

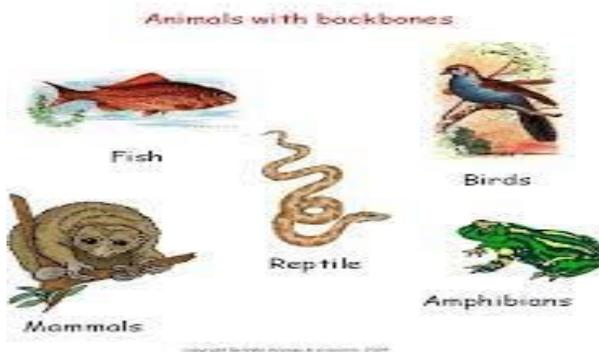
Cool Critters and Creepy Crawlies!

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Vertebrates



IDEAS FOR VERTEBRATE CENTERS



Vertebrate or Invertebrate?

Did you know that about 97% of animals do not have bones? These are called invertebrates! The rest are called vertebrates.

Gather toy animals and place them in a pile. Children sort them based on whether the animal is a vertebrate or an invertebrate. Discuss how bones help the animals move, find food, hunt, hide from danger, etc. The video explains vertebrate vs. invertebrate. <https://youtu.be/h2ry-bqwXo>

Classification skills are an important science process skill!

Need: toy animals (may include puppets and stuffed animals)

Animal Cracker Fun!

Give each child a handful of animal crackers.

Animal Cracker Tally: Print and laminate the counting sheet in this document. Challenge children to sort their animal crackers and count how many of each animal they have.

Animal Cracker I Spy: Give each child a handful of cookies. The teacher chooses an animal and shows it to the children. Then play I Spy. *“I spy a lion. Can you find a lion?”*

Animal Cracker Tally

www.dltraining.org

Animal Cracker Matching: Print the page of Animal Cracker photos (included in this document), laminate it, and encourage your students to match their cookies with each animal.





Animal Cracker Food Chain: With older children, challenge them to create food chains using Animal Crackers. For example, what will the lion eat? They hunt zebras, and small or sick elephants or giraffes.

Need: Animal Crackers, Animal Cracker photo document, paper to make an Animal Cracker Tally page, permanent marker

Animal Reading Center

For a fun reading center, make one in which children pretend to read like nocturnal animals in the dark. Use a tent or simply blankets to create a dark, relaxing space with pillows, flashlights, or party lights, and lots of good animal books!

Book recommendations: *I Can Move* by Mandy Suhr, *Swimmy* by Leo Lionni, *I Love You, Little One* by Nancy Tafuri, *Try a Little Kindness* by Henry Cole

Need: tent or blankets, pillows, flashlights and/or party lights, toy animals, lots of animal books



INTRODUCTION TO COOL CRITTERS (VERTEBRATES)

To Bone or Not to Bone!

Save chicken bones, clean them with soapy water, then soak them in water that has bleach or hydrogen peroxide added to it. Recipes: 1 cup bleach to 1 gallon water or 1 part peroxide to 10 parts water. Soak bones for at least 30 minutes, then lay them out to dry.

Most animals do not have bones. Think of all the insects and worms in the world! No bones! (Show a rubber worm and stretch it around.) Many animals do have bones! Show your class real bones or pictures of bones. Brainstorm about what bones do and how they help animals that have them, including us! (provide support and strength, help in movement, give protection) Hold up several toy animals or pictures of animals. Have children predict whether they have bones or not.

What better time to do the Skeleton Song to get the wiggles out? https://youtu.be/Pbl4BNkAq_U

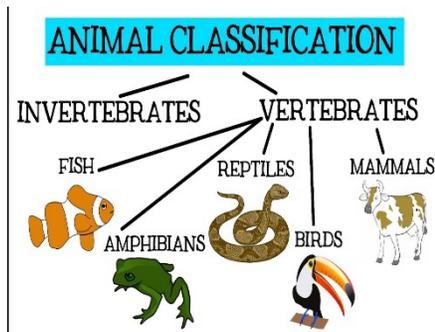
Need: chicken bones or pictures of bones, bleach or hydrogen peroxide, rubber worm, toy vertebrates and invertebrates

Classes of Vertebrates

There are five classes of vertebrates: mammals, reptiles, amphibians, birds, and fish. This fun song is a good way to introduce vertebrates.

