

Standards and Correlations

Head Start Outcomes

P-ATL3, P-ATL4, P-ATL5, P-ATL6, P-ATL8, P-ATL10, P-ATL11, P-ATL13, P-SE3, P-SE4, P-LC1, P-LC2, P-LC3, P-LC4, P-LC5, P-LC6, P-LC7, P-LIT4, P-LIT5, P-LIT6, P-MATH1, P-MATH2, P-MATH3, P-MATH4, P-MATH5, P-MATH6, P-SCI1, P-SCI2, P-SCI3, P-SCI4, P-SCI5, P-SCI6, P-PMP1, P-PMP3

NAEYC Accreditation Criteria

2.A.07, 2.A.10, 2.A.11, 2.A.12, 2.B.03, 2.B.04, 2.B.05, 2.B.06, 2.B.07, 2.C.03, 2.C.04, 2.D.03, 2.D.04, 2.D.07, 2.E.04, 2.E.06, 2.E.11, 2.F.02, 2.F.04, 2.F.11, 2.G.02, 2.G.03, 2.G.05, 2.G.08, 2.K.02, 2.K.03, 2.K.04, 2.L.07

Resources

Non-Fiction

Ant Cities by Arthur Dorros

Ants by Jenny Vaughan

How Many Ants by Larry Brimer

Very First Things to Know About Ants by Patricia Grossman

Fiction

Hey Little Ant

by Phillip and Hannah Hoose

If I Were an Ant by Amy Moses

One Hundred Hungry Ants

by Elinor J. Pinczes

Two Bad Ants

by Chris Van Allsburg

The Wacky Wedding: A Book of Alphabet Antics

by Pamela Duncan Edwards

Audio CD

Songs About Insects, Bugs, and Squiggly Things

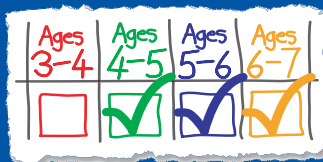
by Various Artists

Websites

<http://cis.art.arizona.edu/>

Show Me Wildlife

<http://www.projectwild.org/GrowingUpWILD/showmewildlife.htm>



This activity is modified from "Ants on a Twig" from the Project WILD K-12 Curriculum and Activity Guide.

12

Growing Up WILD: Exploring Nature with Young Children © 2018 Association of Fish & Wildlife Agencies



Ants on Parade

Children go outside to observe ant behavior and learn insect characteristics.

Quick Facts

There are thousands of ant species in North America. Though some species are considered pests, ants play an invaluable role in many ecosystems. Many are important predators of small invertebrates, including other insects, while others are very effective dispersers of the seeds they harvest. In many ecosystems, ants turn over and aerate the soil as much, or more than, earthworms.

All ants go through a four-stage life cycle—egg, larva, pupa, and adult. The eggs look like clusters of very small poppy seeds. The larvae hatch from eggs and look like tiny maggots. They molt (shed their exoskeletons) many times during this stage, getting bigger each time. The larva spins a silken web around itself, using a gland at the end of its body, and becomes a cocoon, or pupa. An adult ant emerges from the pupa.

All ants live in social groups called colonies. Many people will recognize the familiar "ant hill," the above ground opening for the colony. Underground, ant colonies may have many chambers—used for things like nurseries or food storage—just like rooms in a house are used for different things.

Ant colonies are made up of queens, female workers, and winged males. Male ants mate with the queen and then die. The queen lays eggs during her entire adult life. The female workers do the food collecting, tunneling, building, and tending to the pupae or larvae. New queens and worker ants develop from fertilized eggs; males develop from unfertilized eggs.

Watch ants closely and you'll see them touching their antennae—that's how they communicate. Their antennae are sensitive and can detect chemical signals. Ants leave a trail of chemical signals called pheromones which other ants follow with their strong sense of smell. This is how ants make it back to the ant hill after a long day of looking for food.



Wild Wonderful Words

colony antennae thorax
abdomen harvest exoskeleton
pupa hypothesis test data
result conclusion

Materials and Prep

- ✿ magnifying lenses
- ✿ one or more paper plates (divided into fourths with a marker)
- ✿ potential ant food items (ripe fruit, bread, meat, cheese, grass and moldy leaves, etc.)
- ✿ **Compare Ants** sheet (page 70)
- ✿ **Ant Graphing Units** (page 70)



Warm Up

Begin by asking children if they've ever seen an ant before. How did they know it was an ant? What did it look like? What did it do?

