

Explorers Preschool Curriculum

# Let's Explore Insects



Developed by  
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Program Coordinator

Arkansas State University Childhood Services  
JoAnn Nalley, Director





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# Let's Explore Insects

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If Explorers Preschool Curriculum is new to you, or if you would like to review big ideas about this curriculum, see the Using Explorers section at the end of this packet.

An expanded Getting Started guide can also be found under the resources tab at [www.ASUChildhoodServices.org](http://www.ASUChildhoodServices.org)

# Let's Explore: Insects

Look closely, and you'll begin to notice insects everywhere. They're tiny wildlife, and children often respond with fascination. What are they doing? Where are they going? Let's follow and see! There are opportunities for kindness, too, as children learn to treat these little living creatures with compassion.

This topic might be a fit for you if...

- Children are excited to find ladybugs, crickets, or other insects.
- You've heard children asking questions or wondering aloud about insects.
- You'll have ample access to the outdoors in the weeks to come.
- No child or adult in the group has an intense fear of, or aversion to, insects.

## Let's Talk About Insects

Use words like these during everyday conversations with children.

**adaptation**  
**antennae**  
**camouflage**  
**colony**  
**food source**  
**habitat**  
**head, thorax, abdomen**  
**hive**  
**larvae**  
**life cycle**  
**markings**  
**shelter**  
**wings**

**Words to describe how insects move:**  
crawl, scuttle, hop, flutter, and so on.

**Names of specific insects:** ant, beetle, cicada, damselfly, dragonfly, and so on.



## Insect Collectibles

Collect some of these interesting objects to investigate with children. Families can help!

**bug boxes**  
**field guides**  
**ladybug or butterfly house**  
**mosquito netting**  
**nets**

## Preparing to Explore Insects

1. With your teaching team, think about and discuss the following questions.
  - What experiences have our children had with insects so far? What background knowledge do they most likely have?
  - What resources could be helpful as we explore this topic with children? Are there any special places we might go or special people who might visit our classroom as we learn about insects?
  - What are some things that children might learn and do as we explore insects? What new words or concepts could they begin to understand?
2. Let families know that the group is interested in insects. What can they tell you about their family's experiences? Think together about ways that families can be involved. Do they know anyone who keeps bees, studies entomology, or interacts with insects in other, positive ways?
3. Gather books and materials to add to learning centers and to use during small group experiences. You'll find suggestions on the pages that follow.





## Learning Center Extensions - Insects

Here are some examples of materials that can be added to your learning centers to support children's exploration of insects during daily free play times.

Not all materials need to be added at the same time. Choose materials based on what you have available and the ages, interests, and abilities of the children in your group. You may also choose to add more – or different – materials over time during your investigation.

For more information on incorporating materials into your classroom, see the *Learning Everywhere* section of the Getting Started packet.

### Block Building Area

- Realistic plastic insects
- Sheets of netting and/or green play silks to drape on and use around block structures
- Silk flower heads (stems removed) and leaves from silk plants
- Smooth-sanded tree branch slices
- Pebbles and/or river rocks

### Fine Motor/Table Toy Area

- Insect memory matching cards
- Insect puzzles

### Water Play Area

- Realistic toy beetles
- Aquarium nets
- Containers

Hint: Inexpensive plastic spider rings (Halloween favors) can be trimmed to create water striders that may balance on the water surface!

## Science Area

- Real insects encased in acrylic
- Prepared bug boxes for short-term observation of live insects
- Magnifying glasses
- Photos of insects, such as those available on this curriculum's website
- Factual books about insects, such as:

*Ants*

Melissa Stewart, National Geographic, 2010

*Big Book of Bugs*

DK, Dorling Kindersley, 2014

*Ladybugs and Other Insects*

Gallimard Jeunesse and Sylvaine Peyrols, Scholastic, 2007

*Ladybug Life Cycle*

Elizabeth Bennett, Scholastic, 2013

## Small Worlds Play Area

In a large, shallow tub:

- Fine gravel
- River rocks
- Driftwood pieces or small tree branches
- Silk leaves, grasses, flowers, and/or vines
- Moss
- Realistic plastic insects

## Dramatic Play Area

- Empty lotion bottle with teacher-created label, for soothing bites and stings
- Bee keeper's hat and veil, cardboard box hive, honey containers, cash register with play money
- Stuffed toy cats and dogs and props to care for them will prompt conversations about fleas.

## Book Area

Add some of these books and/or your own favorite books about insects.

*Bee: A Peek-Through Picture Book*, Britta Teckentrup, Doubleday Books, 2017

*Bugs! Bugs! Bugs!*, Bob Barner, Chronicle Books, 2017

*Bug City*, Dahlov Ipcar, North Atlantic Books, reprint 2019

*A Butterfly is Patient*, Dianna Aston and Sylvia Long, Chronicle Books, 2015

*Diary of a Fly*, Doreen Cronin and Harry Bliss, 2013\*

*Gotta Go! Gotta Go!*, Sam Swope and Sue Riddle, Square Fish, 2004\*

*The Grasshopper and the Ants*, Jerry Pinkney, Little Brown Books, 2015

*Heads and Tails: Insects*, John Canty, Candlewick, 2020\*

*Hello, Little One: A Monarch Butterfly Story*,  
Zeena Pliska and Fiona Halliday, Page Street Kids, 2020\*

*In the Tall, Tall Grass*, Denise Fleming, 1991

*Lift the Flap: Bugs and Butterflies*, Emily Bone and Nat Hues, Usborne, 2019

*The Little Red Ant and the Great Big Crumb*,  
Shirley Climo and Frances Mora, Clarion Books, 1999\*

*The Seedling That Didn't Want to Grow*, Britta Teckentrup, Prestel Junior, 2020\*

*Soar High, Dragonfly*, Sheri M. Bestor and Jonny Lambert, Sleeping Bear Press, 2019

*Some Bugs*, Angela DiTerlizzi and Brendan Wenzel, Beach Lane Books, 2014\*

*Step Gently Out*, Helen Frost and Rick Lieder, Hyperion Books for Children, 2018

*There Are Bugs Everywhere*, Britta Teckentrup, Big Picture Press, 2019

**\*Recommended read-aloud to share with groups of children.**

### Talking About Books

As you share books with individuals, small groups, or larger groups of children, ask questions like these:

- **Beginning:** Does this artwork look familiar? Where have we seen this illustrator before?
- **Middle:** How do you think (characters) are going to solve their problem?
- **End:** Did anything in the story surprise you?

Talking together about books is an essential part of every preschool day!

## Conversations about Insects

Use prompts like these as you talk with children throughout the day. For more information on incorporating planned conversations into your daily schedule, see the *Learning Every Day* section in the Getting Started packet.

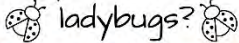
### Insect Conversations

daily - during meals, play times, transitions, or group times

Try asking one or two questions like these when you have opportunities to talk with individuals, small groups, or the larger group of children.

- What are some things that you know about crickets/ants/mosquitoes?  
(And so on, one per conversation)
- What would you like to find out about insects?
- Where do you think insects go when they're ready to sleep?
- If you were a grasshopper, what would you do?
- Are there any insects that help people? How do they help?
- Are there any insects that bother people? How are they bothersome?
- Where do butterflies go when it rains?
- What do insects eat?  
(And if you were a caterpillar, which plant would be your favorite?)
- How is a dragonfly like a butterfly? How is it different?
- When an insect is spotted:  
Where do you think it is going?

At least once a week, make a chart to write down children's answers to a question. Talk with children one, two, or a few at a time to collect answers. Later, read the written responses back to the group. Post the chart where it can be viewed by children and families.

What do you know about  
 ladybugs?