<https://youtu.be/ynenDynU3sk>

Collect items that represent each class of animals and put them in a bag or basket to show the children. Brainstorm with the children about each class to see what they already know. Kids love critters!



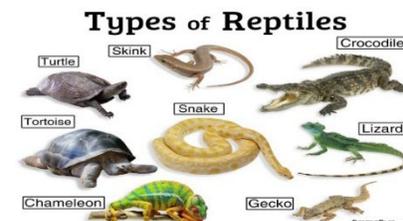
*Note: What does it mean to be warm-blooded? It means the animal's body can regulate its temperature. Cold-blooded animals cannot regulate their body temperature and must use the sun to warm up.



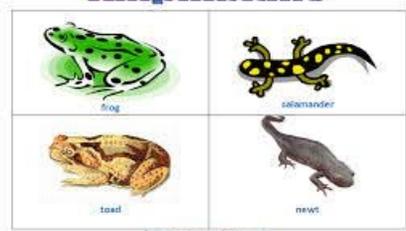
a. Mighty Mammals!

All mammals have these characteristics: have hair, feed milk to their babies, give birth to live young, and are warm-blooded. Even whales, dolphins, and bats have these characteristics! Show furry fabric, toy mammals, a snakeskin, alligator head, turtle shell (if possible). *Need: piece of furry fabric, toy mammals (include whale, dolphin, and bat toys or pictures), mammal pictures*

Rowdy Reptiles! Reptiles are cold-blooded and lay eggs or give live birth. They have dry skin, ear holes, and either 4 legs or no legs. Reptiles include snakes, lizards, turtles, alligators, and crocodiles. Show and touch: a snakeskin, leathery fabric, and reptile pictures and toys. *Need: piece of leathery fabric, snakeskin, reptile toys and pictures*



Amphibians



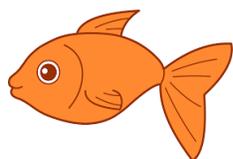
Awesome Amphibians! Amphibians are at home on land but must live near water. They have thin skin that must be kept wet, and they lay their eggs in water. Amphibians are cold blooded and include frogs, toads, salamanders, and newts. Show and touch: toy amphibians and smooth, silky fabric.

To simulate amphibian eggs, make some tapioca pudding. Children may touch it; what does it feel like? *Need: piece of smooth fabric, toy amphibians, tapioca pudding, pictures of amphibians*

Boisterous Birds! Birds are warm-blooded and lay eggs. Their bones are hollow inside which helps them fly! There are many types of birds including eagles, owls, hawks, emus and ostriches (neither emus nor ostriches can fly). Show and touch: feathers, toy birds and eggs, a bird nest and bird pictures. *Need: feathers, a bird nest, plastic egg, toy birds and pictures*



Fancy Fish! This class of animals lives in water, breathes with gills, and has slippery scales. They lay eggs or give live birth and are cold-blooded. Show and touch: toy fish and pictures, a Beta or goldfish, and scaly fabric. *Need: piece of scaly fabric, toy fish, Beta fish (if possible), fish pictures*



Deeper Dive into the Five Vertebrate Classes:

Mighty Mammals!

Mammal songs: <https://youtu.be/JfLT99-39jw> *This song says that mammals have four legs. That is true for most but not all mammals. Tell your students that some mammals have no legs! Can they guess which ones? (whales and dolphins!) And some mammals have only two legs. Can they guess what they are? (bats!)

Here's another cute video about mammals. <https://www.youtube.com/watch?v=T0RCzj9mYYw>



Handprint Animal Art: Help children dip their palm into Tempera paint. Press firmly and gently on a piece of light-colored paper. Guide them to brainstorm about what mammal they can create using their handprint!

Need: Tempera paint, light-colored paper (construction paper works well), washable magic markers, crayons



Squirrel Tag: A common mammal that children will recognize is a squirrel! For mammals like squirrels to survive in the wild, they must protect themselves from predators. Check for understanding of the word “predator.”

“Wild animals must find a good home with plenty of food and water; this is called a habitat. They must share their habitat with other animals in the ‘neighborhood.’ Sometimes animal neighbors are not very friendly and might try to eat their neighbor for lunch! The hunter is called a predator and the other animal is the prey.”