Where was it? Draw an ant based on children's descriptions and record other information they provide.

Tell children they will be scientists and study ants. (See Scientific Inquiry on page 6 and consider reviewing the scientific method with your students.)

Ready, Set, Go!

1. Show children your collection of food items. Which foods would ants most like to eat? Why do you think so? What we think

will happen is our hypothesis. Let's test our hypothesis. Place students' choices of food items in each section of a paper plate or plates.

2. Take the children outdoors for an "ant hunt" (see Healthy Me and Helping Hands for tips on making this a safe experience for the children and the ants). Look for an ant hill or free roaming ants on the sidewalk, under rocks, etc.
3. When you find ants or an anthill, place the plate(s) of food nearby. Allow time for ants to locate the food. This is our test. As children wait, encourage them to observe ants and their behavior (and/or allow free play). What do ant bodies look like? How do they move and communicate? How does the ants' behavior change when they discover the food? Count the ants as they arrive at the different foods. To record results, make tally marks next to each food name on a sheet of paper. This is our data.
4. Encourage children to share ideas and observations about ants. Discuss what foods the ants ate. Graph the results (see Mighty Math). Was our hypothesis correct? Based on the graph, which food do ants most like to eat? This is our conclusion. (Sometimes tests don't give clear results. Real scientists test their



hypothesis multiple times and, if results aren't clear, refine testing procedures.)

5. Read a story that realistically portrays the natural history of ants. How do your outdoor observations support the information found in books? You may opt to ask additional questions (see page 70).
6. Sing *Head, Thorax, Abdomen* (see Music and Movement).

Wrap Up

- ✿ *What was the most interesting thing you saw an ant do during your observations?*
- ✿ *Look again at our ant drawing. What (if anything) do you want to change? Why?*
- ✿ *Look at the ants on the Compare Ants sheet. Which is more like a real insect?*

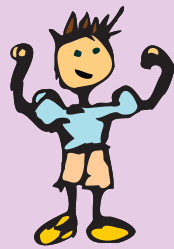
Take Me Outside!

Playground Ant Colony

Ant colonies are very busy places. There are many chambers with different ants doing different jobs to help out the colony. Play "house" like an ant. Decide who will defend your colony against invaders. Who will tend to your colony's eggs, larvae, and pupae? Who is your queen? Who will find food?

When one of you finds food make sure to tell your friends. Touch antennae (your arms held over your head), and then play "Follow the Leader" in a line and lead your ant friends to the food.





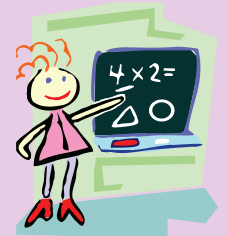
Healthy Me!

Safe Bug Detectives: When looking for ants, you may find some unsafe bugs, like bees, wasps, centipedes, certain spiders, fire ants, or other biting ants (depending on where you live). Do not swat at or touch these creatures. Allow them to have a clear escape route away from you. Most will not bother you if you do not bother them. Make sure to roll logs toward you and lift rocks so that the space beneath them opens away from you.



Helping Hands

Ant Search Etiquette: Ants are living creatures. Treat them with respect. Do not intentionally step on them or disturb their anthills. If you turn over logs or rocks you might find a colony at the surface of the ground. The ants will be disturbed, but this is a great chance to see a colony in action. You might see winged males and worker ants scurrying to move ant eggs and pupa. Briefly observe the colony, then make sure to put the log or rock back the way you found it.



Mighty Math

Ant Buffet Line Graphs: How many ants ate each food item on your plate? Count the tally marks to find out. Graph the results by writing the name of or drawing each food at the bottom of a large piece of chart paper. Take turns taping **Ant Graphing Units** (see page 70) above each food item. Each unit represents one ant. Make sure your graphing units make a straight column. Which column of ants is the highest? Which food attracted the most ants? Which column is the lowest? Which food attracted the fewest ants? (You might opt to have children graph predictions first, using **Ant Graphing Units** of a different color.)



Home Connections

Journal: Find an anthill near your house. Visit the colony each day. Write or draw the story of your ant neighbors in your journal.

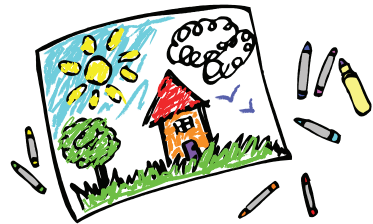
If I Were An Ant: Stretch your imagination by completing these statements:

If I were as small as an ant...

