Bundle for the Grade 1 NGSS:

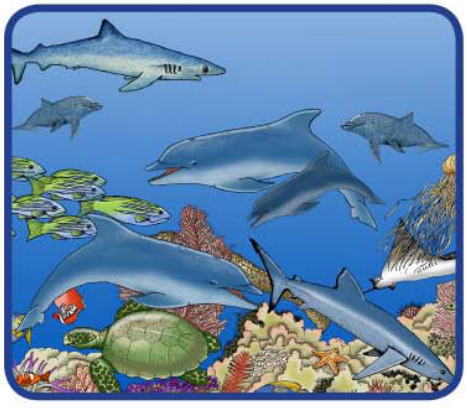
Growth and Development of Organisms

Parents feed offspring.

Parents groom offspring to protect them from insects and parasites.

Parents teach offspring protective behaviors.

Parents protect offspring from predators.



Parents work as group to protect offspring.

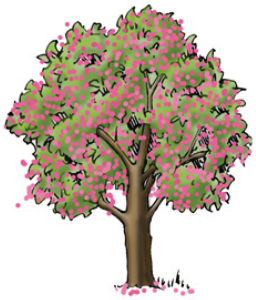
Parents build nests, dens or burrows to house offspring.

LS1.B Growth and Development of Organisms

Grade 1

From Molecules to Organisms: Structures and Processes




This bundle includes 21 age-appropriate resources about Growth and Development of Organisms including: Reading, Color Diagrams, Activities, Performance Tasks and Assessment (38 pages total).

Resources included in this Next Generation Science Standards Bundle include:

- Structure and Function of Organisms - Primer for Educators
- Next Generation Science Standards covered in this Bundle
- Rubric Building Resource

1) Growth and Development Reading, Short Answer Quiz and Answer Sheet (3 pages)
2) Helping Young Survive Mini-Poster
3) Helping Young Survive Matching and Answer Sheet (2 pages)
4) Growth and Development of Organisms - Matching and Answer Sheet (2 pages)
5) Helping Offspring Survive - Black Bears Mini-Poster
6) Helping Offspring Survive - Black Bears Reading, Short Answer Quiz and Answer Sheet (3 pages)
7) Helping Young Survive - Swallows - Critical Thinking Exercise (2 pages)
8) Animal Life Cycles - Growth and Development of Organisms Mini-Poster
9) Bullfrog Survival Tricks Mini-Poster
10) Bullfrog Survival Tricks Matching and Answer Sheet (2 pages)
11) Monarch Butterfly Survival Tricks Mini-Poster
12) Monarch Butterfly Survival Tricks Matching and Answer Sheet (2 pages)
13) Bluebird Survival Tricks Mini-Poster
14) Bluebird Survival Tricks Matching and Answer Sheet (2 pages)
15) Growth and Development of Organisms - Plants - Read Aloud (1 page)
16) Growth and Development of Organisms - Plants - Short Answer Quiz and Answer Sheet (2 pages)
17) Plants have Offspring - Find Them - Activity and Answer Sheet (2 pages)
18) Plant Life Cycle - Sorting Activity with Answer Sheet and Key (3 pages)
19) Plants Have Offspring - Matching and Answer Sheet (2 pages)
20) Plant Survival Tricks Mini-Poster
21) Plant Survival Tricks - Matching and Answer Sheet (2 pages)

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1-LS1 From Molecules to Organisms: Structures and Processes

Growth and Development of Organisms
Educator's Primer

The goal of this Bundle is to address the NGSS for first grade understanding of the **Growth and Development of Organisms.** Through readings, activities, investigations, model building and visual aids, students will demonstrate their understanding of the following statements and be able to answer the essential questions surrounding this topic.

Goals for Enduring Understanding:

1. Understand that adult plants and animals can have young.
2. In many kinds of animals, parents and the offspring behave in ways that help the offspring to survive.

Essential Question:

In what ways do animals behave so that they are helping their offspring to survive?
In what ways do animals' offspring behave so that they are helping with their own survival?

NEXT GENERATION SCIENCE STANDARDS

Disciplinary Core Ideas

LS1.B: Growth and Development of Organisms - Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)

Science and Engineering Practices

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

• Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)

Crosscutting Concepts

Patterns

• Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)

Performance Expectations: Students who demonstrate understanding can:

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. *[Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]*

Rubric Building Resource:
*Observable features of student performance by the end of the grade:

LS1.B: Growth and Development of Organisms

Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)

1. Obtaining information

a. Students use grade-appropriate books and other reliable media to obtain the following scientific information:

i. Information about the idea that both plants and animals can have offspring.

ii. Information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring).

iii. Information about behaviors of animal offspring that help the offspring survive (e.g., crying, chirping, nuzzling for food).

2. Evaluating information

a. Students evaluate the information to determine and describe the patterns of what animal parents and offspring do to help offspring survive (e.g., when a baby cries, the mother feeds it; when danger is present, parents protect offspring; some young animals become silent to avoid predators).

*provided by the NGSS website

Growth and Development of Organisms - Read Aloud

Looking at life cycles can teach us the ways parents behave to help their young survive. All living things have their own **life cycles**. Though they may have very different kinds of life cycles, they all have these 4 things in common. Living things are **born**. They **grow up**. They have young (**reproduce**) and they **die**.

Mammals give birth to a small number young. Many are little and helpless when born, but they survive better than any other groups of animals. This is because mammal parents feed and protect their young until they can survive on their own. Mothers feed newborns milk (nursing). Some mammals are born in a nest, den or burrow that is made and watched over by their parents. This includes mice, squirrels, rabbits, and foxes. Other mammals are born into their mother's protective pouch, such a kangaroos or koalas. They are called **marsupials**. Mammals teach their young how to find food and escape predators, before they go out on their own.

Birds are born in hard-shelled eggs. Their parents build a nest for them and keep them warm and safe until they hatch. Hatchling birds are small and helpless too. Their parents will bring them food and keep them warm and safe. Birds will stay with their young until they can fly, swim or run away from predators and find food on their own.

Amphibians include frogs, toads and salamanders. They lay many soft eggs in the water. Most amphibians do not watch over their eggs or keep them safe after they hatch. Only a few hatchlings survive.

Reptiles include snakes, lizards and turtles. They lay many leathery eggs on land buried in the sand, soil or brush. Most do not watch over their eggs or keep them safe after they hatch. Hatchlings dig out of their nest and make their own way to safety. Most do not survive. Some reptile parents, such as the American alligator, do watch over the nest and hatchling for a while. This helps more of their offspring survive.

Insects lay many, many eggs, but most of their offspring do not survive. Insects lay their eggs on plants (or animals) on which their offspring can feed when they hatch. This gives them a chance to feed and grow. Insect parents usually do not watch over their eggs or keep them safe after they hatch. Only a few survive.

Plants have many young too – called seeds. Though plants can not take care of their young, they have ways of helping them survive.

Helping Young Survive

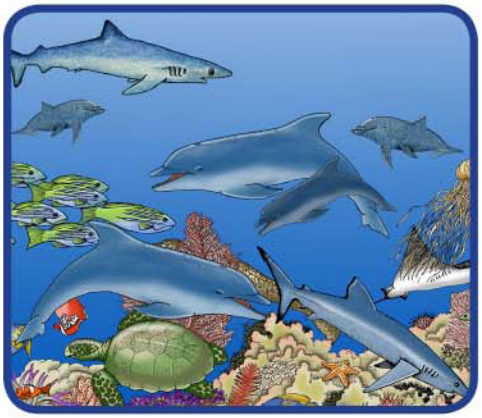
LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Parents feed offspring.

Parents groom offspring to protect them from insects and parasites.

Parents teach offspring protective behaviors.

Parents protect offspring from predators.

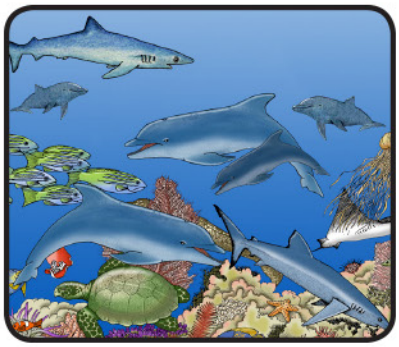


Parents work as group to protect offspring.

Parents build nests, dens or burrows to house offspring.

Helping Young Survive - Matching

Match what each of the parents are doing to protect their young (Hint: may be more than one).



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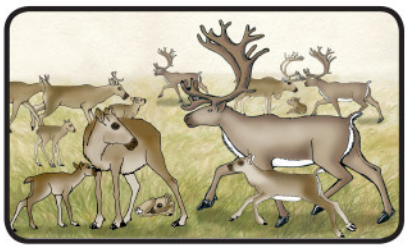
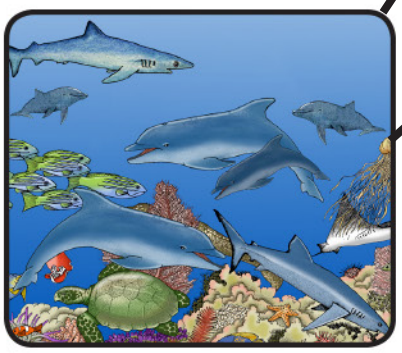
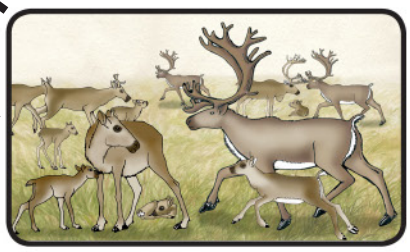


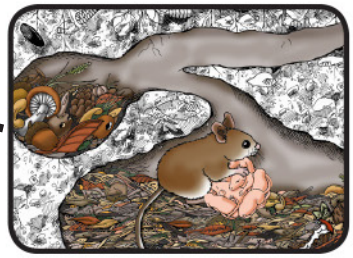
LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Helping Young Survive - Matching KEY

Match what each of the parents are doing to protect their young (Hint: may be more than one).







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Parents work as a group to protect offspring.

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LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Growth and Development of Organisms - Matching

Write the letter of the group of living things that match each of the traits on the left.