Play a game of foxes and squirrels (predator-prey) tag! This video shows squirrels in their habitat; it is so well done by Sesame Studios! https://youtu.be/tG_Gz67Crt8



Squirrels use their tails for balance, as an umbrella or parachute, and as a blanket. For squirrel tails, cut brown furry fabric in the shape of a tail. Loop the top end and sew or staple it, leaving room for string or rope to make a belt for a child’s waist. Make squirrel ears by taping construction paper or felt ears to a headband. Assign 2-3 children to be the crafty predators during the game. They may wear predator ear headbands to play a fox, bobcat, or coyote (or carry an animal toy).



Choose a large playing area; both ends are safe shelters. Place several hula hoops or other markers in random spots to also serve as safety. The squirrels must run from one end to the other without being tagged by a predator. Squirrels are safe if they have a foot in a hula hoop or in the shelter ends of the playing area. Foxes must tag at least two squirrels to survive.



If tagged, a squirrel is taken to the sideline but not for long. We want children to get lots of exercise! Trade roles so everyone can be a crafty predator.

Extension: Place nuts (real or plastic) in the playing area. Squirrels must gather one at a time to put in a “nest” (box or basket) in one of the safe shelters. How many nuts can they gather for winter without being caught by a predator?

Need: brown furry fabric, scissors, string or rope, brown construction paper or felt, child’s headband, several Hula hoops, hot glue sticks and glue gun, stuffed animal predators (like birds, foxes, coyotes, etc.; can use pictures instead)

Rootin’ for Reptiles!

Pet Snake Ties: Discuss snake safety with your students - never touch or go near a wild snake! <https://youtu.be/rMn9En-MNM8> The video shows various types of snakes.



Glue wiggly eyes and a forked tongue to an old tie to make a snake! Children love wearing these around their neck – their own pet snake!

Book recommendations: *The Greedy Python* by Eric Carle, *Verdi* by Janell Cannon

Need: neckties (ask parents), wiggly eyes, hot glue, red felt for tongue



Mouse Count: Snakes are carnivores which means they eat meat. Their jaws unhinge so they can swallow their prey whole!

Children will count “mice” to help a sneaky snake get its dinner. Collect or purchase colorful socks to be the snake puppets. Glue wiggly eyes or pom poms on each sock for eyes and use felt for a forked tongue. Give each child or small group a snake puppet, a small cup, a small rock, and 10 pom poms (all shapes and colors). The pom poms represent the mice.

Read the book *Mouse Count* to your class. As you read, they will act out the actions described in the book. You may need to model this. Children love this plus it is a great counting activity!

Need: striped socks, wiggly eyes or pom poms, glue, small cups, small rocks, 10 pom poms per child (all shapes and colors), Mouse Count by Ellen S. Walsh

Turtle Time: Show this video so children can see a variety of turtles.

<https://youtu.be/6vc3VShWTfc>

This Is My Turtle poem

This is my turtle. (Make fist, extend thumb)

He lives in a shell. (Hide thumb in fist)

He likes his home very well.

He pokes his head out when he wants to eat. (Extend thumb)

And pulls it back when he wants to sleep. (Hide thumb in fist)



Turtle Time: *Turtle Splash* Counting Activity

For turtle shells: Spray large roasting pans with green paint. On each end, make two holes and thread rope or sturdy string through them to make arm loops. Glue brown felt or paper to add spotted scales to the top of the pan.

Read the book *Turtle Splash*. As you read, children act out the roles of the turtles and the animals that appear in the story. Start with 10 children wearing the shells, lined up on a “log” on the floor. Use a brown sheet or strip of butcher paper for the log.

Choose other students to hold toy animals that startle the turtles off the log.

When the child hears their animal read in the book, they may tap the next turtle in line to splash off the log. What a fun way to practice counting!

*Option: Use the turtle pattern in this document instead of making roasting pan shells.

Need: large roasting pans, green spray paint, sturdy rope or string, brown felt or paper, glue, scissors, Turtle Splash! Countdown at the Pond by Cathryn Falwell, toy animals from the book (or pictures): frog, rabbit, squirrel, deer, duck, ducklings, tadpole, butterfly, bird, mosquito



Awesome Amphibians!

Frog Pond Sensory Play: Create a mini sensory pond by putting water and rocks in a large container or water table. Use green craft foam or pool noodle pieces to make lily pads. Add toy frogs and tadpoles as well as artificial plants.

*Option: blue rice and green felt lily pads (Mix 1 cup of rice, 1 teaspoon of vinegar; Add food color. Let dry.)



