to hide from hungry hawks?*

VISIT pbskids.org/plumlanding/parents to find more activities, games, and videos.



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Major Funding is provided by the National Science Foundation and The Kendeda Fund: furthering the values that contribute to a healthy planet

handout

Fly It and Spy It



Exploring your world,
one mission at a time
pbskids.org/plumlanding



What Is This Activity?

Is your neighborhood teeming with **wildlife**? Surprisingly, yes—but you'll have to look very closely to see it. Toss a ball and then discover what's living below and above the spot where it lands!

Activity Time

10–20 minutes

Materials

- Ball or another object to throw, such as a paper airplane or a Frisbee
- Pen or pencil

Big Science Idea: Animals live in lots of places where they find food, water, shelter, and space to survive.

Go Outside

- 1. Point out that all animals (even people!) need food, water, and a safe shelter (like an ant nest).** *Where does your family find those things?*
- 2. Think about those survival needs as you look for animals together.** Have your child toss the ball at random into the area. **Wonder aloud:** *What lives underneath that ball? Right around it? And above it?*
- 3. Pick up the ball** and keep track of the type and number of each animal found. **Some tips:**
 - Turn over a rock or stick and look for worms, ants, roly-poly bugs, etc.
 - Look for signs of animals: Tracks, fur, feathers, poop, chewed leaves, broken acorns, spider webs, holes that might be shelters, etc.
 - Look up! Are any birds, bats, or bugs flying above? Are any animals in a tree or on a building ledge?
 - Have kids toss the ball again.

For older or more mature children: Challenge them to think about places or things that are likely to attract lots of tiny animals and then explore those places to see if their predictions are right. For example, sun or shade. Grass, bare soil, or other ground. Ground that's wet, moist, or dry. Near trees or away from them. Near where people gather or not. What about sources of food (around garbage cans, for example)? And water (ponds, fountains, puddles)?

- 4. What's the most interesting thing you found?** Encourage your child to write about it or draw it on the back of this paper. **Ask:** *How many animals did you find? Did you expect to find that many? Why?*

Explore Some More

Adopt a Local Tree



Adopt a favorite tree on your block by visiting it regularly and noting the animals that live in the trunk and branches and in the ground beneath it. Your child might want to write a poem, a thank-you note, or a song about how this tree helps the animals that live there and draw a picture. See what other kids wrote and drew on the Plum Landing “Backyard Mission” page.

Find these and more fun resources on pbskids.org/plum.

Outdoor Family Fun with Plum App

This app gets families outdoors exploring the world. Every day, the app offers five outdoor missions to get everyone thinking and talking about nature and the science that’s all around us.

Plum’s Creaturizer App

If you have a smartphone, download Plum’s Creaturizer app. You can build imaginary creatures, and then take photos of the creatures outdoors, photobombing them into the scene! Use the app to help your child photograph the creature finding food, water, and shelter in the places you visit.



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hoja para repartir

Vuela y vuela

¿qué encuentras?



Exploramos tu mundo,
una misión a la vez
pbskids.org/plumlanding

Duración de la actividad

10 a 20 minutos

Materiales

- Pelota u otro objeto que puedan lanzar tal como un avión de papel o un Frisbi
- Bolígrafo o lápiz



¿De qué trata esta actividad?

¿Abunda la vida silvestre en el vecindario?

Sorprendentemente, sí. Pero tienes que mirar con cuidado para verla. Lancen un pelota y descubran qué vive debajo y encima del sitio donde cayó.

Megaconcepto científico: Los animales viven en muchos lugares en los que encuentran comida, agua, refugio, y espacio para sobrevivir.

Salgamos al aire libre

1. **Indique que todos los animales (incluidas las personas) necesitan comida, agua y un refugio seguro (por ejemplo, un hormiguero).** *¿En dónde encuentra todas esas cosas tu familia?*
2. **Piensen sobre esas necesidades para sobrevivir mientras juntos buscan seres vivientes.** Pídale al niño que lance la pelota al azar. Pregúntense en voz alta: *¿Qué vive debajo de la pelota? ¿Y alrededor? ¿Y encima?*

3. **Recojan la pelota** y anoten el número y tipo de cada animal que encuentren.
Consejos:

- Volteen una piedra o un palo y busquen animales como lombrices, hormigas, cochinillas, etc.
- Busquen indicios de animales: huellas, piel, plumas, popó, hojas mascadas, bellotas abiertas, telarañas, agujeros que podrían ser refugios, etc.
- Miren para arriba. ¿Ven aves, murciélagos o insectos en el aire? ¿En un árbol o en la cornisa de un edificio?
- Pídales a los niños que lancen la pelota otra vez.

Para niños mayores o más maduritos: Rételos a pensar en lugares o cosas que podrían atraer a muchos animalitos y exploren esos sitios para ver si predijeron bien? P. ej., al sol o a la sombra. Césped, piso descubierto u otra tierra. Tierra mojada, húmeda y seca. ¿Cerca de árboles o alejada? ¿Cerca de donde se reúne la gente o no? ¿Ven fuentes de comida? (tachos de basura, por ejemplo) ¿Y agua? (lagos, fuentes o charcos)

4. **¿Qué es lo más interesante que encontraron?** Anime al niño a escribir o a dibujar al dorso de esta hoja. Pregunte: *¿Cuántos animales encontraron? ¿Y previeron que encontrarían tantos? ¿Por qué?*

Exploremos más

Adopten un árbol de la localidad



Adopten un árbol favorito de la cuadra. Es cosa de visitarlo con frecuencia y observar qué animales viven en el tronco, en sus ramas y debajo, en la tierra y por sus raíces. Quizás el niño quiera escribir un poema, o una nota de agradecimiento, o componer una canción sobre cómo este árbol les ayuda a los animales que viven por ahí. También puede hacer un dibujo. Pueden ver lo que otros niños escribieron y dibujaron en la página de Plum Landing *Backyard Mission*.

Encuentren estos y más recursos divertidos en: pbskids.org/plum.

Diversiones familiares al aire libre con el app de Plum

Este app invita a las familias a explorar el mundo. Cada día, el app ofrece cinco misiones al aire libre que ponen a todos a pensar y a hablar sobre la naturaleza y las ciencias que tenemos a nuestro alrededor. Disponible en inglés solamente.

El Animalizador de Plum (un app)

Si tiene un teléfono inteligente, descargue el app *Plum's Creaturizer*. Podrán crear animales imaginarios y tomarles fotos al aire libre, fotobombardeándolos a la escena. Use el app para ayudarle al niño a retratar a su animal encontrando comida, agua y refugio en los sitios que visiten. Disponible en inglés solamente.



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