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**Science Detectives: Birds, Spiders, & Insects**

by

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## Science Detectives: What Do Birds Do in the Spring?

by Aileen Kirkham, c2016

[www.aileenkirkham.com](http://www.aileenkirkham.com)

### Objectives

- Compare human characteristics with that of birds.
- Identify colors and their names.
- Discern the difference between human and bird homes.
- Explore the feeding relationship between a mother bird and her babies.
- Experience the ability of birds to sing.
- Practice ordinal numbers and sequencing.

Introduction - display book, *Birds in the Spring* by J. F. Vanvoorst.

Say the bird chant to the tune of *We Will Rock You*,

### **Three Things about Birds in the Spring**

**We'll learn three things, three things, three things,** (point to self & fingers up)

**We'll learn three things** (pause) **about the birds in** (pause) **the spring.**

### Lesson

- Part 1: Homes - Ask kiddos to name the places where human families with new babies live. Examples - apartments, houses, trailers, etc. Ask them where birds live with their new babies? Discuss their answers, then share the rhyme:

### **Rhyme - Baby Birds Hatching**

Where's the birdie's nest? (Use hands to make binoculars.)

High up in the tree. (Tilt head.)

What's inside of it? (Shrug shoulders & splay hands.)

Eggs, 1, 2, 3. (Do finger count.)

*Crick! Crick! Crack!* (Use hands to make egg shape that hatching.)

The babies hatch.

Hoping that mama will soon come back. (flap little wings & look around)

- Read aloud the book, *Are You My Mother* (by P D. Eastman). Have kiddos do the responses to each character, "No, I am not your mother. I am a \_\_\_\_\_."



### Science Detectives: Birds-3

- Check for Understanding - Ask kids to name the difference between people and bird homes for new babies.
- Direct the group to do the rhyme and its actions again to reinforce where birds live with their families.

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#### Lesson- Part 2: Food

- Ask kiddos how often human babies are fed. Share that it is the same with baby birds born in the spring. They keep their mamas very busy.
- Say the story poem and demonstrate the actions.
- Direct kids to join you the second time.

#### **Hungry Birds** by Aileen Kirkham/c2015

Mama Bird hopping up and down (elbows used for wing movements)

Hunting for a worm down in the ground. (Bend over and scan floor.)

Worm wiggles up, Mama bends down,

(Use a single finger to wiggle up and your other hand for the beak.)

No more worm wiggling in the ground. (Shake head and swish hands.)

Mama flies high up in the sky (elbows to move up and down)

Racing toward her babies' cries.

"Twitter! Twitter! Chirp!" Mama flies fast! (Use hand to demo baby birds cries.)

Worm's a wiggling in Mama's grasp.

(Use 1 hand for beak, put other hand's finger in as the wiggly worm.)

Mama flies down, she's on the nest.

Babies never let her rest. (Shake head for no, swish hands.)

"Yum! Yum! Good!" The babies tweet. (Use 1 hand for babies' beaks and speak.)

"Got something else for us to eat?" (Put feather hands in the air and shrug shoulders.)

Mama flies up, mama flies down,

Hunting for worms down in the ground.



## Science Detectives: Birds-4

- Read aloud the **Texas 2x2 List** book, *Early Bird* by Toni Yuly, c2014, and ask kids how the book's ending is different from the song. Explain that the book is just for fun, but the poem tells what actually happens in the spring. Explain that mama's not being mean to the worm, but it's necessary for her babies to eat. It is part of the food cycle in the circle of life. (If necessary, define the circle of life. Some kids may understand that meaning if they have seen *The Lion King* movie.)
- Check for Understanding - Challenge kids to verbalize and demonstrate the most important job a mama bird has in the spring. Repeat the poem and have the kids do the actions.

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### Lesson - Part 3: Singers

- Ask kiddos what special kind of sounds people and birds use to make music. Share that people and birds sing all year including in the spring.
- Read aloud the story, *Rainbow Birds*. (same rhythm as *Brown Bear* story by Eric Carle)

## Rainbow Birds

By Aileen Kirkham, c/2015

Red bird, red bird, what do you see? "I see a blue bird singing for me."

Blue bird, blue bird, what do you see? "I see a yellow bird singing for me."

Yellow bird, yellow bird, what do you see? "I see a green bird singing for me."

Green bird, green bird, what do you see? "I see an orange bird singing for me."

Orange bird, orange bird what do you see? "I see a brown bird singing for me."