Play a recording of frogs croaking next to the pond. This is a good one: <https://mynoise.net/NoiseMachines/froggyPondSoundscapeGenerator.php> Click on "Frog Pond Relaxing Nature Soundscape."

- How many frogs will a lily pad hold?
- Where would the frogs feel safest? Tadpoles?
- Are any of the frogs camouflaged on the rocks or lily pads? Where are tadpoles the safest?
- What is the life cycle of a frog?

Encourage free play to allow children to explore the frog pond!

*Other creatures can eventually go in the pond like toy snakes, fish, turtles, and insects but start with frogs and tadpoles.

Book recommendations: *Growing Frogs* by Vivian French, *Frogs* by Gail Gibbons

Need: large container or water table, rocks, toy frogs and tadpoles, green craft foam, scissors; Optional: artificial water plants, toy snakes, fish, turtles, and insects



Hungry Frog Fly Catcher: Frogs and toads eat insects, fish, smaller frogs, and even snakes!

Use pieces of paper towel tubes to make frog fly catchers. Children can paint the tubes and glue/color the eyes on them. Staple together one end of the tube. Attach legs (optional) and tape 10-12 inches of yarn or string to an open end of the tube. On the other end of the string, attach an insect – can be made of a pom pom, 2-3 pony beads, or toy insects. https://youtu.be/qfb_x-YiaR8 The video shows how to make the fly catcher.

Book recommendations: *The Icky, Sticky Frog* by Dawn Bentley, *The Wide-Mouthed Frog* by Keith Faulkner

Need: paper towel tube, scissors, Tempera paint, paintbrush, stapler, tape, yarn or string, for tongue: pom pom, 2-3 pony beads or toy insect

Boisterous Birds!



Bird Sensory Bin: Explore birds further with a sensory bin. Fill a container with bird seed, toy birds, feathers, rubber worms, toy eggs, and spoons for scooping and pouring. Provide magnifying glasses for closer observation; note that bird feathers are hollow! More options: Add small bird houses and pre-made nests.

Need: large container or water table, bird seed, feathers, rubber worms, spoons, toys: birds and eggs; Options: small bird houses, pre-made nests

Whoop Do You Hear? Birds have great vision but some birds like owls have exceptionally good hearing, too. Discuss with your students why that is important. How does it help them in their habitat? This video explains that. <https://youtu.be/k1sCtPFJgA0>



This can be played inside but preferably outside. Give a child a squeaky toy (like a mouse) and ask them to hide. Once hidden, they squeak the toy. The rest of the class must find them by using their listening ears, just like a bird! **“Listen, what do your listening ears hear? Let’s find the animal making that noise!”**



Fancy Fish!

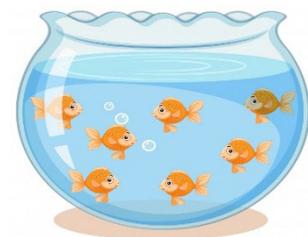
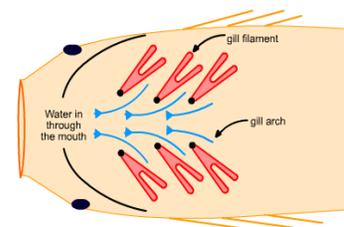
Fish Observation: https://www.youtube.com/watch?v=u_Xv5BRnflA is an informative short video about fish.

Observe fish in an aquarium or purchase a goldfish at a pet store. Point out their movement, fins, gills, eyes, mouth, sleeping, eating, and interaction with other fish. Every time a fish opens and closes its mouth, it is breathing in water over its gills to get oxygen. *Option: Show your class a goldfish breathing underwater.

<https://www.shutterstock.com/video/clip-6985441-adult-goldfish-close-breathing-slow-motion-underwater>

Brainstorm about how fish are perfectly suited to live in water. What else can the children observe about fish and their habitat?

Book recommendation: *What’s It Like to Be a Fish?* by Wendy Pfeffer
Need: live fish or video of fish



Goldfish Dice Game

Place Goldfish crackers at this center. Print and laminate the goldfish bowl included at the end of your handout.

Children roll the die (or dice) and count the dots. Count and add the corresponding number of goldfish to the bowl.

Extension: Addition and subtraction practice is great fun with goldfish! Purchase colored Goldfish crackers and children can sort them by color, too.