1. Mothers feed newborns milk (nursing). ☐
2. This group includes toads. ☐
3. Young are born in soft eggs in the water. ☐
4. Young are born in hard-shelled eggs. ☐
5. Young are born in leathery eggs buried in sand. ☐
6. Young are born small and helpless. ☐
7. Offspring are seeds. ☐
8. Parents keep eggs warm until they hatch. ☐
9. This group includes turtles. ☐
10. This group includes kangaroos. ☐
11. This group includes butterflies. ☐
12. This group includes eagles. ☐
13. Some of these offspring are born into their mother's protective pouch. ☐
14. Offspring are born with structures that help them move away from their parent, aided by the wind, rain or animals. ☐
15. Eggs are laid on plants (or animals) on which the offspring can feed when they hatch. ☐
16. Parents stay with their young until they can fly, swim or run away from predators. ☐

mammals (M)

birds (B)

amphibians (A)

reptiles (R)

insects (I)

plants (P)

LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Growth and Development of Organisms - Matching KEY

Write the letter of the group of living things that match each of the traits on the left.

1. Mothers feed newborns milk (nursing). **M**
2. This group includes toads. **A**
3. Young are born in soft eggs in the water. **A**
4. Young are born in hard-shelled eggs. **B**
5. Young are born in leathery eggs buried in sand. **R**
6. Young are born small and helpless. **M**
7. Offspring are seeds. **P**
8. Parents keep eggs warm until they hatch. **B**
9. This group includes turtles. **R**
10. This group includes kangaroos. **M**
11. This group includes butterflies. **I**
12. This group includes eagles. **B**
13. Some of these offspring are born into their mother's protective pouch. **M**
14. Offspring are born with structures that help them move away from their parent, aided by the wind, rain or animals. **P**
15. Eggs are laid on plants (or animals) on which the offspring can feed when they hatch. **I**
16. Parents stay with their young until they can fly, swim or run away from predators. **B**

mammals (M)

birds (B)

amphibians (A)

reptiles (R)

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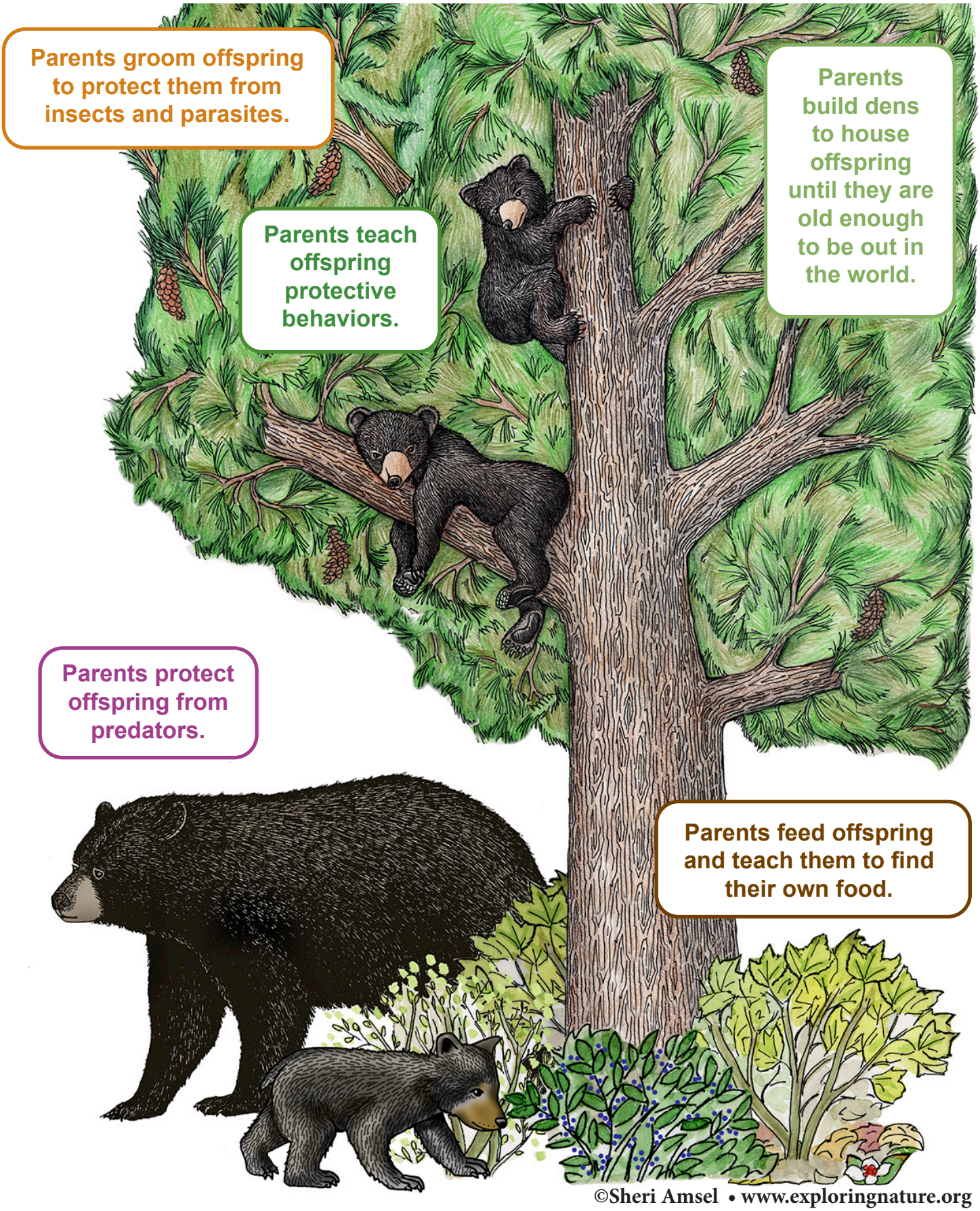
LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Helping Offspring Survive - Black Bears

LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.



Helping Offspring Survive - Black Bears

Read Aloud

When black bear cubs are **born in their den**, they will stay snuggled up to their mother for warmth and **feed on her milk**. This is called **nursing**. When spring arrives, the mother bear leads the small cubs out of the den and starts showing them the outside world. They will learn about foods they can eat, though they will keep nursing for almost eight months. They will learn about **predators** and other things that can hurt them. Predators that might threaten a bear cub include coyotes, mountain lions, male bears and humans. She will teach them to climb large trees to **escape danger.** They will practice staying up in the branches while she eats things on the ground nearby. They will learn to note these “babysitter trees” and will climb them when they feel threatened on the ground. The mother bear will **groom her cubs**, licking off burrs and soothing cuts and injuries. A mother bear knows the sounds her cubs make when they are hungry or frightened. When they call out in hunger, she will lead them to a safe place to nurse. **If cubs call out in fear or distress their mother will come running to protect them**. This is why a person should never approach a bear cub. Mother bears can be very dangerous if they think their cubs are threatened. Mother bears stops nursing their cubs in their first fall - this is called weaning. Cubs will learn the foods they need to eat to fatten themselves up for winter. They will stay with their mother that second winter, but in the spring, when they about a year and a half old, she will chase them away to start lives of their own.

Take away facts to summarize with students:

Parents **feed** offspring.

Parent **groom** offspring to protect them from insects, parasites, etc.

Parents **teach offspring** protective behaviors.

Parents **protect offspring** from predators and other threats.

Parent **build nests, dens or burrows** to house offspring.

Helping Offspring Survive - Black Bears - Matching

Draw a line from the bear facts to the words that finish each sentence.

1. Black bear cubs are born in a _____.

2.Cubs drink _____ from their mother.

3. Drinking mother's milk is called _____.

4. Cubs must learn about _____ and other things that can hurt them.

5. Mother bear will teach cubs to climb large _____ to escape danger.

6. Mother bear will _____ her cubs to lick off burrs and sooth cuts.

7. Mother bear knows the _____ her cubs make when they are hungry or frightened.

8. Mother bears can be very dangerous if they think their cubs are _____.

9. Mother bears stops nursing their cubs in their first fall - this is called _____.

10. Cubs will learn the foods they need to eat to fatten themselves up for _____.

den

groom

milk

nursing

predators

sounds

threatened

trees

weaning

winter

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den

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trees

weaning

winter

Helping Young Survive - Critical Thinking (K-2)

Read the text aloud to young students and ask them to look at the picture. Then ask them what the parents and young are doing to help the offspring survive.