They're the only red bugs. - Donovan  
Ladybugs can fly away home. - Sofia  
They're pretty. - Grace  
Ladybugs are good for the garden.  
They eat the aphids. - Ava C.  
They won't bite you. - Ben  
My Nana says they're good luck.- Sam  
I think it's a beetle. - Ajay  
We find them on the big tree and  
on the playhouse. - Ava W.  
There was one in my movie. - Kaylin  
They're round little insects. - Bella  
It tickles when they crawl on you  
with their little feet. - Jervae  
Ladybugs aren't really all ladies - Eli  
Ladybugs have antennae. - Mason  
There are yellow ones, too. - Xander



## Conversations about Insects

### Insect Polls

1-3 times per week – at arrival or group time

Choose a question from the list below or think of one of your own. Make a chart with the question and two possible responses, using picture cues when possible. Invite children to write their names or place name cards to respond to the question.

- Have you ever caught a ladybug?
- Have you ever seen insect eggs?
- Do you like stinkbugs?
- Can you make a noise like a cicada?
- Have you ever been bitten by a mosquito?
- Have you ever seen an ant in your house?
- If you were an insect, would you rather hop?  
Or fly?

Have you ever seen a  in your  ? <small>ladybug</small> <small>home</small>	
yes	no

### Sharing Our Experiences So Far

several times a week - during meals or play times

As you talk with individuals and small groups of children, tell about your own positive experience with insects. You might talk about finding a gigantic moth near your porch light or discovering a butterfly chrysalis in the garden. Or, you might recall the first time you saw a walking stick insect as a child.

Listen attentively as children talk about their experiences, too. Help children make connections between shared experiences. (“It sounds like you and Jayden both like looking for bugs in your backyards.”)

## Songs, Rhymes, and Games about Insects

Incorporate these playful songs, rhymes, and games into group times and transition times.

### **Flutter, Flutter, Butterfly** – *tune similar to Twinkle, Twinkle, Little Star*

Flutter, flutter, butterfly,  
Soaring through the summer sky.  
Flutter high and flutter low,  
Flutter fast and flutter slow.  
Flutter, flutter, butterfly,  
Soaring through the summer sky.

While singing, try the American Sign Language (ASL) sign for butterfly: Cross your wrists with palms facing in. Lock your thumbs together, noticing how your hands resemble a butterfly. Bend and straighten your fingers in a flapping motion.

### **A Flea and a Fly** – *a poem by Ogden Nash*

This simple poem may offer several new words to discuss – and it’s a tongue twister, too!

A flea and a fly in a flue  
Were imprisoned, so what could they do?  
Said the fly, “Let us flee!”  
“Let us fly!” said the flea.  
So they flew through a flaw in the flue.

### **Five Little Beetles**

Five little beetles, crawling on the door, (Hold up five fingers)  
One flew away, and then there were four. (Hold up four fingers)

Four little beetles, climbing up a tree,  
One flew away, and then there were three. (Hold up three fingers)

Three little beetles, drinking morning dew,  
One flew away, and then there were two. (Hold up two fingers)

Two little beetles, basking in the sun,  
One flew away, and then there was one. (Hold up one finger)

One little beetle knows the day is almost done,  
It flies away, and then there are none. (Hold up a closed hand to show no fingers)

## Songs, Rhymes, and Games about Insects

### Who Let a Fly into Our House? – *circle game*

This is an adaptation of the classic children’s call-and-response game, “Who Stole the Cookie from the Cookie Jar?” You can use a paper fly or a plastic toy fly as a prop. The tone should be silly and playful.

Children who wish to play gather in a circle.

Adult: Who let a fly into our house? (chanted rhythmically)

Adult: (Child’s name) let a fly into our house! (passing the fly to a child in the circle)

Child: Who me?

Group: Yes, you!

Child: Couldn’t be!

Group: Then who? (palms up questioning gesture)

Child: (Child’s name) let a fly into our house! (passing the fly to another child)

Repeat until every child who would like a turn has had one and you’re ready to conclude the game. Then, gesture for a child to pass the fly back to you. Rather than saying, “Couldn’t be!” admit, “Oops – Yes, I did!”

### Big, Green Caterpillar

Big, green caterpillar, high in the tree -  
She’ll spin herself a silk cocoon, and wait patiently.  
Big, green caterpillar, emerges from the swath,  
Dries, stretches, pumps new wings -  
Now she’s a luna moth!



### Insects Playlist

Ants Can’t Dance – Caspar Babypants  
Baby, You’re an Arthropod – Lucas Miller  
Bumblebee Buzz (Dance Remix) – Laurie Berkner  
Mariposa Ole – Dan Zanes and Friends  
Ladybug Picnic – Sesame Street

## Small Group Learning Experiences – Insects

Share learning experiences like the ones on the following pages with small groups of children each day. Groups should usually consist of three to seven children, rather than the whole group at once. Small group experiences may take place as children choose to join a teacher during free play time, or there might be a special small group time included in the daily schedule.

Use these questions to guide you as you choose daily learning experiences.

- **What is it about insects that these children seem most interested in or most curious about?** Choose experiences that invite children to pursue their interests and seek answers to their questions.
- **What are our learning goals for individual children and the group as a whole?** Choose experiences that support specific objectives for learning. Strive to create well-rounded plans that support all domains of development.
- **How can we extend children’s thinking and learning?** Choose activities that can be connected to children’s experiences so far. Remember that it is often appropriate to re-run planned experiences. Offering an experience two or more times over a few days or weeks invites children to gain expertise and deepen their understanding.



Pair planned activities with ample opportunities for open-ended, free choice exploration in the classroom and outdoors.



## Getting Ready to Investigate Insects

Let's set some ground rules to keep everyone safe.

### Materials

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> Paper        | <input type="checkbox"/> Realistic plastic insects or photos of insects (optional) |
| <input type="checkbox"/> Writing tool | <input type="checkbox"/> Chart paper or other large paper                          |

Remind children that you'll be learning together about insects. Do they think you'll do most of your investigation indoors - or outdoors?

Invite children to think with you about ways to keep themselves safe. Begin with an informal conversation. Children may have plenty to say right away. You can also encourage discussion by inviting children to recall safety guidelines from other outdoor excursions. Think together about whether insects are ever dangerous to people. Almost all insects can nip; a few, like ants, mantises, and big beetles, inflict a painful bite. Some flying insects have stingers, and some caterpillars have sharp, spiky spines.

Suggest to children that it is also important to think about how we can keep insects safe during the investigation. Humans are much bigger than insects, and insects' wings and legs are fragile. What suggestions and questions do children have? During this investigation, you'll discourage children from squishing insects or treating them harshly. A fingertip can gently brush a safe insect – like a ladybug – onto the open hand. Letting the insect crawl freely enables it to fly away if desired and is far less likely to cause harm than holding with pinched fingers.

What are some other ways that children can think of to care for insects? Throughout your conversation, write down ideas that children want to remember.

Later, bring the whole group together for a summary conversation. On chart paper, create a list of safety rules for class members. Possibilities include:

- Stay with your group. (during out-of-fence excursions)
- Look before you touch. (rocks, logs, etc. – don't touch where you can't see!)
- Show a teacher when you find a new insect. (find out if it is safe to look closely/touch)
- Handle safe insects gently.
- Take good care of insects and let them go free.

## Getting Ready to Investigate Insects (cont.)

### Helpful Hints

Small group conversations should be relaxed and engaging. The goal is to think together about safety, but not to frighten children. Watch children for cues that they may feel uncomfortable.

The listed rules are examples. Your group's actual rules will depend on the age, abilities, and experience level of the children in the group and their contributions to the conversation.

### Including Every Investigator

When conversing with younger, less experienced children and children with limited communication skills use strategies to enable every child to contribute to the conversation. Pair open-ended questions with simple questions like, "Have you ever held a ladybug?". Try sorting plastic insects or photos into two piles: safer insects, and touch-me-nots.