Book recommendation: *Count the Animals* by Books for Little Ones

Need: Goldfish crackers (colored if doing color sorting), printed and laminated goldfish bowl, 1-2 dice

IDEAS FOR INVERTEBRATE CENTERS

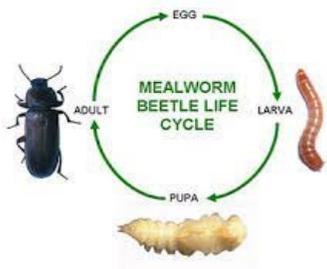
Soil Animals

Use a container filled half-way with dirt. Add mealworms, doodlebugs, earthworms, and snails. Children enjoy discovering living invertebrates in the soil.

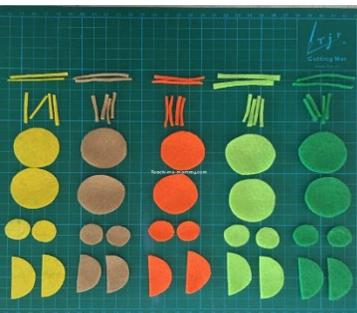
*Option: Use toy invertebrates instead. Substitute rice or beans instead of dirt.

Observe the animals. How are they different? Similar? What are their body parts? How many legs or wings do they have? Who can move like an earthworm? Like a doodlebug?

The children may handle the invertebrates under the watchful eye of the teacher. What do they look like under a magnifying glass?



Book recommendation: *Bob and Otto* by Robert O. Bruel (cute book about a friendship between a worm and a caterpillar) *Need: container with soil, mealworms, doodlebugs, earthworms, snails, and magnifying glasses*



Build a Bug Busy Box

Line the inside lid of the box with felt. Cut out pieces of felt using the patterns to the left. Note there are large and small circles, half circles, and small pieces of felt cut in straight lines (for legs and antennae). Add these pieces to the box.

Children love creating bugs on the felt-lined lid!

Need: various sizes and colors of felt, plastic or cardboard box with lid, glue, googly eyes or pom poms



Spider Fun Centers!



Build a Spider Web! Show your class how to string yarn back and forth through the holes on the basket. Go in different directions so that it looks like a spider web.

Add spider rings or toy spiders to the bottom of the basket. Use tweezers or clothespins to grab a spider and bring it through the web without dropping it.

Need: basket with holes, yarn, spider toys or rings, clothespins, tweezers

Feed the Spider! Attach masking tape inside a Hula hoop to make a web. Hang it from the ceiling or prop it against a wall, sticky side out. Attach a toy spider or picture of one somewhere in the web. Children will help feed the spider by aiming pom poms or small cotton balls (“flies”) at the web. So fun! *Need: Hula hoop, masking tape, toy spider or picture, pom poms or small cotton balls*

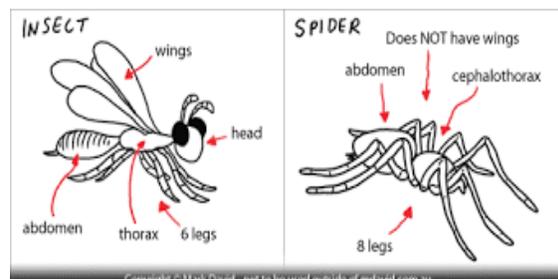
Book recommendation: *The Very Busy Spider* by Eric Carle



INTRODUCTION TO CREEPY CRAWLIES (INVERTEBRATES)

Instant Insects!

Insects have three main body parts and spiders have two main body parts. In this activity, children dress up like insects as you teach the body parts. Or dress up just one child to be the insect “model.”



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Kids teach about insects in this video:

https://www.youtube.com/watch?v=HKD_4BHFrY

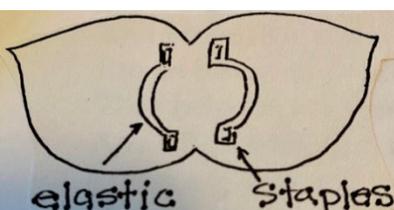
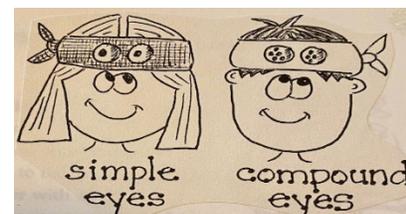
Insect Costumes:

Eyeballs--white ping pong balls, 28-inch strips of fabric

*Grasshoppers have simple eyes (like us), and flies have compound (lots of lenses) which is why they are hard to swat!