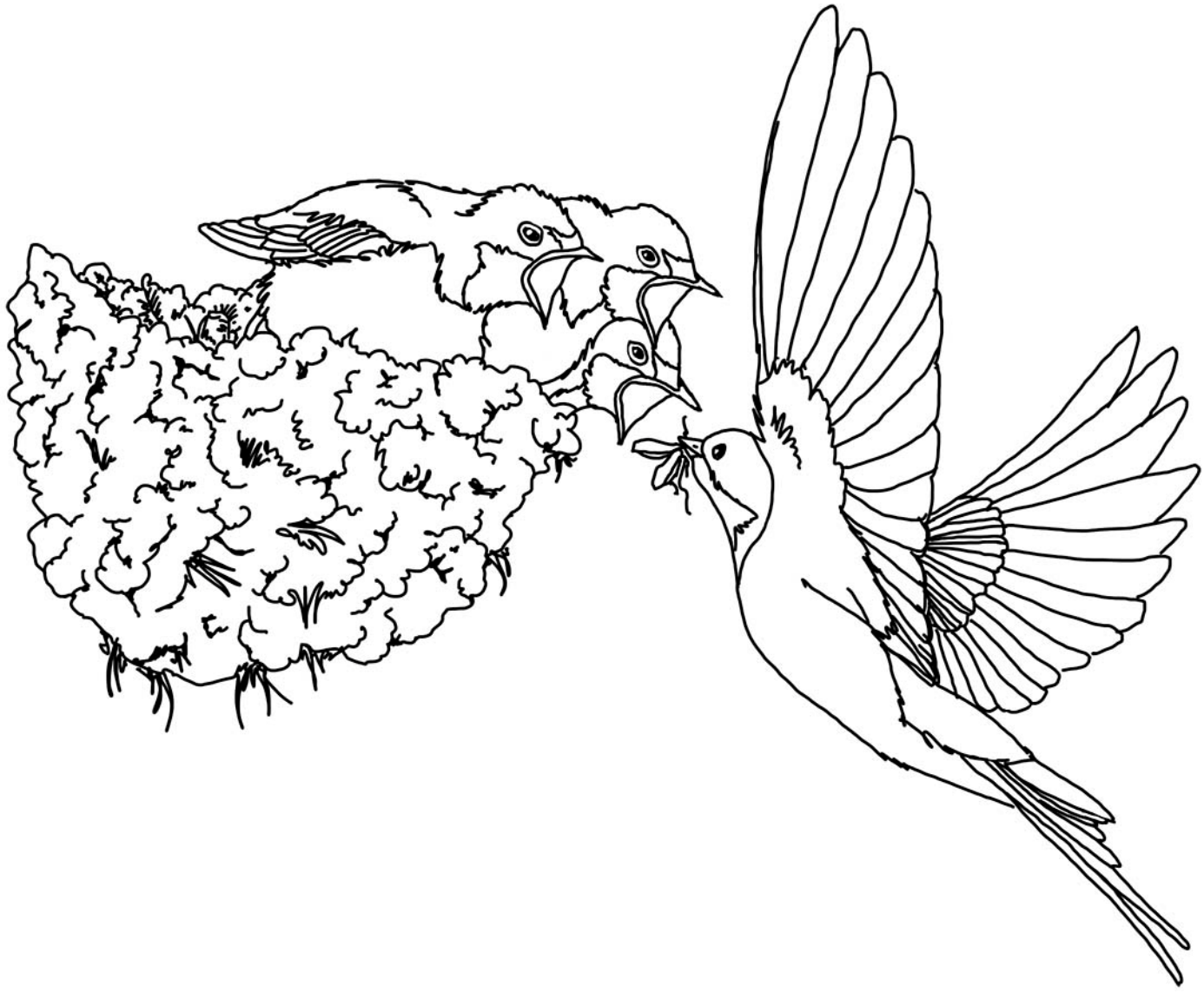
Barn swallow parents work together to build an open cup nest of mud and grass up under an overhang or on a ledge or shelf. They line it with grass stems and feathers. Nests are built under porches, in barns and under bridges. Barn swallows will nest in nest boxes put out in open fields too. Both parents sit on the eggs to keep them warm. This is called *incubation*. Once the chicks hatch, the parents take turns bringing them insects to eat. When a parent approaches the chicks, they will raise their heads, open their mouths and peep loudly. Parents then stuff insects into the chicks' open mouths. When they've had enough to eat, the chicks settle down to rest. At night, when it's colder, the parents will sit on the nest to keep the chicks warm. Barn swallows stay with their chicks until they can fly and feed on their own.

LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Helping Young Survive - Critical Thinking Guide

These are the survival tricks students should learn from the reading and picture. Help them come up with them with prompts and talk about how each helps the chicks survive. Use this page for students to color and remember what they learned.

1. Barn swallow parents work together to build the nest.
2. Nests are built up high out of reach of predators.
3. Both parents incubate the eggs and keep the chicks warm.
4. Both parents take turns feeding the chicks.
5. Chicks open their mouths and calls loudly when parents approach with food.
6. Parents will feed chicks until they stop calling.
7. Parents stay with chicks until they can fly and find food on their own.



LS1.B Growth and Development of Organisms: In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Animal Life Cycles - Growth and Development of Organisms

LS1.B: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Frogs, Toads and Salamanders:

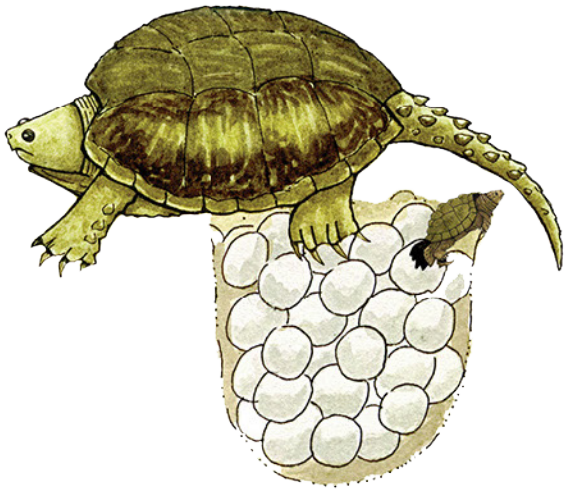
- Lay many soft eggs in the water.
- Leave eggs to hatch on their own.
- Only some young survive.

Insects:

- Lay eggs on plants (or animals) on which offspring can feed once they hatch.
- Insect parents usually do not watch over their eggs or keep them safe after they hatch.
- Most offspring do not survive.

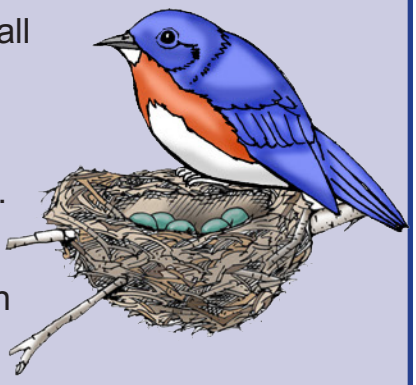
Snakes, Lizards, Turtles and Tortoises:

- Lay many leathery eggs in sand.
- Leave eggs to hatch on their own.
- Only some survive.



Birds:

- Lay one to several eggs.
- Parents build nests and keep eggs warm and protected until they hatch.
- New chicks are small and helpless.
- Parents keep them warm, fed and safe.
- Parents stay with young until they can fly, swim or run from predators and find food on their own.



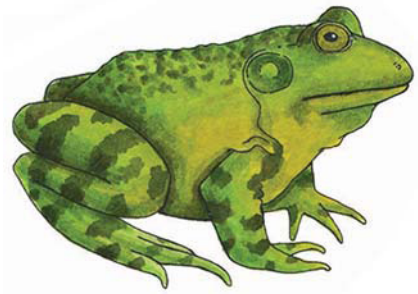
Mammals:

- Born small and helpless.
- Parents feed and protect them.
- Parents teach young to survive, find food, shelter, and avoid predators.

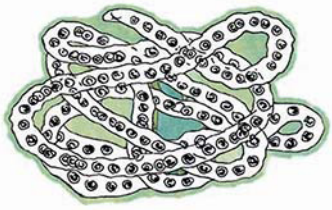
Bullfrog Survival Tricks

LS1.B: Growth and Development of Organisms: Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Bullfrogs are well camouflaged and sit with just their eyes and nostrils above the surface of the water.



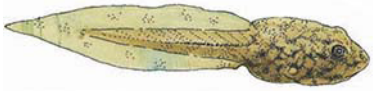
Bullfrog eggs are laid in a jelly mass in the water where they won't dry out.

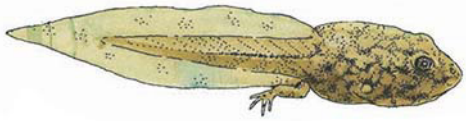


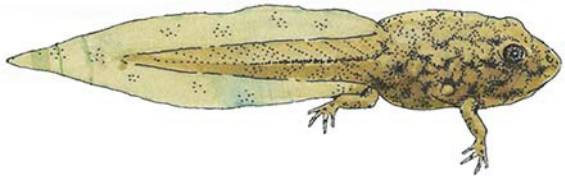
Bullfrogs lay thousands of eggs, making it more likely that some will survive.

Bullfrog tadpoles have camouflage coloring, so they can hide from herons, raccoons, and turtles while growing larger.

All the eggs hatch at once, making it more likely that some will survive.







Tadpoles breath through gills so never have to come near the surface of the water until they are adults.

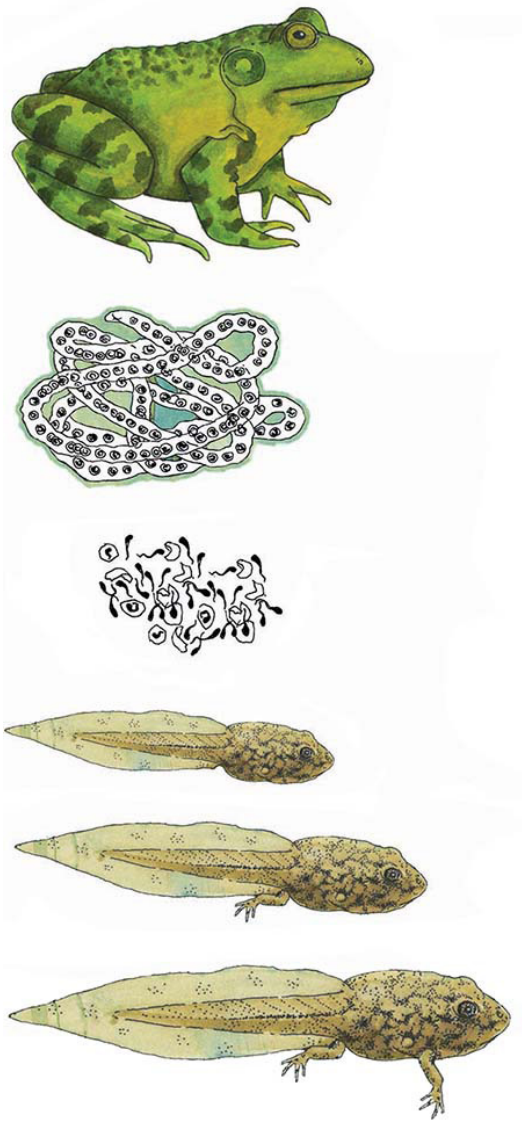
Bullfrog Survival Tricks - Life Cycle Matching

Circle the behaviors (or traits) that would help the bullfrog's offspring survive and connect them to the stage in the bullfrog's life cycle. (Hint: Not all traits help directly.)

Bullfrog tadpoles have camouflage coloring.

Bullfrogs Males call to attract a mate.

Adult bullfrogs breathe through lungs.



Bullfrogs lay thousands of eggs.

Tadpoles breathe through gills so never have to come near the surface of the water until they are adults.

Bullfrogs sit with just their eyes and nostrils above the surface of the water.