### More to Do (optional)

- Invite children to create drawings of insects to hang around the chart.
- Review your chart before excursions. Children may want to clarify or add to the chart over time.

### Did You Know? – Information for Educators

Insects or bugs? Although the terms are often used interchangeably, they aren't the same. Insects are invertebrates with six legs and three distinct body parts -head, thorax, and abdomen. "Bugs" is a term most people use casually to describe all small, crawly creatures – including all insects. Scientists, on the other hand, only use the word bug when talking about a particular kind of insect (Hemiptera). Cicadas and stinkbugs are true bugs, but butterflies and ladybugs aren't.

This investigation begins with insects – but, as always, there's flexibility to follow children's interests when they discover snails, millipedes, spiders, and other surprises!

This experience offers special opportunities to build and strengthen:

**Physical Development and Health – PH 3.2**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Emergent Literacy – EL 3.1, EL 3.2**

## Where Do Insects Live?

Let's investigate the habitat of insects and other small creatures.

### Materials

- |  |  |
|--|--|
| <input type="checkbox"/> Clipboards with white paper – one per child                   | <input type="checkbox"/> Investigator's Kit - backpack with a tape measure, ruler, flashlights, magnifying glasses, small notepad and pencil |
| <input type="checkbox"/> Pencils or washable black fine-tipped markers – one per child |  |
| <input type="checkbox"/> Camera (optional)   | <input type="checkbox"/> Prepared bug box (optional)   |

Talk with the small group of children about where insects live. Their first response may be, "Outside." Where outside? Children may recall places where they have spotted insects in the past. During this small group experience, you'll walk to explore a site where children feel likely to find insects.

Possible investigation sites include, but are not limited to –

- Taller grass against a building wall or sidewalk edge
- A garden area
- The base of a tree
- An area where children can turn over rocks or investigate decaying wood

Try to think of at least two different sites to offer children. ("Would you like to look for insects today by the big tree in front of the school? Or at the edge of the tall grass near the playground?") Once you've decided on your site, go together to explore. Remind children of safety rules before - and as needed during - your time outdoors.

Begin by inviting children to make a drawing of the site on their clipboards. If they were an insect, where would they live? Next, set the clipboards aside and encourage children to move around and look closely as they search for insects. You can also look together for clues about what insects might eat and where they might take shelter in this area. Are there any water sources for thirsty insects nearby? Some groups will be satisfied after just a few moments of searching, while others will want more time. Take photos of insects if desired.

You might gently collect an insect to bring back to the classroom for a short visit. When you return to the room, regroup to talk about the experience. Are there words that children would like for you to write – or to help them write – on their drawings? Some children may wish to take their papers to the art area to add insects or other details. Later, at a brief whole group gathering, small groups can share about where they went and what they found.

## Where Do Insects Live? (cont.)

### Helpful Hints

Prepare a bug box by adding twigs, leaves, and/or wild grasses. Soak a cotton ball in water and squeeze until no longer drippy. This is the safest way to provide drinking water to your insect. Insects should be kept for no more than a few hours and then released where they were found.

### Including Every Explorer

Think of ways to provide extra supervision for children with more impulsive behavior. This could be a good opportunity for family volunteers. The activity can be conducted in a fenced area and/or shortened as needed to ensure that every child has a successful experience.

Some children's sketches may not be identifiable to adults yet, but every line on the page has meaning to the child. Praise effort and invite all children to tell about their work. Avoid judging or comparing one child's work against another's. If you have a child with limited use of hands, offer adaptive drawing tools that are easier to hold and handle.

### More to Do (optional)

- If you brought an insect back to visit the classroom, place it where children can look with magnifying glasses, make drawings, and talk about the insect with one another. Remind children to be good caretakers.
- Use resource books or online resources to identify insects that you and the children do not recognize. Read about where they like to live and what they like to eat. Does this explain why you found them?
- Begin an insect photo gallery.
- Return to the same site at a different time of day or in different weather conditions. Will you find the same insects in the hot afternoon that you saw in the cool morning? Will you find the same insects after a rain shower that you saw on a sunny day?

This experience offers special opportunities to build and strengthen:

**Physical Development and Health – PH 3.2**

**Emergent Literacy – EL 3.1, EL 3.3**

**Science and Technology – ST 1.2, ST 3.1, ST 3.3**

**Social Studies – SS 2.2**

## Caterpillars and Crows

Let's consider why many insects can be hard to find. Could camouflage have something to do with it?

### Materials

- |   |  |
|---|--|
| <input type="checkbox"/> Yarn or chenille stems* in a variety of colors | <input type="checkbox"/> Tweezers – 1 pair per child (optional)  |
| <input type="checkbox"/> Adult scissors                                 | <input type="checkbox"/> Books with photos of insects (optional) |
| <input type="checkbox"/> Basket   |  |

Prepare for this activity by cutting 2-inch long pieces of yarn or chenille stems. You'll need 10 pieces total in natural colors like brown, tan, and grass green. You'll also need 10 pieces total in bright colors like hot pink, bright blue, and yellow. Make a few extra caterpillars to show the group.

Without children, go out and spread these pieces along a short route you'll walk together. Choose a route that passes through/near grass, bushes, and trees. There's no need to hide the pieces – just place them here are there.

As you introduce this activity to your small group, explain that they'll play the role of a family of clever, hungry crows. Tweezers could represent their beaks. You'll go for a walk along a path where they might find some pretend caterpillars. If they find a one, they can pick it up with their beak and bring it back to the group's shared nest (basket).

Walk along the route together. Children should pick up any caterpillars they see as they go, but should not linger and search. When you get to the end of the route, sit down together. Spread out and count the caterpillars. How many of the 20 did children find? Make two piles of caterpillars: brightly colored ones, and natural colored ones. Which pile has more? Why might that be?

Walk back along the path. This time, slow down and look more carefully. Can children find the missing caterpillars? Count down as you keep track of how many you're still looking for.

Afterward, talk together about what you've discovered during this investigation. Natural-colored game pieces are usually much harder to find than brightly colored ones. Brightly-colored pieces stand out in their surroundings, while the others blend in. That's camouflage! If you were a caterpillar, what color would you want to be?

\*Chenille stems are wires covered in fuzzy fiber. They can be found in craft stores and are also known as pipe cleaners.

## Caterpillars and Crows (cont.)

### Helpful Hints

If you can't leave the classroom to spread the pieces, could you enlist the help of a volunteer? You might even spread the pieces before children arrive in the morning.

### Including Every Explorer

It may be hard for some children to understand the collaborative nature of the game. Some children may try to rush ahead to gather as many pieces as possible. Emphasize that everyone is working together to find the pieces. You could consider a variation where a child who spots a caterpillar points it out while everyone takes turns retrieving the pieces.

Reduce the overall number of caterpillars for younger, less experienced groups.

### More to Do (optional)

- Think about this some more. What if you were a caterpillar who lived in a field of yellow flowers. What color would you want to be? Is it possible that many flowers are colorful because they want to be noticed by helpful pollinators?
- Invite children to draw pictures of themselves as a caterpillar.
- Repurpose the yarn/chenille stems as collage material in the art area. Children may make caterpillar-inspired artwork, or something completely different!
- Do worms really eat caterpillars? Research to find out!
- Are all caterpillars camouflaged? As you research with individual, interested children, you'll discover that some try to warn potential predators away, instead of hiding from them.

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 2.2, CD 3.1, CD 3.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 3.1, MT 4.1**

**Science and Technology – ST 1.1, ST 3.1**

## Shake, Shake Surprise

Let's look for insects that are hiding in spaces we share every day.