Antennae-- pipe cleaners, hair headbands, small Styrofoam balls or pom poms

Wings--black posterboard, yarn (18 inches per loop)



When dressed like insects, sing this song together with body movements like in this video: <https://www.youtube.com/watch?v=PhG2mybDzp4>

**Head, thorax, abdomen,
ABDOMEN!**

**Head, thorax, abdomen,
ABDOMEN!**

Two antennae and six legs,

Head, thorax, abdomen, ABDOMEN!

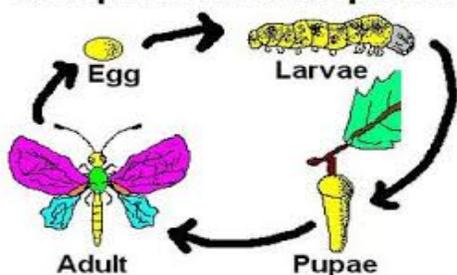


Need: white ping pong balls, black permanent marker, strips of fabric (28 inch), pipe cleaners, hair headband, Styrofoam balls or pom poms, black posterboard, yarn (18 inches)

Miracle of Metamorphosis

Children enjoy role playing metamorphosis!

Complete Metamorphosis



Some insects grow into adults by changing their shape and what they look like altogether! What is the process called when animals change like this? Metamorphosis! The word means “change.” These insects do not start out looking like their parents at all. They hatch from eggs but then go through specific stages to grow.

This video helps children learn about metamorphosis with another song: <https://youtu.be/k4PgljcarTA>

Place two scarves or other fabric in a sleeping bag (more bags if you have them). The sleeping bag is the chrysalis; the scarves are the wings. Sing the song and act out the parts with your class.

I'm a Caterpillar: Sing to the tune of “Oh My Darling Clementine.”

**I'm a caterpillar, I'm a caterpillar and I love to eat all day,
I'm a caterpillar, I'm a caterpillar and I love to eat all day!** (Pretend to eat leaves.)

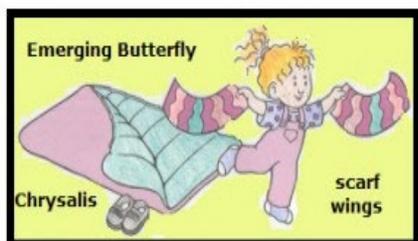
**I'm a caterpillar, I'm a caterpillar and I love to crawl all day,
I'm a caterpillar, I'm a caterpillar and I love to crawl all day!** (Crawl in the circle.)

**I'm a caterpillar, I'm a caterpillar and I love to spin all day,
I'm a caterpillar, I'm a caterpillar and I love to spin all day!** (Make spinning motions.)



**I'm a caterpillar, I'm a caterpillar and I love to sleep right now,
I'm a caterpillar, I'm a caterpillar and I love to sleep right now!** (Sleep with eyes closed.)

The teacher taps 1-2 “caterpillars” and helps them zip up in the sleeping bags. The caterpillars will change into butterflies by finding the two scarves inside. These are the wings. When the children have the scarves (they may need help), ask the class who they think the caterpillars are inside the chrysalises.



When they guess correctly, the butterflies emerge slowly from the chrysalises because their wings are damp and need to dry. Slowly wave the scarves to dry their wings. After a few seconds of slow motion, they flap their wings and fly like butterflies! Start over with new caterpillars until everyone has had a turn. Book recommendations: *Ten Little Caterpillars* by Bill Martin, Jr., *Waiting for Wings* by Lois Elhert
Need: sleeping bags, 2 scarves or other fabric per sleeping bag

Changing Caterpillars

Watching caterpillars go through metamorphosis is something that excited children! You can order Painted Lady caterpillars and food in a container. Children observe the caterpillars eat, grow, spin a chrysalis, and emerge as butterflies!

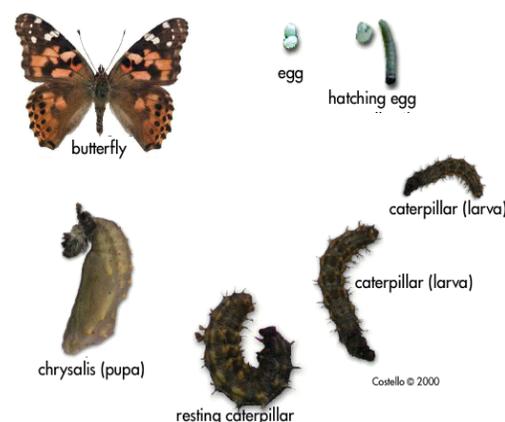
Once the butterflies emerge, take your class outside to release them. This is an important way to reinforce learning about animals living in their natural habitats.