Frog eggs are laid in water where they won't dry out.

Bullfrogs will eat any animal they can fit in their moutths.

All the eggs hatch at once.

LS1.B: Growth and Development of Organisms: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Bullfrog Survival Tricks - Life Cycle Matching KEY

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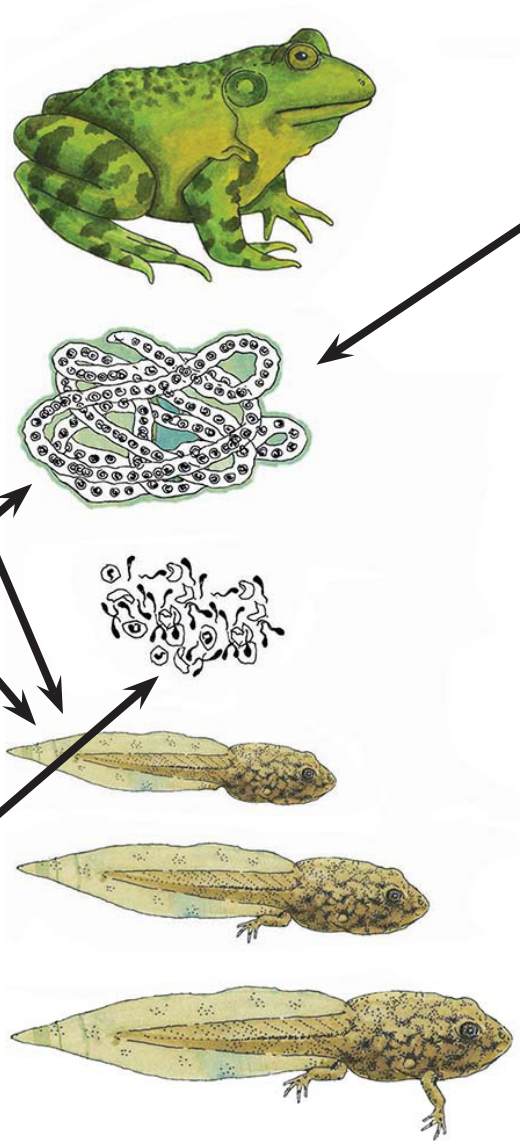


LS1.B: Growth and Development of Organisms: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

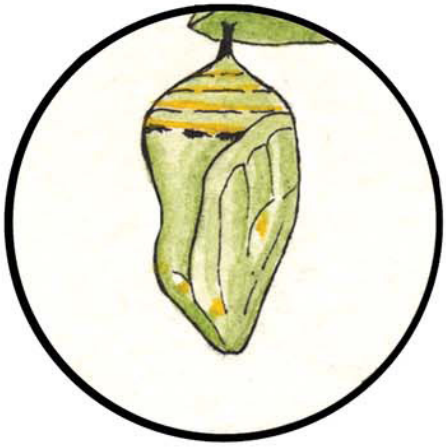
Monarch Butterfly Survival Tricks

LS1.B: Growth and Development of Organisms: Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Monarch butterflies lay a single egg on many milkweed leaves, making it more likely that some will survive.

Monarch butterfly caterpillars feed on milkweed, which is toxic to all other animals. This makes it more likely that there will always be food available.

A Monarch butterfly caterpillar forms its chrysalis underneath large milkweed leaves, out of sight of curious predators.



The Monarch butterfly's bright orange color helps to remind predators to stay away.

Monarch butterfly adults, like the milkweed they fed on growing up, are toxic, so are less likely to be eaten by predators.

Monarch Butterfly Survival Tricks - Life Cycle Matching

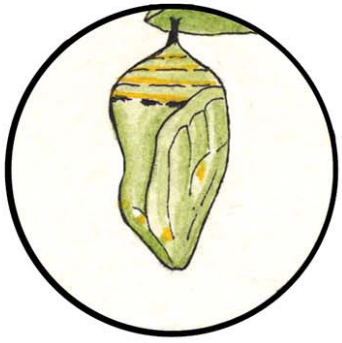
Circle the behaviors (or traits) that would help the Monarch butterfly's offspring survive and connect them to the stage in the butterfly's life cycle. (Hint: Not all traits help their offspring directly.)

Monarch butterflies live in open, weedy places like fields and marshes.

Monarch caterpillars feed on milkweed, which is toxic to birds and makes them toxic as well.

Monarch butterflies are the only butterfly that migrates yearly.

The Monarch butterfly's bright orange color warns predators to stay away.



Monarch butterflies, like the milkweed they fed on as caterpillars, are toxic to birds.

Monarch butterflies lay a single egg on many milkweed leaves.

Monarch caterpillars form theitr chrysalis underneath large milkweed leaves, out of sight of curious predators.

LS1.B: Growth and Development of Organisms: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Monarch Butterfly Survival Tricks - Life Cycle Matching KEY

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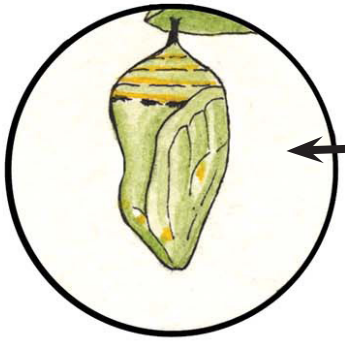

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The Monarch butterfly's bright orange color warns predators to stay away.

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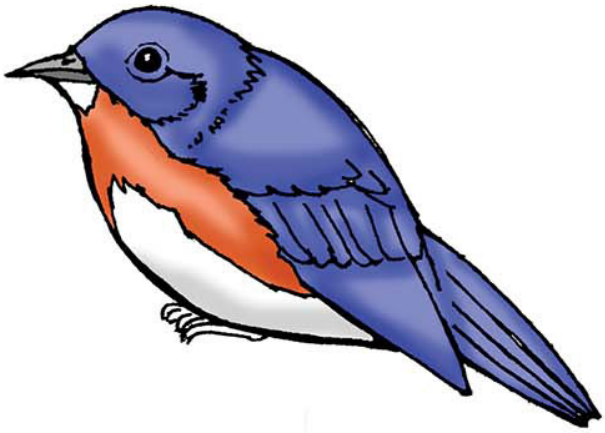
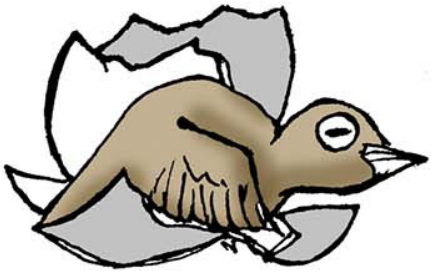
Bluebird Survival Tricks

LS1.B: Growth and Development of Organisms: Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.



Eastern bluebirds nest in cavities. If available, they will nest in bird boxes and will defend the boxes from other birds trying to nest there (and sometimes nest in nearby boxes).

Bluebirds may have two and sometimes three broods of chicks, making it more likely that some will survive.



Bluebird chicks are a dull brown helping them blend in and hide from predators.

Bluebird parents both bring food to their chicks. Young from earlier broods may also helps feed the new chicks.

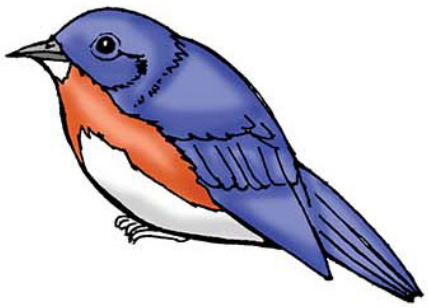
Bluebird chicks will peep, reach up and open their mouths when parents enter the nest box with food, making them more likely to be fed.

Bluebird Survival Tricks - Life Cycle Matching

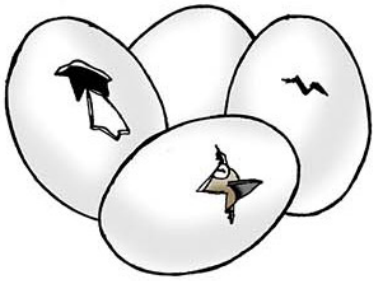
Circle the behaviors (or traits) that would help the bluebird's offspring survive and connect them to the stage in the bluebird's life cycle. (Hint: Not all traits help their offspring directly.)

Bluebirds nest in cavities or if available, bird boxes.

Bluebirds may have two and sometimes three broods of chicks.



Bluebirds sit on their eggs to keep them warm (incubate).

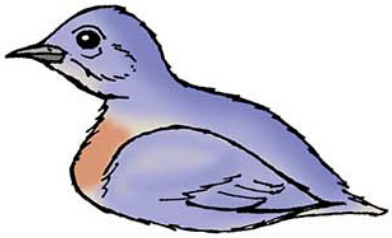


Bluebird chicks are a dull brown helping them blend in.

Bluebird parents both bring food to their chicks.

Bluebirds sit up on a high perch to hunt for insects.

Bluebird males are bright blue above with a reddish breast and white belly.



Bluebird chicks will peep, reach up and open their mouths when parents enter the nest box.

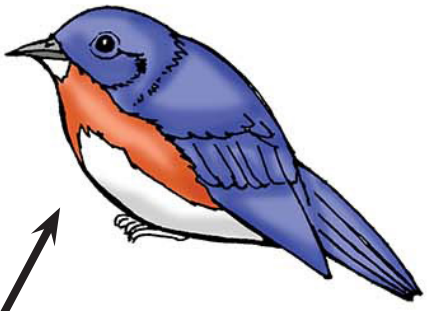
LS1.B: Growth and Development of Organisms: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Bluebird Survival Tricks - Life Cycle Matching KEY

Circle the behaviors (or traits) that would help the bluebird's offspring survive and connect them to the stage in the bluebird's life cycle. (Hint: Not all traits help their offspring directly.)

Bluebirds are found in open woodlands, fields, and farms.

Bluebirds may have two and sometimes three broods of chicks.