### Materials

- |  |  |
|--|--|
| <input type="checkbox"/> Flat, white sheet                   | <input type="checkbox"/> Garden gloves (optional)  |
| <input type="checkbox"/> Magnifying glasses                  | <input type="checkbox"/> Camera (optional)   |
| <input type="checkbox"/> Paintbrushes or unsharpened pencils | <input type="checkbox"/> Investigator's Kit - backpack with a tape measure, ruler, flashlights, magnifying glasses, small notepad and pencil |
| <input type="checkbox"/> Prepared bug box (optional)         |  |

Talk again with the small group of children about where insects live. They've gained some experience by now and will likely recall that insects live under rocks, around trees, and in tall grasses. Explain that, today, you'll try a strategy that entomologists (scientists who study insects) sometimes use. You might be surprised to discover that you're sharing your outdoor spaces with even more insects than you thought!

This experience requires a tree or bush with low branches that you (the adult) can reach. Alternatively, you can complete the activity with fallen leaves. Do children have ideas about where to go?

Once you get where you're going, look around. Are there any insects? Take a few moments to observe any insects that you see right away. Then, invite children to help you spread out the sheet under the tree or bush. Is it possible that there are more insects present than you can see? Ask children to step back.

Wearing garden gloves, if desired, reach into the bush or tree branches and give it a good shake! You may see some dead leaves and twigs drift down to the sheet... and some insects! Invite children to come in for a closer look. Remind them not to pick up unfamiliar insects; they could bite or sting. Paintbrushes or pencils can be used to gently move leaves and other debris and to help "steer" crawling insects. (No poking, please!)

Talk together about what you observe. Model rich vocabulary for children and encourage them to notice colors, markings, and features of the insects. Take photos of your insects and/or collect one to bring back indoors, if desired. When you feel finished, or when the insects seem finished with you, gently brush them off of your sheet so that they can return to their tree. Thanks, insects, for letting us study you!

## Shake, Shake, Surprise (cont.)

### Helpful Hints

Large, light-colored towels or the felt-covered underside of a vinyl tablecloth can be substituted for a sheet.

If you only find a few insects or would like to explore some more, scoop up some leaf litter (fallen leaves found in a wooded area) to place on your sheet. Who lives on the forest floor?

Prepare a bug box by adding twigs, leaves, and/or wild grasses. Soak a cotton ball in water and squeeze until no longer drippy. This is the safest way to provide drinking water to your insect. Insects should be kept for no more than a few hours and then released where they were found.

### Including Every Explorer

Consider planning this activity inside a fenced area if your group includes younger, less experienced children or children with impulsive behaviors. If you don't have a suitable tree or bush in a fenced area, scoop up some leaf litter in a sealable bag. Bring the bag into the fenced play area and open it onto the waiting sheet.

### More to Do (optional)

- If you brought an insect back to visit the classroom, place it where children can look with magnifying glasses, make drawings, and talk about the insect with one another. Remind children to be good caretakers.
- Use resource books or online resources to identify insects that you and the children do not recognize. Begin or continue your insect photo gallery.
- Invite children to talk, draw, and write about this experience.

### Did You Know?

Children watch you for cues about how to act around insects. When you model composure and curiosity, you help them feel confident in their ability to explore their world.

This experience offers special opportunities to build and strengthen:

**Physical Development and Health – PH 3.2**

**Science and Technology – ST 1.2, ST 3.1, ST 3.3**

**Social Studies – SS 2.2**



## Which Creature?

Let's play a guessing game to practice and stretch our knowledge of insects.

### Materials

- Realistic plastic insects or insect photo cards from this curriculum
- 3-5 identical tokens, such as game chips or pebbles

Invite children to play a game. Arrange the insects or cards on the tabletop and place the tokens in a row to your right. Children should sit across from you.

Explain that you're thinking of one of the insects, and their job is to figure out what it is. Instead of just guessing the names of insects, they'll get clues by asking questions that can be answered with yes or no.

When the first child in the group asks a question, answer it and slide a token from right to left.

Example-

Child: Does it have wings?

Adult: Yes, it has wings. (slides token)

After all of the turns have been taken, recap the answers to children's questions. Touch each token as you go.

Example –

Adult, touching each of four tokens with children chiming in:

You've figured out that it has wings, it has a long body, it is not yellow, and it does not eat nectar. Have you figured out which insect I'm thinking of?

Children: Dragonfly!

If the first guess is not correct, remove that insect from the table. If the guess was illogical, prompt children to figure out why. ("Hmmm – does a caterpillar have wings? Not yet.") Review the clues and guess again. Celebrate teamwork as children figure out the answers - You did it!

Children may need a little help at first, but will quickly get the hang of the game. Over time, challenge them to recall the answers to the questions with decreasing support from you.

## Which Creature (cont.)

### Helpful Hints

If you use the insect cards in this packet, you might notice that a few of the cards feature small creatures that aren't really insects. That's done intentionally so that the cards can be used for sorting. For this game, you might opt to begin with, "I'm thinking of a creature..."

### Including Every Explorer

Simplify the game for younger preschoolers and children with special needs. They might ask one yes/no question, and then make a guess. If the insect they guess is not the one you are thinking of, remove it from the group and continue the question-guess cycle with the remaining insects. Celebrate as a team when the mystery insect is found!

The oldest, most experienced preschoolers will be eager to take a turn to think of an insect and may even be able to play without props or cards.

### More to Do (optional)

- Notice when patterns occur. For example, in the example scenario, answers happened to be yes, yes, no, no. That's a pattern!
- Repeat the game later in your insect investigation. Pay attention to whether children's questions reflect new knowledge and vocabulary.
- Introduce a similar game for transitions and waiting times. This time, children are trying to guess a classmate. ("I'm thinking of a girl...I'm thinking of a girl wearing sandals...I'm thinking of a girl wearing sandals, who has buttons on her shirt...") How many clues will it take to find the mystery person?

### Did You Know?

When the adult moves the token from right to left, children seated across the table see the tokens move left to right. Tracking the tokens builds skills that they'll use for reading!

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.2, CD 2.1, CD 2.3, CD 2.4, CD 3.1**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Mathematical Thinking – MT 1.1, MT 3.1**



dragonfly



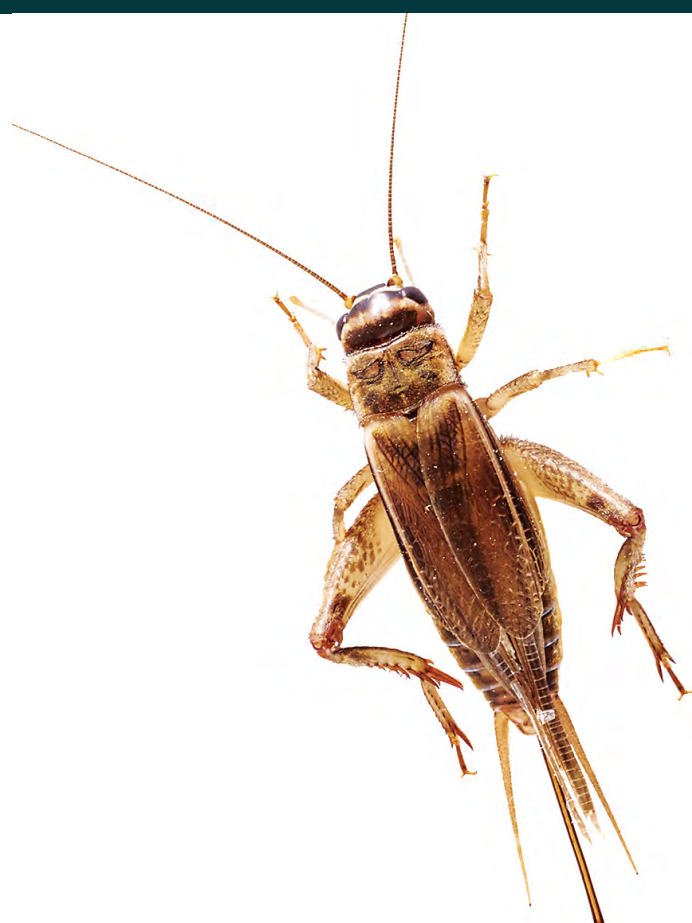
butterfly



moth



ant



cricket



mosquito





beetle



millipede



slug



snail



grasshopper



bee



## Insect Buffet

Let's create a treat for insects that seek sweets!