Brown bird, brown bird, what do you see? "I see a blackbird singing for me."

Blackbird, blackbird what do you see? "I see a white bird singing for me."

White bird, white bird, what do you see? "I see a rainbow all around me."

"Birds of all colors singing their songs, I hope they sing the whole day long.

Tweet! Tweet!"

- Have kids use colored paper stick puppets to dramatize story.
- Optional - Practice sequencing and naming colors by ordinal numbers: First, Second, Third (can go higher if kiddos are advanced learners).
- Use a nonfiction book like *Robins: The Songbirds of Spring* by M. Posada to share photos of birds that sing.



# Science Detectives: Spiders & Their Webs

By Aileen Kirkham, c 2016

www.aileenkirkham.com

## Objectives

- Relate parts of a human to that of a spider: head; abdomen/ tummy; 2 legs/8 legs; and spinnerets.
- Experience the purpose of a spider's web as part of its food cycle.
- Practice ordinal numbers.

## Preparation

- Make a poster board spider model with spinnerets at end of abdomen.
- Print a picture of a spider's web or make one.

I. Introduction - use the spider model to compare human and spider parts. Emphasize unique spinnerets which produce silk threads to spin a web. Explain that the spider has enough silk to repair tears in its web, too.

## II. Lesson

- Use a nonfiction spider book's photograph to show a web with an insect. (Ex: *Spiders* by Monica Hughes, c2004.)
- Sing and demonstrate actions for *Spider's Grocery Store*. Explain this song can be played as game and follow directions listed below.



## *Spider's Grocery Store*

by Aileen Kirkham, c2016

(Action Game/Song - tune of *Mary Had a Little Lamb*)

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Directions: Select a kiddo to be the spider and others to be fly, bee, and butterfly. Have the other kids make a circle representing the web.

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Spider likes to spin her web, spin her web, spin her web. (Action: Spin hands.)  
Spider likes to spin her web and catch some yummy bugs.

Her web is like her grocery store, grocery store, grocery store.  
Her web is like her grocery store, it holds the things she eats.



## Science Detectives: Spiders-6

First a fly comes flying in, flying in, flying in. (Action: Flap hands to fly.)  
First a fly comes flying in and,  
Oops! It's stuck! (Action - throw hands up in the air and try to pull loose)

Spider spins around the fly, around the fly, around the fly.  
Spider spins around the fly to save and eat.

Second comes a buzzy bee, bzzz, bzzz, bzzz, bzzz, bzzz, bzzz. (Flap hands)  
Second comes a buzzy bee and,  
Oops! It's stuck!

Spider spins around the bee, around the bee, around the bee. (Spin hands.)  
Spider spins around the bee to save and eat.

The **third** bug is a butterfly, butterfly, butterfly. (Hook thumbs & gently flap hands.)  
The third bug is a butterfly and,  
Oops! It's stuck!

Spider spins the butterfly, butterfly, butterfly. (Spin hands.)  
Spider spins the butterfly to save and eat.

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- Read aloud a book about spiders and their webs to reinforce understanding. (Ex: *It's a Good Thing There Are Spiders* by Lisa M. Herrington, c2015)

### III. Check for Understanding

- Review parts of the spider's body and purpose of spinnerets.
- Sing the song again to review the purpose of the spider's web.



## Science Detectives - Insects: Help, Harm or Both

By Aileen Kirkham, c2016  
[www.aileenkirkham.com](http://www.aileenkirkham.com)

### I. Introduction

- Demonstrate the *Buggy Baseball Song* (Action - hand game)  
I woke up early one morning and looked up on the wall.  
The roaches and the bedbugs were having a game of ball.  
The score was 6 to nothing, the roaches were ahead.  
The bedbugs hit a homerun and knocked me out of bed.  
Boom! Boom!
- Define bedbugs - bugs that live in mattresses and pillows. They bite people like mosquitos do, but you rarely see them.