The video shows how easy it is to raise the caterpillars.

<https://www.youtube.com/watch?v=4KQUdELXaPs>

Book recommendation: *From Caterpillar to Butterfly* by Heiligman

Need: Painted Lady butterfly caterpillar kit



The Very Hungry Caterpillar and Butterfly

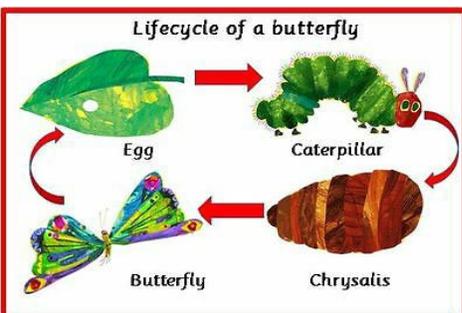
Read *The Very Hungry Caterpillar* by Eric Carle to your class. Reread, explaining key words. Show the video of Eric Carle reading his own book! <https://youtu.be/vkYmvxP0AJI> Discuss what an author is. How do the children think he thought of this idea for his book? Would they like to be an author?



Children use red and green cupcake liners to make the caterpillar. (**Option:** Children can paint white cupcake liners.) Show children how to flatten the liners and glue them to a piece of light-colored card stock. Add wiggly eyes (or pom poms), Q-tip antennae, and a magic marker smile. To make an interactive puppet, cut out the finished caterpillars and attach them to craft sticks.

Feed the caterpillar because he is soooo hungry! Scroll down to print the food (or use toy food) that the caterpillar eats; laminate them to use again. No wonder he gets a tummy ache on Saturday! The next day, he eats a nice green leaf and feels much better! This is a great opportunity to discuss healthy food choices. Provide real leaves for children to use in their play.

Check for understanding that caterpillars turn into butterflies by making butterflies, too. Use more cupcake liners with a craft stick for the butterfly's body. Add eyes, Q-tip antennae, and a smile. Decorate the wings with glitter, gemstones, or other bling for a beautiful butterfly! Again, make these into puppets by cutting them out and attaching craft sticks.



Model how to act out metamorphosis. Begin by having the children put their butterfly into a brown paper bag (chrysalis).

Recite this poem:

**I'm the very hungry caterpillar, yes that's me,
I've eaten everything that I could see!**

Now it's time for me to spin,

A chrysalis for sleeping in! (Place caterpillars in the bags.)

Metamorphosis is what I do, (Wiggle the bag.)

And then guess what? When I'm through...

I'm a beautiful butterfly just for YOU! (Pull out your butterfly and fly away!)

OR here's another option: Put butterflies into their bags before starting.

Need: The Very Hungry Caterpillar by Eric Carle, colored cupcake liners, light-colored card stock, glue, wiggly eyes or pom poms, Q-tips, craft sticks, permanent marker, brown paper lunch bag



Bonkers for Bugs!

Explain that looking for insects can be tricky because they are camouflage experts!

Packing Peanut Insect Practice! When using a net to catch invertebrates like insects, it is important not to hurt the animal. Practicing with packing peanuts or toy insects is helpful! The children stand in a circle with a teacher in the middle. Throw the peanut into the air so children can catch it in their net. As they become better "insect" catchers, they may partner up with a classmate. Emphasize being gentle with the peanut insect because it is good practice to prepare for the real thing.

Option: You may use cotton balls or toy insects for this instead.

Book recommendation: *The Backyard Bug Book for Kids* by Lauren Davidson

Need: insect nets, packing peanuts; Option: cotton balls or toy insects



Invertebrate Hunt: Children will search for insects, spiders, doodlebugs, worms, etc. and learn how camouflage protects them. Remember to discuss this safety rule: **Never put your hands where your eyes can't see!**



Take your class on a "follow the leader" hunt! Model how to sweep a net gently across the top of the grass. Remind them of how they practiced with the packing peanut insects. ***Watch out for fire ants!**

The teacher can turn over a log to see what is hiding. Look under bushes and shrubs. It may be helpful to place a light-colored sheet under the plant and shake the branches. Look for any insects or spiders that fall on the sheet. ***If Mother Nature needs "help," you can hide toy insects for your students to catch!**

Need: insect nets, magnifying boxes, a white sheet, toy insects and spiders

Animal Cracker Fun!