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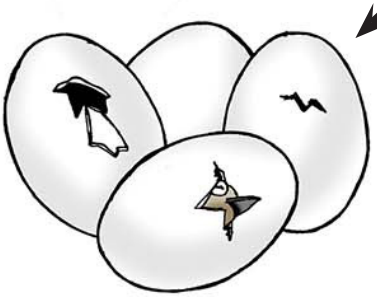

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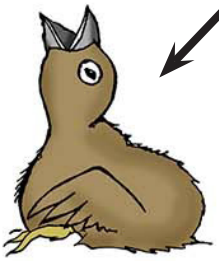

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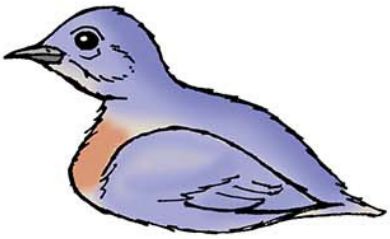

LS1.B: Growth and Development of Organisms: Adult animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Growth and Development of Organisms - Plants Read Aloud

Looking at life cycles can teach us the ways parents behave to help their young survive. Though plants can not take care of their young the way animals do, they have developed traits that will help their offspring survive.

When a flowering plant reaches its adult size, it begin to grow **flowers.** The flowers need to be **pollinated** before they can develop seeds. Some plants depend on **animals** to help pollinate their flowers, because they can't move on their own. They need help bringing pollen to their flowers. Some flowers are pollinated by **birds**. Hummingbirds use their long bill to reach deep inside long, tubular flowers to collect nectar. While inside, their feathers pick up pollen. When they fly onto the next flower, the pollen on their feathers touches the inside of that flower – pollinating it. Most flowers, though, are pollinated by **insects** – bees, butterflies, moths and flies. Insects and birds are attracted to flowers by their bright colors and sweet smell. As with the hummingbird, insects pick up pollen while they are inside a flower and bring it on to the next flower they visit – pollinating it. There are even some night blooming flowers that are pollinated by **bats**!

Once a flower is pollinated, it grows the plant's **seeds**. Now the plant has to find a way to spread its seeds out into the world. Some seeds have hooks or barbs that **attach to the fur of passing animals**. Later the animal may bite or scratch off the itchy burr, spreading the seeds inside. Other **seeds form inside a fruit**, such as apples, pears, blueberries and raspberries. This attracts animals to eat them. The seeds are then spit out or go through the animal's digestive tract to be "deposited" at the other end, where they can start to grow. Animals, such as squirrels and chipmunks, **collect seeds and bury them** to store them. For an acorn, this is not only spreading the seeds, but planting them in the ground as well.

Some seeds have developed traits to use the **wind** to get their seeds out in the world. A dandelion's seeds have fluffy parachutes. Maple seeds have spinning wings. Both these traits help the seeds fly away to take root in their own sunny place.

Growth and Development of Organisms - Plants - Cut & Paste Quiz

Have students cut and paste (or copy) the right words into boxes to complete these facts.

1. When a flowering plant reaches its adult size, it begin to grow

_____

2. The flowers need to be _____ before they develop seeds.

3. Some plants depend on _____ to help pollinate their flowers, because they can't move on their own.

4. Most flowers are pollinated by _____

5. There are some night blooming flowers pollinated by _____

6. Once a flower is pollinated, it grows the plant's _____

7. Some form inside a _____ such as apples and pears.

8. Some seeds have developed traits to use the _____ to help the seeds fly away to take root in their own sunny place.

Cut and paste the right words to complete the facts shown above.

animals	insects.
bats.	pollinated
flowers.	seeds.
fruit,	wind

Growth and Development of Organisms - Cut & Paste Quiz KEY

Have students cut and paste (or copy) the right words into boxes to complete these facts.

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animals	insects.
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Plants Have Offspring - Find Them

Circle the offspring of each of these garden plants.

LS1.B Growth and Development of Organisms:
Adult plants and animals can have young.

Plants Have Offspring - Find Them KEY

Circle the offspring of each of these garden plants.

LS1.B Growth and Development of Organisms:
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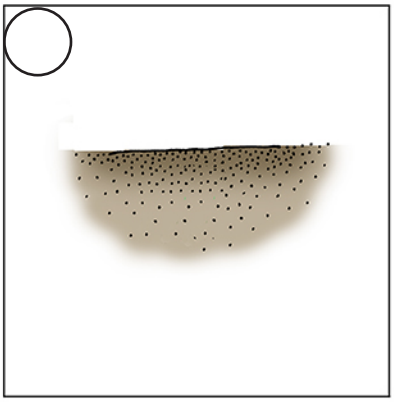
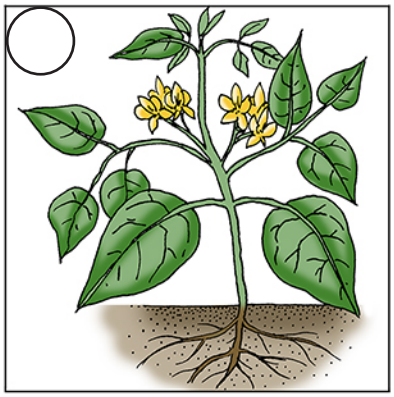
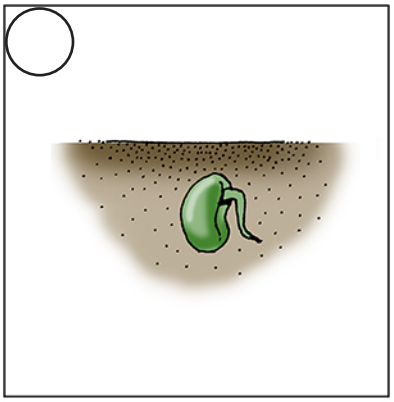
Plant Life Cycle - Sorting Activity

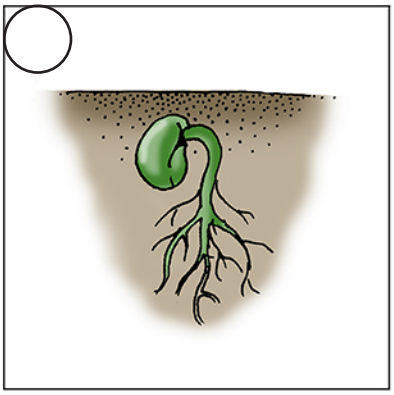
LS1.B: Growth and Development of Organisms - Adult plants and animals can have young.

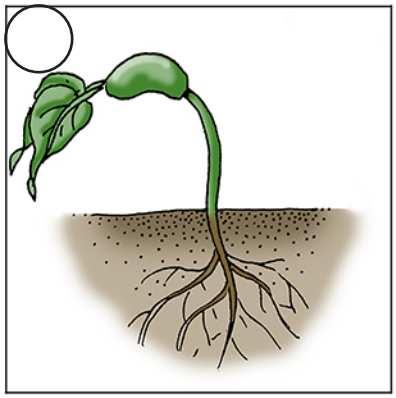
Number the stages of a plant's life cycle OR cut them out and glue in order in the *Plant Life Cycle Diagram*.