### Materials

- |  |  |
|--|--|
| <input type="checkbox"/> Fruit: Bananas, watermelon, cantaloupe, and/or mandarin oranges | <input type="checkbox"/> Terracotta plant saucer or other containers |
| <input type="checkbox"/> Butter knives   | <input type="checkbox"/> Camera (optional)                           |
| <input type="checkbox"/> Adult knife   | <input type="checkbox"/> Insect field guides (optional)              |
| <input type="checkbox"/> Plates to work on   | <input type="checkbox"/> Binoculars (optional)                       |

You might invite everyone to make one of the fruit options described below, or each of the small groups might prepare a different kind of fruit.

Talk with children in the small group about what they think insects eat. They may have observed butterflies on flowers, or perhaps they have seen leaves with holes chewed by caterpillars. Insects eat many different foods, including leaves, nectar, seeds, wood, and even other insects! Today, your group will create a feeder for insects that eat fruit.

### Mashed Bananas

Gently massage unpeeled ripe bananas to create mush inside the peels. Place the bananas on a plate. Use a butter knife to pierce the banana peel as many times as you can before it becomes too messy. Gently place the mashed, unpeeled bananas on a plant saucer.

### Cubed Melon

An adult should begin by cutting the melon(s) into large pieces. Together, use butter knives to cut the large pieces into smaller pieces. Place the melon chunks on a plant saucer.

### Peeled Mandarins

Peel and section the mandarins. Use a butter knife to cut each section in half. Place the mandarin pieces on a plant saucer.

Place the plant saucers outdoors where they can be viewed through a classroom window. Create an insect observation station at the window. Alternatively, the feeders may be placed near, but not on, the playground. Keep an eye out for visitors. It may take a while for insects to discover the feeders, but once they do, they'll visit often.

If you would like to observe the fruit over several days, pick it up overnight and put it out again each morning. (Otherwise, raccoons and other night creatures will eat it!) As the fruit gets softer and slightly rotten, insects will find it even more irresistible – and children will get a glimpse at what naturally happens to fruit over time.

## **Insect Buffet (cont.)**

### **Helpful Hints**

This activity works even better with very ripe fruit. If you have some bananas with dark spots or well-past-their-prime mandarins, they're perfect for this! Your local supermarket's produce manager might save some aging fruit for you when they restock shelves.

If your fruit isn't overly ripe, consider sharing it with the insects. Slice fruit on clean plates with clean hands and then divide into equal portions: half for the insects, and half to eat.

This is a sticky, messy activity. Keep cleaning supplies nearby and remind children to wash hands as soon as they finish. You may even want wet wipes for hands.

Fruit can attract bees and wasps. If anyone in your group has a sting allergy, place the feeder outside a window that is far away from where children play outdoors or enter/exit the building.

### **Including Every Explorer**

Match tasks to the ages and abilities of your children. In this activity, mashing bananas is the simplest task. Peeling mandarins is the most complicated.

Some children don't care for sticky fruit on their fingers, and that is OK. They can still help observe insects at the feeder. Foodservice gloves or utensils can also be tried.

### **More to Do (optional)**

- Try placing a feeder on a large flower shape cut from red paper. Place another feeder about ten feet away. Do some insects seem to pay more attention to the feeder on the bright "flower"? Why might that be?
- Use tally sheets to record butterflies and other visitors to your feeders.

This experience offers special opportunities to build and strengthen:

**Physical Health and Development – PH 2.1, PH 2.2**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

**Social Studies – SS 2.1**



## Insect Experts

Let's focus on an insect that especially interests us.

### Materials

Most materials listed below are optional. Choose materials that are available and that best suit children's abilities and interests.

- |   |  |
|---|--|
| <input type="checkbox"/> Paper and writing tools      | <input type="checkbox"/> Printer                                 |
| <input type="checkbox"/> Resource books about insects | <input type="checkbox"/> Drawing materials                       |
| <input type="checkbox"/> Sticky notes                 | <input type="checkbox"/> Insect photo cards from this curriculum |
| <input type="checkbox"/> Digital device(s)            |  |

Each small group will focus on an insect of special interest. You might wish to begin by sorting the photo cards into two pile: insects and others. Which of the insects on the cards are children most interested in learning more about?

Work together to use books to find to seek answers to four questions:

- Habitat: Where does this insect live?
- Food source: What does this insect eat?
- Life cycle: How does this insect grow and change?
- Other interesting things about this insect.

Label a separate sheet of paper for each question listed above.

Children can look through books for illustrations or photos that relate to the insect. Read captions and/or excerpts aloud and ask children whether there is anything that they feel should be added to their pages. Together, write and draw facts on sticky notes to add to the pages.

If you have an internet-connected device and printer, look for images on [www.photosforclass.com](http://www.photosforclass.com). Children can help type their insect into the search bar and select a photo that they would like to print.

When children feel satisfied with their research, create a poster or simple book with the note pages, drawings, and photos. Plan a time when the small group can share about their insect during a brief, whole group gathering.

## Insect Experts (cont.)

### Helpful Hints

You may wish to have groups identify an insect on one day, and begin research on another day – after you’ve had a chance to go to the library and/or preview digital resources.

Alternatively, you could gather books about 3-5 different insects and then have children sign up for one of the groups.





### Including Every Explorer

When sharing this activity with children, ensure that the tone is relaxed and engaging. Watch children for cues, focusing with enthusiasm on the parts they seem interested in and concluding the activity before they seem restless.

The activity may be shortened and simplified as needed for younger and/or less experienced children and children with special needs. For example, you might focus on just one of the questions or break the activity up into very short sessions over several days. Preview books to highlight content that is likely to be of greatest interest.

### More to Do (optional)

- Use clay and/or other three-dimensional art materials to make insect representations. (highly recommended)
- Use art materials to make insect masks and/or costumes. These should be imagined and created by children, rather than adult-directed crafts.
- Conduct clipboard surveys of classmates and families. Tally the number of people who like, or have held, this insect.
- Make a chart that compares the habitat and food source of each insect studied by the groups.
- Remember to call on children in each group as experts when you encounter their insect throughout the investigation.

	lives	eats
 ant		
 water beetle		
 bee		
 dragonfly		

This experience offers special opportunities to build and strengthen:

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Emergent Literacy – EL 1.1, EL 1.2, EL 2.1, EL 3.1, EL 3.2, EL 3.3**

**Science and Technology – ST 1.1, ST 3.1, ST 3.3**

## Habitat Map

Let's create a map of insects we find in our outdoor play area.

### Materials

- Large sheet of poster board, cardboard or foam core board
- Markers and/or other art materials
- Pencils or crayons in a pencil box or basket

Begin this activity at a whole group gathering. What do children know about maps? Suggest that you could work together to make a map of your play area. You could use the map to keep track of insect sightings in different areas. This is a strategy that entomologists – scientists who study insects – often use. With the whole group, brainstorm a list of areas that they feel should be included on the map. They might list trees, a climber, a sand play area, a shed – or other features of your outdoor play space.

During indoor free play time, invite interested children to join you in making the map. Decide together where each area belongs. (For example, trees in the corner, climber in the middle, and so on.) Individual children can draw with colored pencils or glue on construction paper cut-outs to represent each area. Label each area. It may take several play times to finish the map.