### II. Lesson - display books such as **Beetles, Dragonflies, & Grasshoppers** (published by Jump at [www.jumplibary.com](http://www.jumplibary.com) )

- Explain that you need to know what an insect is to be an insect detective who knows the difference between the good guy insects and the bad guy insects. Note that sometimes an insect might be both. Read aloud the book, *Budding Biologist: Am I an Insect?* by Kristine Duehl, c2012. For younger children, read aloud *I Love Bugs* by Philemon Sturges, c2005. Be sure to note that the spider is a bug, but NOT an insect, spiders have 8 legs, insects only 6.
- Display the Venn diagram and review the meaning of the circles: Help, with a happy face; Both; and Hurt with a sad face. Ask which category bedbugs should go in. Discuss their experience with encountering roaches to decide if the roach in the song Helps, Hurts, or does Both.
- Direct them to be insect detectives as you read aloud or picture talk an insect book like *Insect Detective* by Steve Voake, c2009, that has insects that Help, Harm, and may do Both.
- Show them the cutouts of insects and creatures to place in the Venn diagram, noting that not all are insects, but insects are part of their lives.



## Science Detectives: Insects-8

- Discuss pros and cons of cutouts and have kids take turns placing them on the Venn diagram.

### III. Enrichment Activity

- Demonstrate how to make the old lady sack puppet with a see through stomach.
- Sing the abridged version of the song, *There Was an Old Lady Who Swallowed a Fly* (excerpt from my book, *Library Lessons for Little Ones*, c/ 2009). Encourage kids to sing along and/or hum the tune.

**There was an old lady who swallowed a fly,  
I don't know why she swallowed a fly. (Shrug shoulders and splay hands.)  
Oh! Me! Oh! My!  
(Pause to drop fly into Old Lady paper sack puppet.)  
Uh! Oh! Where did it go? (Act like you are hunting for it.)**

**There was an old lady who swallowed a spider that wiggled and jiggled and tickled inside her.  
She swallowed the spider to catch the fly.  
I don't know why she swallowed that fly.  
Oh! Me! Oh! My!  
(Pause and drop spider into Old Lady sack.)  
Uh! Oh! Where did it go?**

**I know an old lady who swallowed a bird, a mockingbird she'd overheard.  
She swallowed the bird to catch the spider that wiggled and jiggled and tickled inside her.  
She swallowed the spider to catch the fly.  
I don't know why she swallowed that fly.  
Oh! Me! Oh! My!  
(Pause and drop bird in Old Lady sack.)  
Uh! Oh! Where did it go?**



## Texas 2x2 - 9



### Read Aloud Resource - Texas 2x2 List

New List Posted Every Year by the Texas Library Association

Search [www.txla.org](http://www.txla.org), click on *Reading Lists*, click 2x2.

### 2016 List

Agee, Jon. ***It's Only Stanley***. Dial Books. ISBN 9780803739079. \$17.99. Ages 5-8. Stanley is one determined dog who is making a racket and keeping his family awake at night. What is Stanley doing? And more importantly, where is he taking them?

Beaton, Kate. *The Princess and the Pony*. Arthur A. Levine Books. ISBN 9780545637084. \$17.99. Ages 5-8. **Princess Pinecone wishes for a warrior's horse for her birthday, but her parents fall short of the mark with a plump, gassy pony. Will she still have a chance against the other warriors in the big battle to come?**

Child, Lauren. *The New Small Person*. Candlewick Press. ISBN 9780763678104. \$17.99. Ages 4-8. Life is great for only child Elmore Green until a new small person moves in, licks his jelly bean collection, follows him around, and wears his favorite outfit. But, when Elmore has a bad dream, he discovers it can be special having a new small person around--a brother named Albert.

Dotlich, Rebecca Kai. *Race Car Count!* Illustrated by Michael Slack. Henry Holt & Company. ISBN 9781627790093. \$14.99. Ages 3-6. Race cars zoom to the finish in this **colorful, rhyming counting book, complete with race cars' names and stats at the end.** Ready, Set, Go! Meet the Race Cars!

Goodrich, Carter. *We Forgot Brock!* Simon & Schuster Books for Young Readers. ISBN 9781442480902. \$17.99. Ages 4-8. When Brock gets left behind at the fair, Phillip isn't sure what to do. **How will he reconnect with his best (and possibly imaginary) friend?**



## Texas 2x2 - 10

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\*Heos, Bridget. *I, Fly: The Buzz About Flies and How Awesome They Are*. Illustrated by Jennifer Plecas. Henry Holt & Company. ISBN 9780805094695. \$17.99. Ages 4-8. A fly campaigns to a science class for flies to be the example of the insect life cycle instead of the overused butterfly. This humorous story tells how the fly tries to persuade the class while telling the reader everything they never knew about flies.