If I had six legs...

If I were waiting inside a pupa, I would think about...

See page 97 for a take-home Home Connections card.



Art Projects

Thumbprint Ant Parade

Stamp an ant parade on adding machine tape, masking tape, or butcher paper. To make the ants, use ink pads or washable markers. Children should "ink" their fingers. For best results, use three different finger sizes: the thumb for the abdomen, index finger for thorax, and pinky for head. When all the body parts are printed, add eyes, legs, and antennae. Children might also create an ant hill for their ants by drawing a hill, painting it with glue, and sprinkling it with sand. Are their ants going home or out to find food?



Big Ant Eyes

Cut cardboard egg cartons ahead of time so that there are two attached cups for each child. Remove the bases to form two eye openings. Poke a hole in each side and attach chenille stems to form ear pieces for eyeglasses. Add chenille stem antennae. Decorate using art materials.

Safety Tip: Avoid glitter, as small particles may come off and get into children's eyes.



Music & Movement

Head, Thorax, Abdomen

(To the tune of "Head, Shoulders, Knees & Toes")*

Head, tho-rax, ab-do-men, ab-do-men
Head, tho-rax, ab-do-men, ab-do-men-eh-eh-en
Six legs, some wings, and an ex-o-skel-eton
Head, tho-rax, ab-do-men, ab-do-men

Head, tho-rax, ab-do-men, ab-do-men
Head, tho-rax, ab-do-men, ab-do-men-eh-eh-en
Big eyes, small size, and two an-ten-nae, too
Head, tho-rax, ab-do-men, ab-do-men

* As you sing, point to the following body parts:

head, thorax (point to chest), abdomen (point to stomach)
legs, wings (point over shoulders), exoskeleton (arms over head, then sweeping motion down toward feet)
big eyes (hold hands as if looking through binoculars),
small size (hold out thumb and pointer finger to indicate small size), feelers (wiggle pointer fingers above ears)

Marching Ants

Divide children into groups of three to form an ant's body (head, thorax, abdomen). Have the second and third children place their hands on the shoulders in front of them. Children practice walking together in rhythm. Teach them the "Ants Go Marching One by One" song. Practice marching while you sing.

Ants Go Marching One by One

(To the tune of "When Johnny Comes Marching Home")

The ants go marching one by one, hurrah, hurrah
The ants go marching one by one, hurrah, hurrah
The ants go marching one by one,
The little one stops to hope for sun
And they all go marching down underground
To get out of the rain, BOOM! BOOM! BOOM!

two by two...sip the dew
three by three...climb a tree
four by four...see birds soar
five by five...watch frogs dive
six by six...pick up sticks
seven by seven...gaze at heaven
eight by eight...scale the gate
nine by nine...smell the pine
ten by ten...to say "The End."



Be an Insect (or arthropod)

Hop like a cricket, swoop like a butterfly, march like an ant, roll into a ball like a roly-poly or a sow bug.



Centers & Extensions

Ant's Eye View

Provide insect eye kaleidoscopes that allow kids to view the world the way an insect might see it (available from science catalogs, party supply stores, and many online retailers). Have common objects at the center and give children the opportunity to draw them the way they look with our eyes and the way they look through the kaleidoscopes.

Whimsical Bugs

Use small pebbles to create ants or other insects by drawing on legs, antennae, spots, and eyes. Use the insects for counting and sorting.

Ant Farm

Purchase an ant farm from a science catalog (do not release ant farm ants outside) or build your own. You can build your own by using two jars with lids, one smaller than the other. Place the smaller one (with a lid) inside the larger one so the ants will build where you can see them. Pack the dirt between the jars. Collect ants from an ant pile.

Feed your ants small bread crumbs or bread dipped in sugar water. They will eat tiny bits of fruit and vegetables. Be careful not to give them too much food. Place a water soaked cotton ball in the jar.

"A" is for Ant

"A" is for Ant is a wildlife-themed activity page that engages children in literacy activities including reading and writing letters, words and simple sentences. Download the page from www.projectwild.org/GrowingUpWILD/GuideResources.htm.

Snack

Ants on a Log: Spread cream cheese or hummus on a carrot stick, celery stick, or unsalted pretzel log. Put a row of raisin ants on top.