When the map is finished, show it to the whole group of children. Explain that you'll take it outside to the play area for several days. Decide together on a low-traffic place where the map can stay as children play. A container of pencils or crayons will sit next to the map. Where do children predict that they will see insects?

When children notice an insect, they can draw or write it on the map. If they observe a flying insect – such as a butterfly – they might make a line across the map from where it was first spotted to where it exited the play area.

After taking the map outdoors for several days, bring it in and display it where children and adults can look at it together. Which areas of the playground seem to have the most insect activity? Why might that be?

## Habitat Map (cont.)

### Helpful Hints

Large bulletin board or kraft paper can also be used for map-making, but you'll want to bring bean bags or other weights to keep the paper from blowing away.

Pencils require very close supervision outdoors and should not ever be carried by children onto climbing equipment or into other very active play areas. If you're concerned about your group's ability to keep pencils in the designated area, use crayons instead.

### Including Every Explorer

An adult can scaffold this activity by helping interested children look for insects, then going together to look at the map. Dot stickers or non-toxic dot daubers are a faster, easier way to mark the map.

### More to Do (optional)

- Invite an entomologist, state park naturalist, or biology teacher to visit the classroom. Have they ever taken part in an insect population study?
- If children seem interested in maps, look for ways to incorporate them into your classroom. Try adding an atlas to your library area, road maps to the block building area, and travel brochures with maps to dramatic play. Look for these books at your library:

*As the Crow Flies*, Gail Hartman and Harvey Stevenson, Aladdin, 1993

*Mapping Sam*, Joyce Hesselbreth, Greenwillow Books, 2018

*Me on the Map*, June Sweeney and Qin Leng, Dragonfly Books, 2018

### Did You Know?

Activities like this one motivate children to communicate and offer plenty of unhurried time to write. Watch for inventive spelling to emerge as children write letters on the map to represent sounds they hear in words. "BL," for example, might be a child's representation of "beetle."

This experience offers special opportunities to build and strengthen:

**Emergent Literacy – EL 3.1, EL 3.2, EL 3.3**

**Scientific Thinking – ST 1.1, ST 3.1**

**Social Studies – SS 2.1, SS 2.2**

## Loose Part Insects

Let's use loose parts to make creative representations of insects.

### Materials

- Round placemats or large circles cut from dark paper or felt – 1 per child
- Or, mat boards or picture frames without glass
- An assortment of loose parts (see following page) organized in bowls or baskets
- Close-up photos of insects (optional)
- Camera (optional)

Begin by looking together at photos and talking about what you know about insect anatomy. Most insects have three distinct body parts and six legs. Many have antennae, and some have large compound eyes. Many have wings, and some have specialized mouths for chewing wood or sucking nectar.

Invite children to use loose parts to create an insect in a frame or on a mat. They might represent a real insect, or make up an insect no one has ever seen before! Look for opportunities to support social development as children move around the table to reach and use materials. Notice times when children share ideas, complement one another's work, and help one another find specific pieces.

When a child feels that their insect is complete, look together at material choices, shapes, and/or patterns. Consider taking a photograph before sorting the loose parts back into containers.

### Helpful Hints

If your group has daily access to loose parts for open-ended play, they'll probably be ready to jump into this experience right away. If they don't play with loose parts very often, they'll need unstructured discovery time to interact and experiment with the materials first, before you suggest making insects. In all groups, some children will opt to create other things – instead of insects – and that is always OK.

To encourage children to tidy the work area before they leave, ask them to look at their space and make it ready for the next person who will work there.

## Loose Parts Insects (cont.)

Loose parts are collections of open-ended objects that can be used for sorting, patterning, design-making, and imaginative play. Families can help collect loose parts like lids and caps. Loose parts can also come from nature, hardware stores, and wedding/event suppliers.

Younger and less experienced preschoolers should begin with simple loose parts.

- craft gems and large sequins
- driftwood chips
- large beads
- milk caps
- pompoms
- river rocks
- twigs and craft sticks
- wooden rings
- cut chenille stems or coffee stirrers that might serve as insect legs

With older, more experienced preschoolers add smaller, more complex materials.

- straw
- flattened glass marbles
- wire
- smaller beads
- translucent BINGO chips
- acorn caps

### Including Every Explorer

Making mosaics in playdough or clay is one way to stabilize materials.

Larger loose parts may also be needed for children with limited use of hands and children who may try to put objects in their mouths. Possibilities include bangle bracelets, detergent caps, large hair rollers, wool dryer balls, playdough cups, and sturdy napkin rings.

### More to Do (optional)

- Create a wall or digital display of children's photographs.
- Add the loose parts and frames or mats to the fine motor/table toy area of your room. You might even consider creating a stand-alone loose parts play area.

This experience offers special opportunities to build and strengthen:

**Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2, SE 3.1**

**Cognitive Development – CD 1.2, CD 2.2, CD 3.1, CD 3.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 2.1, MT 4.1**

**Creativity and Aesthetics – CA 2.1**

## Insect Habitats

Let's create an imaginative home for a toy insect.

### Materials

- Shoeboxes or other shallow boxes, 1 per child
- Construction paper, chenille stems, yarn, and other art materials
- Tape, glue, child-sized scissors
- Plastic insect or small insect erasers, at least 1 per child
- Basket

Talk with children about everything they've learned about where insects live. They may remember that ants live in colonies in the ground, while some butterflies live amongst the leaves of trees. What other insect homes do they recall?

Invite each child to select a toy insect from a basket. This should be an inexpensive toy that they will be allowed to take home to keep. What sort of home would this insect like?

Children can use art materials to create an insect habitat in their box. They might choose to cut pieces from construction paper, draw with markers, add clay, or create in other ways. Stay near to provide social support as children negotiate materials and space.

If children experience frustration with materials, act as an empathetic thinking partner. What seems to be the problem? What new strategies can the child think of to try? Avoid disrupting children who are hard at work, but make yourself available for children who want to tell about their habitats.

When the habitats are finished, children can add their insects. These should be placed – but not glued – so that the habitat can be used for imaginative play later. Children may wish to make more insects from art materials, too.

### Helpful Hints

Consider asking each family to bring in a shoebox for this activity. Collect a few extras for children who don't bring one from home.

A fine-line permanent marker can be used to mark initials on insects to help avoid mix-ups.

Some children may want to use their boxes in other ways, and that's OK.

## **Insect Habitats (cont.)**

### **Including Every Explorer**

If your group includes a child with limited use of hands, provide adaptive tools for drawing, cutting, and gluing.

This activity can be simplified by offering pre-cut materials like paper Easter grass and die-cut paper flowers to glue. However, every child should have many choices to make about their work. Finished work should never look identical.

With older, more experienced preschoolers, especially, this could be a multi-day project.

### **More to Do (optional)**

- Arrange the habitats to make an insect zoo. Children can create signs to identify each exhibit.
- Invite children to dictate stories about their insects.
- Most insects we find outdoors don't thrive in captivity. That's one of the reasons that we let them go after just a short time in a bug box. However, there are a few insects that are kept as pets. Ask around to find out whether anyone keeps an insect pet. Children would be eager to welcome them as guests and full of questions!

This experience offers special opportunities to build and strengthen:

**Cognitive Development – CD 1.2, CD 2.1, CD 3.1, CD 3.2**

**Physical Health and Development – PH 2.1, PH 2.2**

**Language Development – LD 1.1, LD 2.1, LD 3.1**

**Creativity and Aesthetics – CA 2.1, CA 3.1**



## Active, Physical Play – Insects

Invite children to join in activities such as these during outdoor play times. Some children will want to come and play, while others will prefer to continue with their own free choice activities. Some activities found in this section may also be appropriate for indoor gross motor play or active group gatherings.