Animal Cracker Tally

www.cdtraining.org



Bear



Buffalo



Camel



Cat



Cow



Donkey



Elephant



Goat



Hippo



Horse



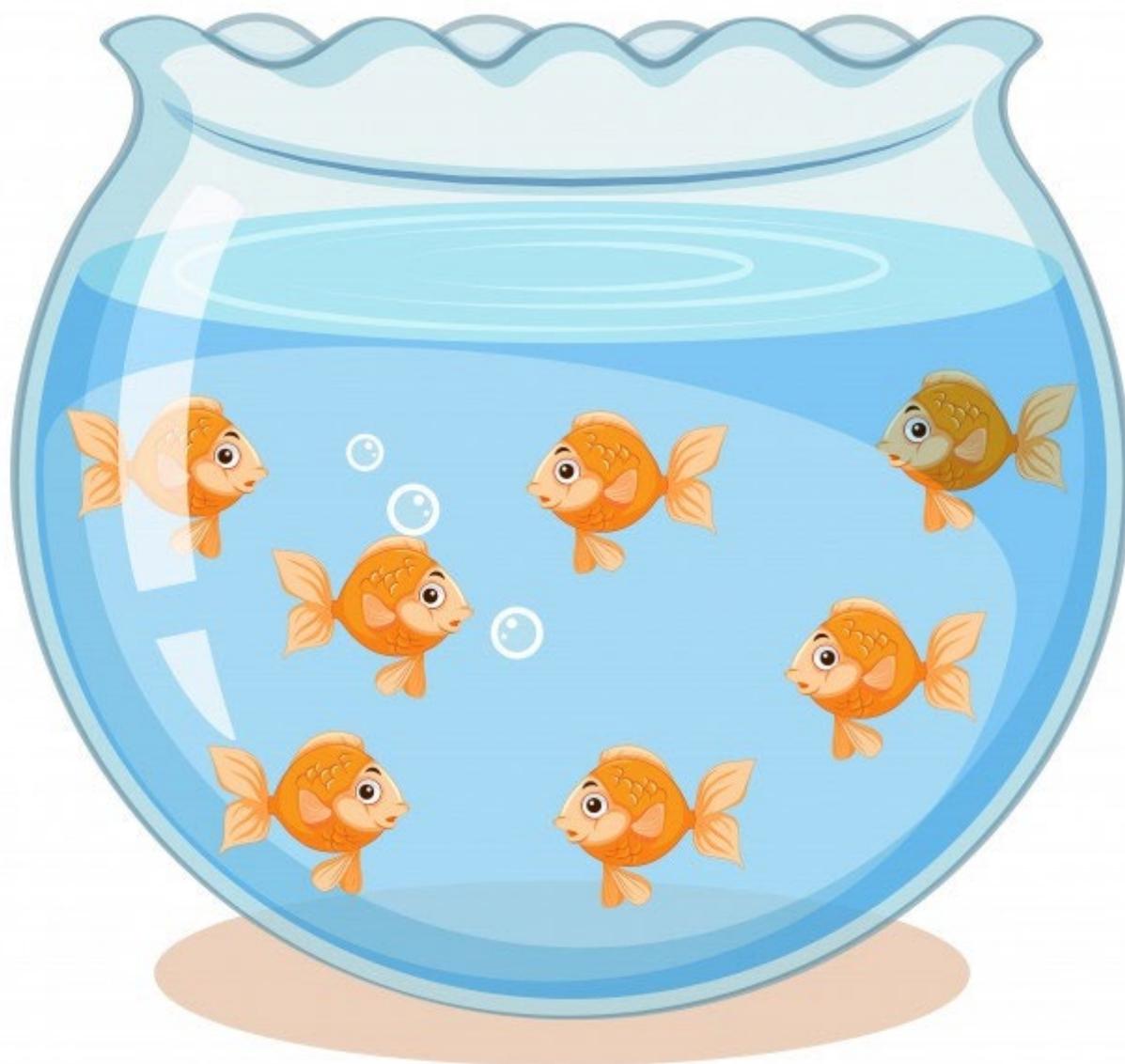
Lion



Rhino



Tiger



Goldfish Dice Game

THE VERY HUNGRY CATERPILLAR I SPY