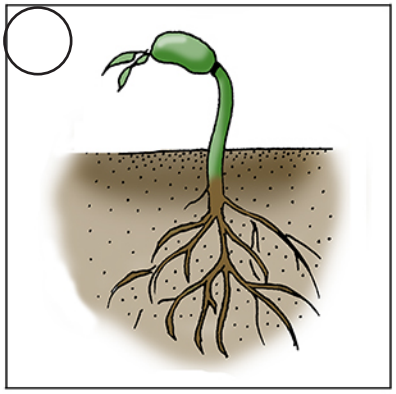


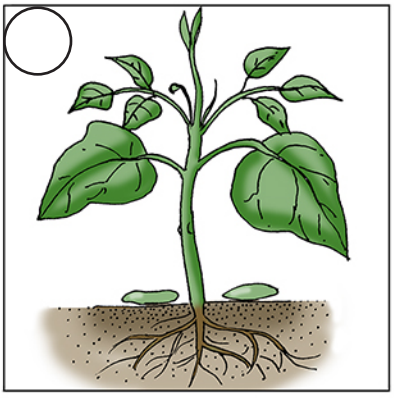


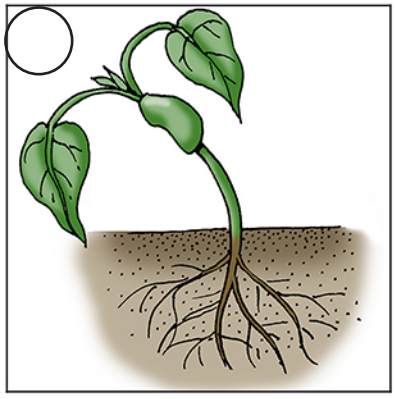


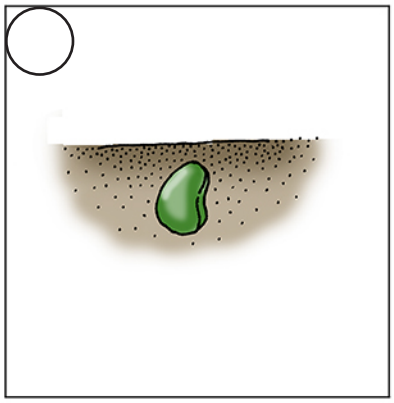


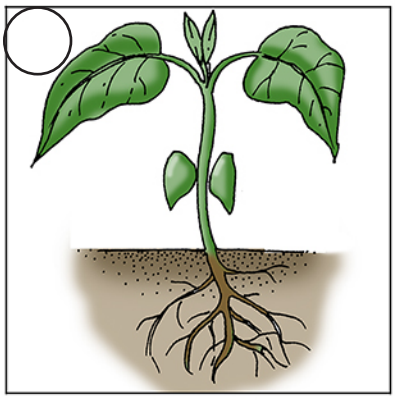


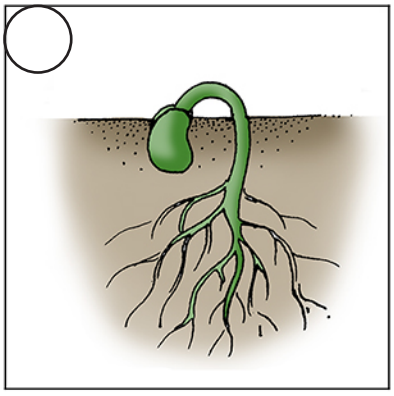


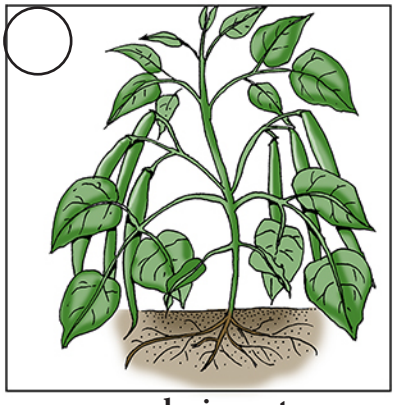










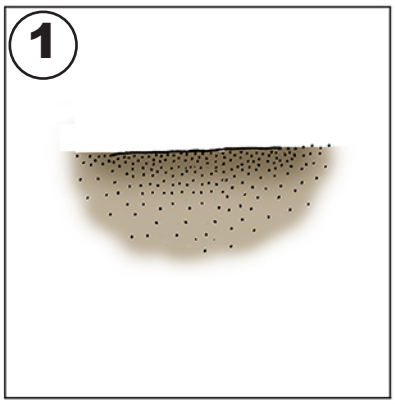


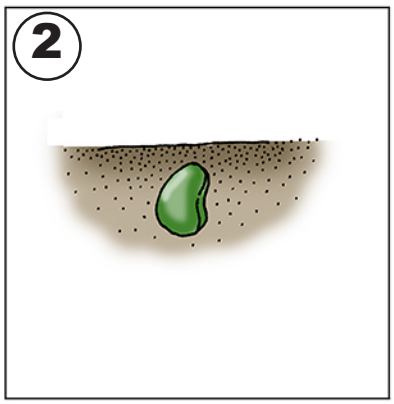
Plant Life Cycle Diagram

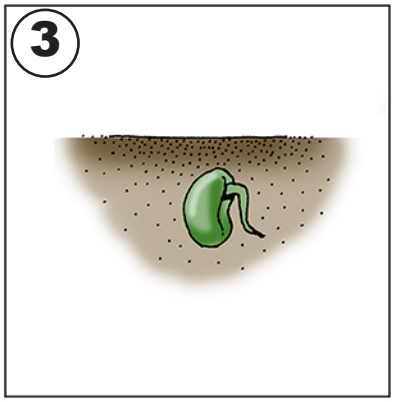
LS1.B: Growth and Development of Organisms - Adult plants and animals can have young.

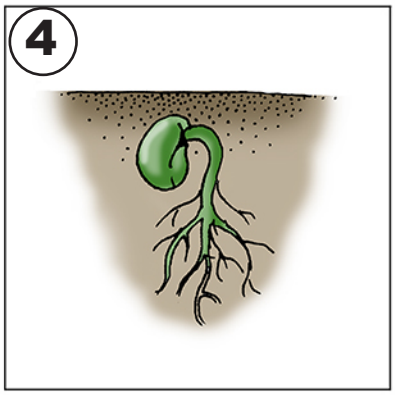
Plant Life Cycle - Sorting Activity KEY

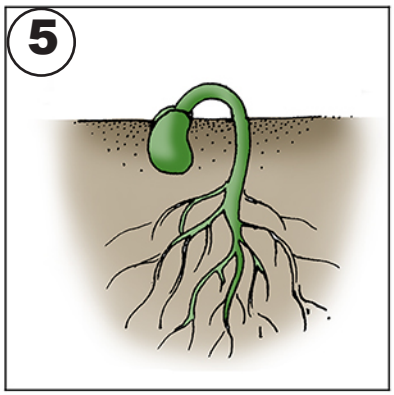
LS1.B: Growth and Development of Organisms - Adult plants and animals can have young.

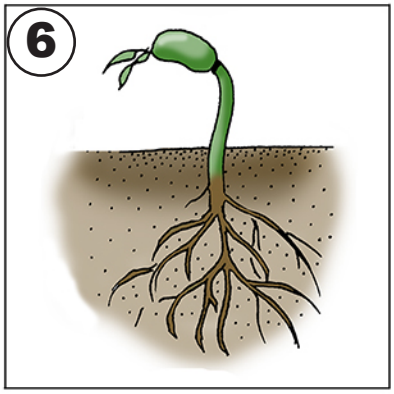


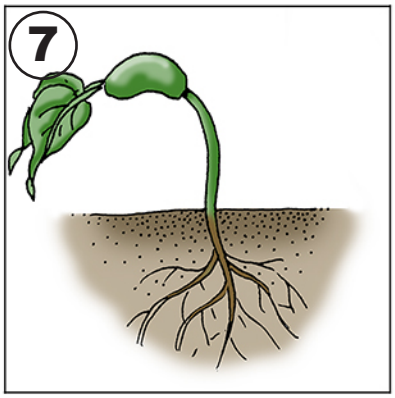


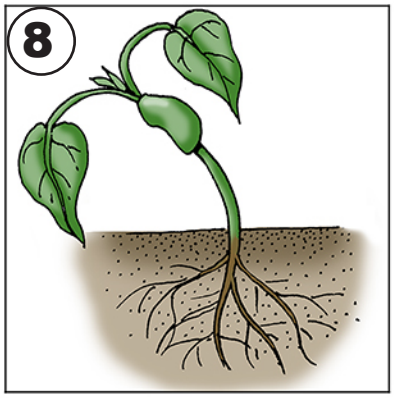


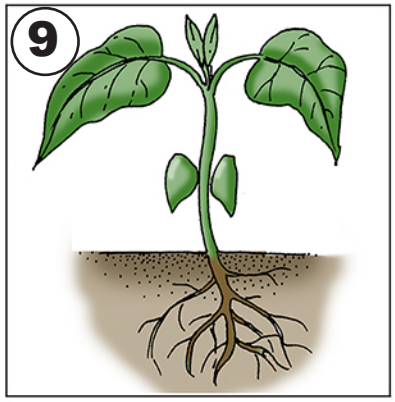


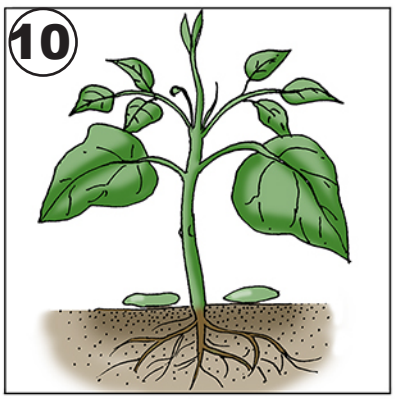


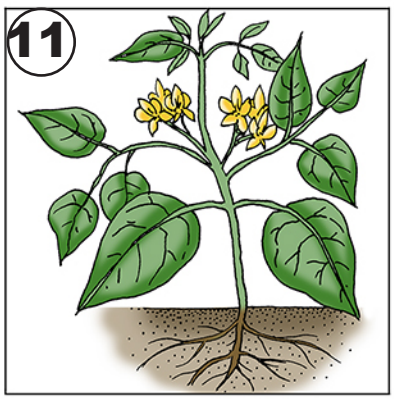


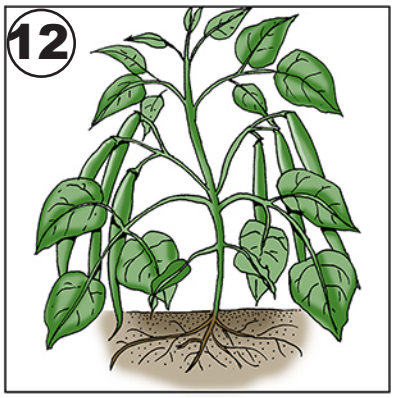












Plants Have Offspring - Matching

Match the plant to their offspring.

LS1.B Growth and Development of Organisms:
Adult plants and animals can have young.

Plants Have Offspring - Matching KEY

Match the plant to their offspring.

LS1.B Growth and Development of Organisms:
Adult plants and animals can have young.

Plants Survival Tricks

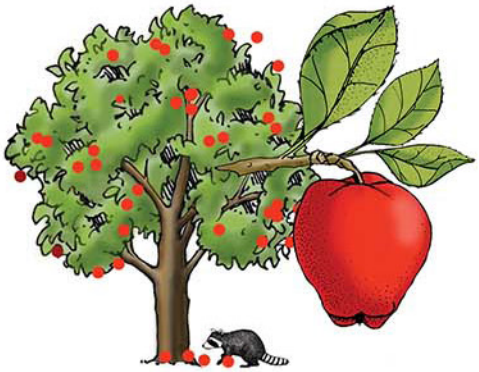
LS1.B: Growth and Development of Organisms: Adult plants and animals can have young.

Flowering plants (including deciduous trees) grow flowers to attract pollinators.

Flowers have a sweet scent and nectar to attract insects birds and even bats to spread their pollen.

Once the flowers are pollinated, they grow the plant's seeds.

Now the plant has to find a way to spread its seeds out into the world. Some seeds have hooks or barbs that attach to the fur of passing animals. Later the animal may bite or scratch off the itchy burr, spreading the seeds inside.



Still other seeds form inside a fruit, such as apples, pears, blueberries and raspberries. This attracts animals to eat them. The seeds are then spit out or go through the animal's digestive tract to be "deposited" at the other end, where they can start to grow.

Some animals, such as squirrels and chipmunks, collect seeds and bury them to store them, accidentally planting them.

Plants Survival Tricks - Life Cycle Matching

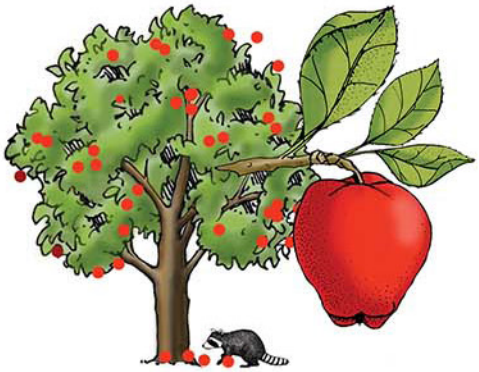
Circle the adaptations that would help a plant's offspring survive and connect them to the stage in it's life cycle. (Hint: Not all traits help directly.)