Higgins, Ryan T. *Mother Bruce*. Disney-Hyperion. ISBN 9781484730881. \$17.99. Ages 2-5. Hilarious illustrations show Bruce, a grumpy bear who searches on the internet for scrumptious egg recipes. After a shopping spree in the forest, Bruce is surprised when the eggs he finds turn out to be much more than just a meal.

London, Jonathan. *Hippos are Huge!* Illustrated by Matthew Trueman. Candlewick Press. ISBN 9780763665920. \$16.99. Ages 5-8. Think Lions are dangerous? Think again! Hippos are the toughest mammals around. Learn fantastic facts about hippos that will astound, amaze, and thrill!

\*McCloskey, Kevin. *We Dig Worms!* Toon Books. ISBN 9781935179801. \$12.95. Ages 4-8. Worms take the spotlight through this informational book created on recycled paper bags as readers learn fun and interesting facts about these earthly creatures.

Nelson, Kadir. *If You Plant a Seed*. Balzer & Bray. ISBN 9780062298898. \$18.99. Ages 4-7. A charming cautionary tale with expressive illustrations that show what happens when you sow seeds of kindness versus those selfishness.

Paschkis, Julie. *Flutter and Hum/Aleteo y Zumbido*. Henry Holt & Company. ISBN 9781627791038. \$17.99. Ages 4-8. Beautifully illustrated poems that will inspire the budding poet. Written in both Spanish and English.

Paschkis, Julie. *P. Zonka Lays an Egg*. Peachtree Publishers. ISBN 9781561458196. \$16.95. Ages 4-7. **P. Zonka is a dreamer, and doesn't lay eggs like the other** chickens do. However, when she finally gives laying eggs a try, she surprises all of the other chickens with an egg that was truly worth the wait.

Petty, Dev. ***I Don't Want to Be a Frog***. Illustrated by Mike Boldt. Doubleday Books for Young Readers. ISBN 9780385378666. \$16.99. Ages 3-7. Frog wants to be any animal besides a frog, but soon learns why being a frog might not be so bad after all. A funny lesson about how **"the grass isn't always greener on the other side."**

\*Informational Insect Book



## Texas 2x2 - 11

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Robinson, Michelle. ***There's a Lion in My Cornflakes.*** Illustrated by Jim Field. Bloomsbury U.S.A. Children's Books. ISBN 9780802738363. \$16.99. Ages 3-6. When two brothers save up coupons from their cereal box to get a free lion, disaster ensues! The cereal company keeps running out of lions, so sends the boys a variety of other animals. Will the brothers ever get their lion?

Rosenberg, Liz. *What James Said.* Illustrated by Matt Myers. Roaring Brook Press. ISBN 9781596439085. \$16.99. Ages 5-8. **Aiden discovers that hearsay can't always be trusted** when she has a fight with her best friend, James. But when the truth is discovered, she realizes that their friendship can always be counted upon.

\*\*Taylor, Sean. *Hoot Owl, Master of Disguise.* Illustrated by Jean Jullien. Candlewick Press. ISBN 9780763675783. \$15.99. Ages 3-7. Hoot Owl is very hungry and determined to catch his dinner using his wisdom and flair for clever disguises to outwit his prey. But what costume will he don when he decides on pizza for dinner?

Tupera, Tupera. ***Polar Bear's Underwear.*** Chronicle Books. ISBN 9781452141992. \$16.99. Ages 2-5. Polar Bear has lost his underwear! Join him and his friend Mouse on the search for the missing underwear through the die-cut pages.

Vernick, Audrey. *First Grade Dropout.* Illustrated by Matthew Cordell. Clarion Books. ISBN 9780544129856. \$16.99. Ages 4-7. When a first grade student says something very embarrassing in school, he decides he will just have to drop out of Lakeview Elementary! When his best friend says something equally embarrassing, the boy learns that it is alright to laugh at yourself.

Virjan, Emma J. *What This Story Needs is a Pig in a Wig.* HarperCollins. ISBN 9780062327246. \$9.99. Ages 3-6. A pig in a wig gets in a boat with a goat, a frog and a dog, and more creatures who fill the boat with playful rhyming words and silly action, not to mention a great hairdo!

Willems, Mo. *The Story of Diva and Flea.* Illustrated by Tony DiTerlizzi. Disney-Hyperion. ISBN 9781484722848. \$14.99. Ages 6-8. This story of adventure and friendship transports you to the streets of Paris, as two characters discover all you can learn when you get to know someone who is different from you.

\*\* Bird Book