### Insects in Action

Bring a music player outdoors for an insect dance party. Each time you stop the music, children FREEZE. Call out suggestions before the music starts again: “When the music starts, you’re grasshoppers!”

Try moving like crawling beetles, buzzing dragonflies, fluttering butterflies, marching ants, and more.

### Insect Hunt

Hide plastic insects around the outdoor play area. Children can collect the insects in buckets or sturdy nets. Hide insects in plain sight, but look for locations that will challenge children to stoop and stretch as they work.

### Spider Tag

This game is best suited for older preschoolers. Define a play area between two points, such as two fences or two rows of cones. Select two children (spiders) to stand in the middle while the rest of the children (gnats) line up along one end of the play area.

Spiders chant loudly, “We’re a hairy, scary spider bunch! We eat gnats for our lunch who are wearing... (color)!” Any gnat - child or adult - wearing that color must try to run across to the other side of the play area. If they are tagged, they join the spider bunch and help tag gnats. The last two gnats tagged become spiders for the next round.

### Hoppers: A Parachute Game

Show children a basket of ping pong balls. What hopping insects would children like these to be? Place one (insect) on the parachute. Work together to try to make it leap as high in the sky as possible, catching it each time without letting it drop. Try counting to three in anticipation of a really big leap. Repeat with three, and then five, hoppers.

## Growing Every Day Supporting Social and Emotional Development

Carol Evans, A-State Conscious Discipline Coach

*The playground is full of the clamor of young children. Excitedly Simon calls out, "I got it! Bring the box!" Erin holds the plastic box that the children have prepared. "Be careful, don't hurt him," she cautions as Simon tenderly releases the insect from his tightly cupped hands into his new home.*

Once the cricket is safely in the box, Simon announces, "I think I'll name him Spike! He has spikey things on his legs." Ms. Kennedy is relieved to see the cricket is unharmed. Now, she wonders about Simon. How hard will it be for him to release "Spike" when the time comes?

When the bring Spike to the classroom, Ms. Kennedy reminds Simon and his classmates that he" only visit for a little while. Together, they check the visual schedule sand plan to release Spike after rest time. Simon, along with his friends, cheerfully commit to following the plan to keep Spike safe.

After nap, Simon asks to carry Spike's box outside. He shows Spike to the all children and teachers sharing the playground. "Five more minutes," the class timekeeper calls. Ms. Kennedy follows Simon to the fence by the trees. Simon melts into his sadness. She sits beside him and waits until he glances at her. She names his feeling: "You feel sad." Simon nods and snuffles. She takes a deep breath and says, "This is hard. You want to keep Spike like a pet." She pauses before continuing, "You care a lot about Spike." She sits quietly with Simon. "It is so hard," Simon says.

Ms. Kennedy assures him, "Spike will be happier to be free." Then she offers a choice, "Simon, would you like to open the box or do you want me to help?" Simon holds the box up. Ms. Kennedy takes off the lid. Gently, Simon tips it onto the grass. Simon has tears in his eyes as he calls softly, "Bye, Spike. Have a great life." He reaches for Ms. Kennedy's hand as Spike hops away.



Ms. Kennedy supported Simon's social and emotional development when she:

- Stayed close to create a safe place for him to experience his sadness.
- Waited for his cue to begin talking.
- Verbalized and validated his feelings.

Weeks later, Ms. Kennedy chuckles as she reflects on Simon's recent work. She wonders how long Simon will continue to draw and write about Spike, the greatest cricket of all time.

## Even More Experiences with Insects

- Involve children as daily caretakers of flowering plants that provide food for pollinators.
- When you have unexpected insect guests in your indoor space, continue to model compassion. You can gently remove it by covering it with a cup, then sliding an index card or piece of thin chipboard underneath. Carry the cup and card together to a place where you can safely release the insect.
- Look online for patterns for “insect hotels” made of wooden pallets and natural materials. Children and families may be eager to construct one of these for a natural outdoor area. Invite each child or family to add a painted rock to make the insect house even more unique.
- Pay close attention to changes in insect activity during the upcoming change of season.

### Notes:

## Concluding Your Insect Exploration

1. With your teaching team, think about, and discuss:
  - What new experiences have our children had during this exploration? What new knowledge and skills have developed?
  - Do the children seem ready to conclude this exploration? Have their questions been answered? Is their interest waning? If children are still excited about insects, think about ways to continue and extend the exploration.
  - How can we document children’s learning and help children share what they have learned with others?

Your insect exploration might end with one of these activities.

- Creating a book of photos of activities and/or children’s drawings about insects. The book can be added to the classroom library and/or copies can be made for each family.
- Hosting a family engagement event. Children might show their shoebox habitats or other work, and/or take families on an insect-spotting walk. You could also invite families to join you for a BugFest or other event at a local nature center.
- Adding an ant farm to the classroom science area or creating an “insect sanctuary” – a grassy or leafy patch with overturned flowerpot homes painted by the children. Create signs to protect this area from being mowed or disturbed.

2. Encourage children to share their favorite memories about investigating insects. Model gratitude by creating thank you cards or letters to the families, school members, and community members who supported your exploration.
3. Where will you go next? Use your observations and conversations with children to help you plan your next exploration!

# Using Explorers Preschool Curriculum

*Explorers Preschool Curriculum (EPC)* is designed for early childhood educators and preschool-aged children. It can be used in any setting, including private preschool programs, public school programs, and family child care homes.

## EPC Guiding Principles

**1. Children are naturally curious and eager to understand their world.**

The *Explorers* curriculum promotes authentic, enjoyable, first-hand experiences in a vibrant and encouraging environment.

**2. Domains of child development are interrelated and are all important.**

Physical, cognitive, communicative, social, and emotional development are all vital for success in school and life. *Explorers* supports the *Arkansas Child Development and Early Learning Standards (CDELS)* with engaging experiences that promote learning across all domains.

**3. Children are trustworthy partners in learning.**

*Explorers* is inquiry-driven, guided by children's interests, questions, and ideas. Children take on meaningful decision-making roles and responsibilities as a part of each investigation. The child's right to play is protected and supported as fundamental component of every day.

**4. Each child, and each group of children, are unique.**

*Explorers* offers choices and flexibility for children and adults. Individualization to include children with developmental differences and special needs is integral to the curriculum.

**5. Learning happens best within the context of family, community, and the natural world.**

*Explorers* strives to promote positive connection between preschool-aged children and their school, community, and environment. Diverse and meaningful opportunities for family engagement are given special importance.

For professional development support with Explorers Preschool Curriculum, please contact Marcy White, [MWhite@AState.edu](mailto:MWhite@AState.edu)

## Big Ideas from EPC

*Explorers* may be different from other curricula you've used in several ways. Understanding these differences will help you use the curriculum successfully.

*Explorers* includes a collection of topics for investigation. These topics include, but are not limited to:

- Bubbles
- Day and Night
- Farmers' Market
- Insects
- Making Music
- Ramps and Tunnels
- Songbirds and Squirrels
- Trees

Each topic supports children's real-life, firsthand experiences.

**Topics of learning – known as investigations – do not have to occur in a predetermined order.** Instead, educators are urged to observe, talk with, and think about children in their group. Which of the topics would be most interesting and engaging to this group of children? Decisions may also be guided by the resources that are accessible to the program. Programs may choose to participate in any of the investigations, in any order.

**Within broad topics, individual groups are urged to “zoom in” and focus most intently on areas of special interest.** For example, one group taking part in a *day and night* investigation might be most interested in city lights that shine though the dark. A second group might be more interested in nighttime creatures like crickets and moths. Although both groups have the same, broad focus, conversations and planned activities in the two rooms may differ greatly. Some activities in the topic packet may be skipped, and different high-value activities may be offered to support children's interests.