Plants grow flowers to attract pollinators.

Flowers have a sweet scent and nectar to attract insects birds and even bats to spread their pollen.

Plants use sunlight, water and oxygen to make energy.

When flowers are pollinated, they grow the plant's seeds.



Plants bring up water through their roots.

Some seeds form inside a fruit so animals will eat and spread them.

Plants have stems that support them and move water and minerals up through the plant.

Plants Survival Tricks - Life Cycle Matching

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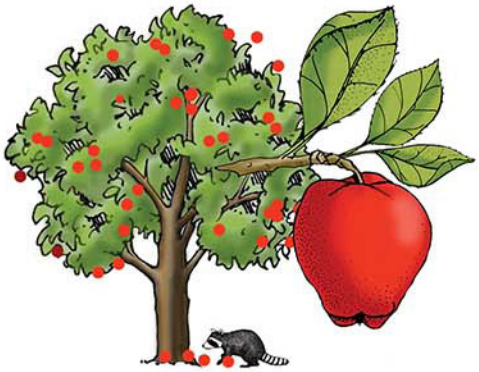


Plants bring up water through their roots.

Some seeds form inside a fruit so animals will eat and spread them.

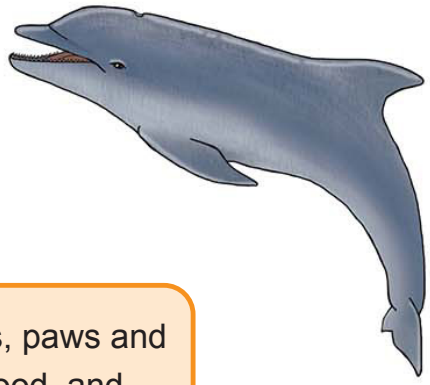
Plants have stems that support them and move water and minerals up through the plant.

Bundle for the Grade 1 NGSS:

Structure and Function

MAMMALS

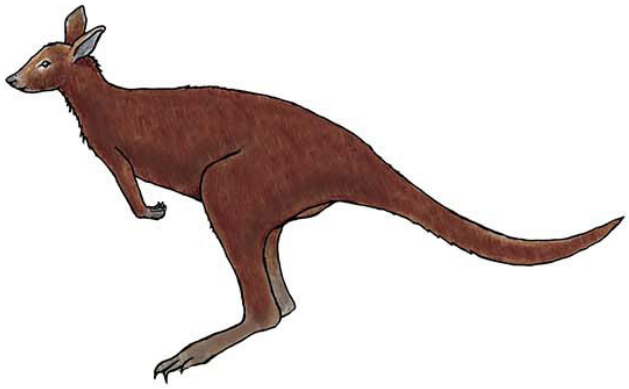
Mammals are covered with hair or fur (except for marine mammals), which helps to keep them warm (or cool). Fur color can help them hide from predators or sneak up on prey.



Mammals use their mouths, teeth, hands, paws and claws to grasp things, carry young, tear food, and defend themselves and their family members.

Mammals move from place to place by walking, running, swimming, jumping or flying (bats). They move to escape predators, chase prey, stay together in a herd and find food, shelter, and mates.

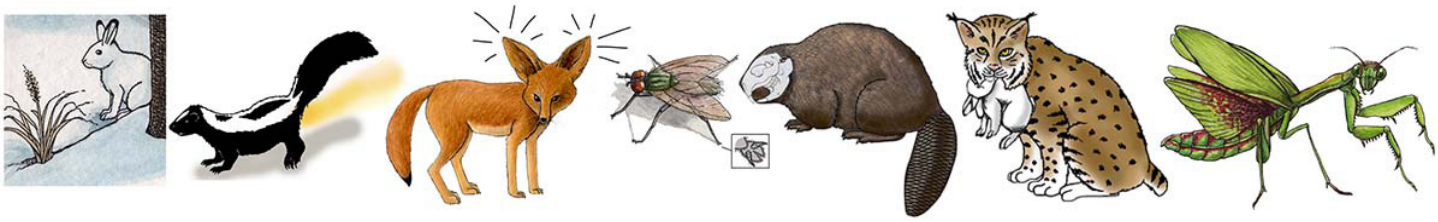
Mammals use hearing, vision and sense of smell (these vary greatly between species) to find food and mates, care for young and escape predators.



Female **mammals** have mammary glands, so can feed helpless newborns nutritious milk.

LS1.A: Structure and Function
Grade 1

From Molecules to Organisms: Structures and Processes



This bundle includes 22 age-appropriate resources about Structure and Function including: Reading, Color Diagrams, Activities, Performance Tasks and Assessment (37 pages total).

Resources included in this Next Generation Science Standards Bundle include:

- Structure and Function of Organisms - Primer for Educators
- Next Generation Science Standards covered in this Bundle.

1) Structure and Function of Organisms - Read Aloud (1 pages)
2) Structure and Function of Organisms - Class Discussion Talking Points (1 pages)
3) Animal Structure and Function - Poster Making Activity (color - 1 page)
4) Animal Structure and Function Poster - Reports (color - 1 page)
5) Match the Animal Body Parts and Answer Sheet (2 pages)
6) How Animals Move - Matching and Answer Sheet (2 pages)
7) Structure and Function - Reptiles Mini-Poster (color - 1 page)
8) Structure and Function - Mammals Mini-Poster (color - 1 page)
9) Mammals Structures and Functions - Matching and Answer Sheet (2 pages)
10) Reptiles Structures and Functions - Matching and Answer Sheet (2 pages)
11) Structure and Function - Amphibians Mini-Poster (color - 1 page)
12) Structure and Function - Birds Mini-Poster (color - 1 page)
13) Bird Beaks and Food - Matching and Answer Sheet (color - 2 pages)
14) Animal Structures and Functions - Matching and Answer Sheet (2 pages)
15) Structures and Functions in Dogs - Matching and Answer Sheet (2 pages)
16) Structure and Function - Insects Mini-Poster
17) Insect Structures and Functions Mini-Poster (color - 1 page)
18) Insect Structures and Functions - Search and Answer Sheet (color - 2 pages)
19) Insect Structures and Functions - Matching and Answer Sheet (color - 2 pages)
20) Parts of a Plants - Matching and Answer Sheet (color - 2 pages)
21) Parts of a Plants - 2-D Model Building and Completed Model Diagram (color - 2 pages)
22) Learning From Nature - Matching and Answer Sheet (color - 2 pages)

LS1.A: Structure and Function - Educator's Primer

The goal of this Bundle is to address the NGSS for first grade understanding of **Structure and Function of Organisms.** Through readings, activities, investigations, model building and visual aids, students will demonstrate their understanding of the following statements and be able to answer the essential questions surrounding this topic.*

Goals for Enduring Understanding:

1. Understand that all organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.
2. Understand that plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

Essential Questions:

1. Which body parts help animals see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air?
2. Which parts help plants survive and grow?

NEXT GENERATION SCIENCE STANDARDS

Disciplinary Core Ideas

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)

Science and Engineering Practices

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

• Use materials to design a device that solves a specific problem or a solution to a specific problem.

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

• Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)

Crosscutting Concepts

Patterns - Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)

Structure and Function - The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)

Performance Expectations: Students who demonstrate understanding can:

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.* *[Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]*

Rubric Building Resource:
*Observable features of student performance by the end of the grade:

LS1.A: Structure and Function

All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)

1. Using scientific knowledge to generate design solutions

a. Students describe the given human problem to be solved by the design.

b. With guidance, students use given scientific information about plants and/or animals to design the solution, including:

iii. How external structures are used to help the plant and/or animal grow and/or survive.

iv. How animals use external structures to capture and convey different kinds of information they need.

v. How plants and/or animals respond to information they receive from the environment.

c. Students design a device (using student-suggested materials) that provides a solution to the given human problem by mimicking how plants and/or animals use external structures to survive, grow, and/or meet their needs. This may include:

i. Mimicking the way a plant and/or animal uses an external structure to help it survive, grow, and/or meet its needs.

ii. Mimicking the way an external structure of an animal captures and conveys information.

iii. Mimicking the way an animal and/or plant responds to information from the environment.

2. Describing specific features of the design solution, including quantification when appropriate

a. Students describe the specific expected or required features in their designs and devices, including:

i. The device provides a solution to the given human problem.

ii. The device mimic plant and/or animal external parts,and/or animal information-processing

iii. The device use the provided materials to develop solutions.

3. Evaluating potential solutions

a. Students describe how the design solution is expected to solve the human problem.

b. Students determine and describe whether their device meets the specific required features.

*provided by the NGSS website

Structure and Function of Organisms
Read Aloud

An organism's body parts (structures) depends on where it lives – its **habitat**. A kangaroo has long back feet and muscular legs to **leap** across the brushy outback. A cheetah's long, slender legs help it race across the open savanna after prey. A mountain goat's nimble legs and hooves can **run**, but also climb a sheer cliff. Snakes have no legs at all, but they can **slither**, swim and climb through most warm habitats. Birds all over the world use wings for **flight,** yet, in Antarctica, penguins have flippers and **swim** instead. Most water animals, from whales to seahorses, use fins or flippers to move, but some sea creatures move with suction cups or water jets. Plants don't move on their own, but make seeds with clinging hooks or floating parachutes to spread their seeds on animals or by the wind.

Animals grasp objects with the structures they have available. A hawk will grab a hare with its **talons** and use its beak to shred it for eating. A raccoon uses its paws to catch fish and sharp **teeth** to chew it up. Sharks can't grasp prey, so they take giant bites and swallow them whole. An anaconda wraps its muscular body around its prey and **squeezes** until it stops moving. Then it swallows it whole. A chipmunk collects seeds in its mouth pouch and carries them back to a safe place to feed. Animals use these same body parts to defend themselves, build nests and dig dens.

Plants make their own food using **sunlight**. They pull water from the soil through their roots and take carbon dioxide from the air through tiny leaf openings called **stomata**.