**Educators are expected to “re-run” books and activities that especially interest children.** That means that the same activity will be shared again over the course of several days or weeks. Through repeated opportunities to explore, children gain expertise, test new ideas, and work in increasingly complex ways. Repetition helps children build confidence and construct knowledge.

**Investigations are not limited to one week.** In fact, groups may focus on the same topic for two, three, or four weeks – or more! It is believed that deep, comprehensive investigation of any interesting topic is more beneficial to young thinkers and learners than a “sprinkling” of many different topics. Thus, children and adults are invited to continue their investigation as long as it sustains children's interest. An investigation concludes when educators observe that children's questions have been answered. Children seem satisfied and ready to move on to other topics of interest.

## EPC Daily Practices

A resource packet is available to support each investigation topic. These packets support learning throughout the day in these eight ways:

### 1. Learning Center Extensions

Free play is a crucial part of every day! Learning Center Extensions are play objects and other materials that support the topic. These can be added to the indoor play areas that children use every day. The items in this section are examples. Educators may implement their own ideas, as well.

### 2. Books for Sharing with Groups

Suggestions for books are listed in each packet. It is not expected that programs will purchase the entire book list. Rather, the list may provide guidance and inspiration as educators select books from their storage area and/or their local children's library.

These may be added to classroom book areas and can be shared informally with one or a few children at a time during play times. Some of the books on the list are also designated as **\* recommended read-alouds** for sharing with larger groups of children.

### 3. Topical Conversations

Conversations can occur within the context of play or daily routines. Especially with older preschoolers, some conversations may also occur during whole group meeting times. In addition to informal conversations throughout the day, *Explorers* encourages educators to routinely use two additional strategies each week:

#### Response Charts

The educator talks individually with each child and writes down exactly what they say. This interview process takes place during play time or other informal times. Once all of the children have had a chance to respond, the chart is posted where everyone can easily see it. The educator reads all of the responses aloud during a group meeting. Written response charts are recommended at least once a week.

#### Polls

Children and adults respond to a question by writing their name under one of two choices on a chart. Younger or less experienced groups may opt to place name cards on the chart instead. The polling process takes place with one, or a few, children at a time – perhaps as part of the morning arrival routine or as children finish breakfast.

During a group meeting, children and adults look together at the chart. It is recommended that children are invited to complete polls 1-3 times per week.

## **4. Playful Songs, Rhymes, and Games**

These simple activities may be incorporated into group gathering times or used as transition activities. Many are “piggyback songs” – meaning that they offer new words to tunes that children may already know.

## **5. Active, Physical Play**

Most of these activities are intended for the outdoor play area. Some are also suited for indoor gross motor spaces – such as gyms – or active group gatherings.

Educators are encouraged to invite children to join in activities such as these daily. Many children will want to participate, while others would rather continue with their own, free choice gross motor play. When two or more adults are present, one can lead the activity while others supervise children elsewhere in the play area.

## **6. Growing Every Day**

These vignettes highlight strong, positive guidance practices. Educators are reminded that the most valuable learning occurs when adults model, coach, guide, and encourage children in the context of everyday interactions.

## **7. Small Group Learning Experiences**

Ideas for small group learning experiences make up the bulk of each resource packet. These learning experiences are intended to be carried out with groups of 3 – 5 children at a time.

This means that educators will complete each activity with several small groups. For some activities, some children may participate in the morning and some may participate in the afternoon. A few activities may even take place over the course of several days. Using lists or sign-up sheets can reassure children that everyone will have a turn.

**You'll find a key to small group learning experiences on the following page.**

## **8. Concluding Your Exploration**

This final section of each resource packet invites educators to reflect about whether children are ready to wrap up and move on to another topic of investigation. It includes ideas for culminating events and documentation.



# Key to Small Group Learning Experiences

Each double-sided small group learning experiences idea sheet has specific components to assist you with planning and facilitation:

<p><b>Exploring with Flashlights</b> Let's investigate flashlights and go on a low light adventure!</p> <p><b>Materials</b></p> <ul style="list-style-type: none"><li>□ Basket of assorted flashlights (at least one or two more flashlights than children in the small group)</li></ul> <p>Talk with children about what they know about flashlights. Flashlights are lights that we can carry in our hand. They are usually powered by batteries, and they are tools that let us see in dark places. What experiences have children had with flashlights? They might talk about using flashlights when camping or when the lights go out during a thunderstorm.</p> <p>Invite children to investigate the flashlights in the basket. Notice together.</p> <ul style="list-style-type: none"><li>• How flashlights switch on and off.</li><li>• Which ones are brightest, and which are dim.</li><li>• Which ones have a narrow beam, and which ones have a wide beam.</li><li>• Other differences and similarities related to size, shape, color, and function.</li></ul> <p>This may be a good time to support children as they learn to ask for turns and trade materials – "May I use the tiny flashlight next?", and, "I'll trade you the blue flashlight for the green one."</p> <p>After a period of open-ended exploration, invite each child to choose a flashlight to take on a walk. You'll go together to another area where the lights are dim, but not totally dark. This could be another room, a hallway, a gymnasium, or any other child-safe space where you can turn out the lights. Invite children to investigate by walking around and shining their lights on things that interest them.</p> <p>When you return to the classroom, talk with children about what they noticed while exploring with flashlights.</p> <p><b>Helpful Hints</b> Ask colleagues for help building a collection of flashlights. Families may be happy to help, too.</p>	<p><b>Title</b></p> <p><b>Materials: Things to gather and prepare</b></p> <p><b>Procedure: How to facilitate the activity with children</b></p> <p><b>Helpful Hints: Tips for a smooth, successful experience.</b></p>
<p><b>front of page</b></p> <p><b>Including Every Explorer: Ways to individualize and adapt for children with special needs.</b></p> <p><b>More to Do: Suggestions for extending learning, creating displays, and engaging families.</b></p> <p><b>Did You Know?: Fun facts and/or background information for teachers.</b></p> <p><b>Build and Strengthen: Connection to AR Early Learning Standards (CDELS)</b></p>	<p><b>back of page</b></p> <p><b>Exploring with Flashlights, cont.</b></p> <p><b>Including Every Explorer</b> Some children are frightened by dark places. If a child seems worried, invite them to hold your hand or walk next to you.</p> <p>Some children may require one-on-one support to have a safe, satisfying experience outside their familiar classroom. If this is not possible, find a way to explore inside the classroom.</p> <p><b>More to Do (optional)</b></p> <ul style="list-style-type: none"><li>• Hang pictures of nighttime (nocturnal) creatures in the place where children will explore. Have fun spotting owls, bats, opossums, and more!</li><li>• Create a flashlight exploration space in your classroom with the basket of flashlights and a large, open appliance box that children can crawl inside.</li><li>• To challenge older or more experienced preschoolers, place one flashlight without batteries in the basket with the working flashlights. When children discover the non-working light, encourage them to investigate. Offer two different sizes of batteries when they realize that batteries are needed. They'll figure out which size is correct and install them in the flashlight. "I fixed it!"</li></ul> <p><b>Did You Know?</b> This exploration may seem simple to adults, but we have far more experience with flashlights and dim places than children do! Children may investigate many different things, such as:</p> <ul style="list-style-type: none"><li>• How a flashlight beam moves when they move their arm.</li><li>• What happens when light shines on a window or mirror.</li><li>• How a beam of light changes as it moves closer to a surface that it is shining on.</li></ul> <p>This experience offers special opportunities to build and strengthen:</p> <ul style="list-style-type: none"><li>• Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2</li><li>• Cognitive Development – CD 1.1, CD 2.1</li><li>• Science and Technology – ST 1.1, ST 3.2</li></ul>