Animals sense the world around them and react in a way that keeps them alive and safe. Animals move and seek food, water and shelter using their vision, hearing, smell and even touch. (*Read more about this in LS1.D: Information Processing.*)

Humans make useful products from animal and plant structures. We use sheep wool for sweaters and goose down for coats. We make leather from animal hide to protect our feet and skin. We also **mimic** useful structures and adapt them for human use. From bike helmets and kevlar vests to velcro and parachutes, we've learned from the structures and functions in nature to make our lives easier and safer.

Structure and Function of Organisms
Class Discussion Talking Points

After reading the ***Structure and Functions of Organisms*** essay to your class ask the following questions and let your students answer. Then gently correct their answers and discuss other questions that might come up.

1. Why does it help a kangaroo to have long jumping legs when it lives on the outback with is a huge open plain? Would a kangaroo have trouble traveling through a forest or a swamp?

The kangaroo could not leap in a forest or swamp. Plus it needs to travel far in its dry habitat to find enough food and must be able to go fast to escape wild dogs (dingos).

2. Compare a cheetah that can run fast and lives on open grasslands of Africa to a tiger that is a leaper and lives in the rainforests of Asia. How would a predators that runs do in the rainforest? How would a predators that jumps from trees do on a grassland?

The cheetah is made to run fast in open country and would not do well in a thick rainforest. A tiger hunts by leaping down on prey from trees, of which there are few on a grassland.

3. Penguins cannot fly, but there are no land predators in Antarctica from which they have to escape. How are penguins able to escape the leopard seals in their ocean habitat? Why are there no penguins in the arctic where there are polar bears and arctic wolves?

Penguins escape leopard seals be being fast and agile swimmers. They would not survive in a habitat with land predators like the polar bear or Arctic wolf.

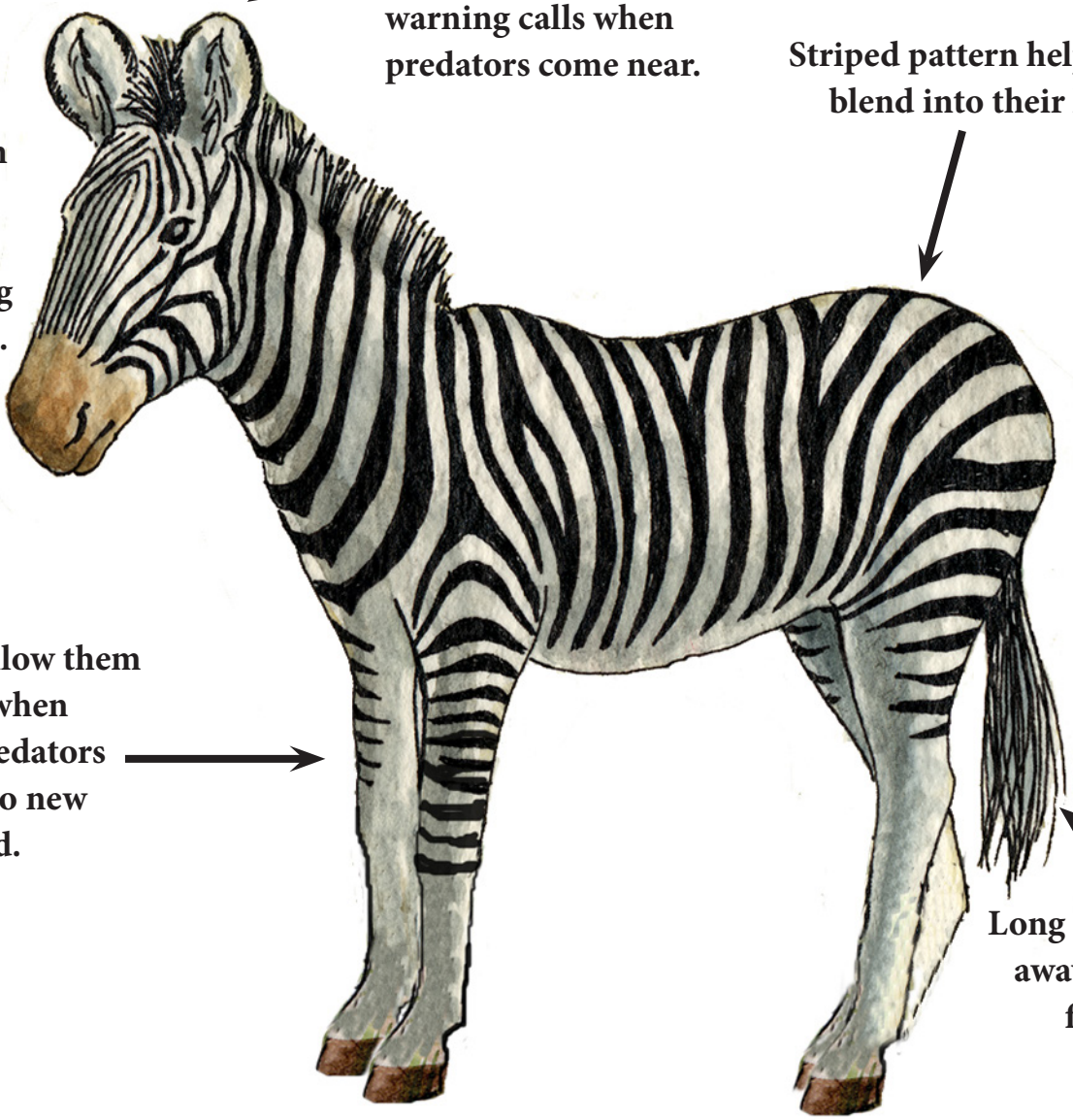
4. Compare a eagle to a raccoon. Both eat fish from a lake, but an eagle has long, sharp talons and hunts from above water. A raccoon fishes from shore. Why does an eagle need such long, sharp talons to hunt the way it does? What does a raccoon have that an eagle doesn't have?

The eagle has no arms to grab prey so its talons acts as hand for fishing, the long claws grasping their slippery prey. A raccoon cannot fly, but it has sharp teeth to chew a fish.

5. Can you think of other interesting traits that help other animals survive that you might like to share? (e.g. skunk spray, octopus camouflage, rattlesnake venom).

Animal Structure and Function Poster Making

Students should choose an animal and do research online about what they look like, where they live and what kinds of traits and habits they have, e.g. zebras live on the African grassland in great herds, eat grass and run away from predators. Then they should draw their body on an 11 x17" sheet of paper (2 regular sheets taped together will work) and label their body parts showing about how each helps that animal survive it its habitat. Here is an example:



Animal Structure and Function - Reports

Students should choose an animal and do research online about what they look like, where they live and what kinds of traits and habits they have, e.g. porcupines have special incisors that allow them to eat trees. The also have quills - a remarkable defense. Students can add a small drawing of their animal showing its interesting structures. Here is an example:

Porcupines are **rodents** and eat leaves, twigs, buds and bark. They have long, sharp, front teeth, called **incisors**, that they use for **gnawing** on these woody plants that make up their **diet**. Their incisors never wear away, as they grow throughout their lives.

Porcupines have poor **vision**. They depend on their sense of **smell** to find food, often stopping to rise up on their back legs to sniff the air.

Porcupines have sharp **claws**. They use them to can climb trees to escape **predators** and feed bark and twigs high off the ground. Porcupines have good hearing, but they have a slow, lumbering **walk**, so cannot out run predators. Yet few predators attack and feed on porcupines because of their 30,000 sharp **quills**.

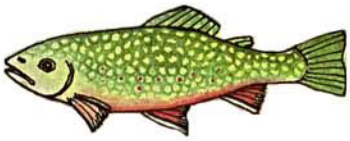
A porcupine's quills sit in a sheath so they release easily when a predator touches them. Each quill also has a pointed end with tiny **barbs**, like fishhooks. Those hooks snag an animal's skin and don't pull out very easily. A porcupine, when approached by a predator, turns its back and **raises** its quills to bring them closer to the predators face. Many family dogs have fallen for this trick and gotten a face full of painful quills.

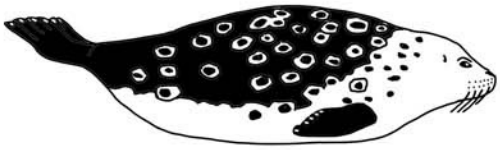
Though porcupines are well adapted for life in the woods, they are often killed by cars as they cross roads, because of their slow, lumbering gate.

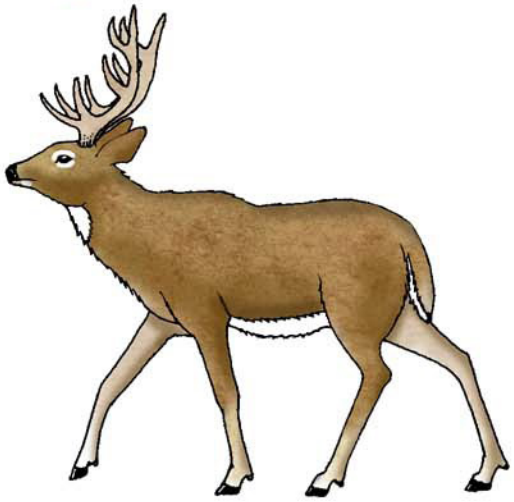
Match the Animal Body Parts

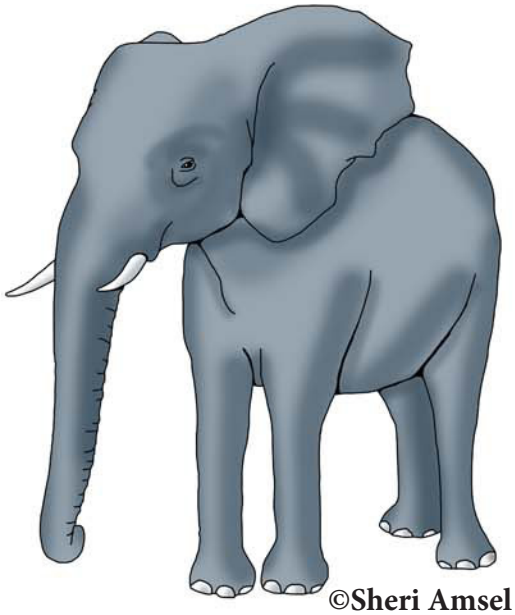
LS1.A: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Match the animal body parts to their location on the animals.





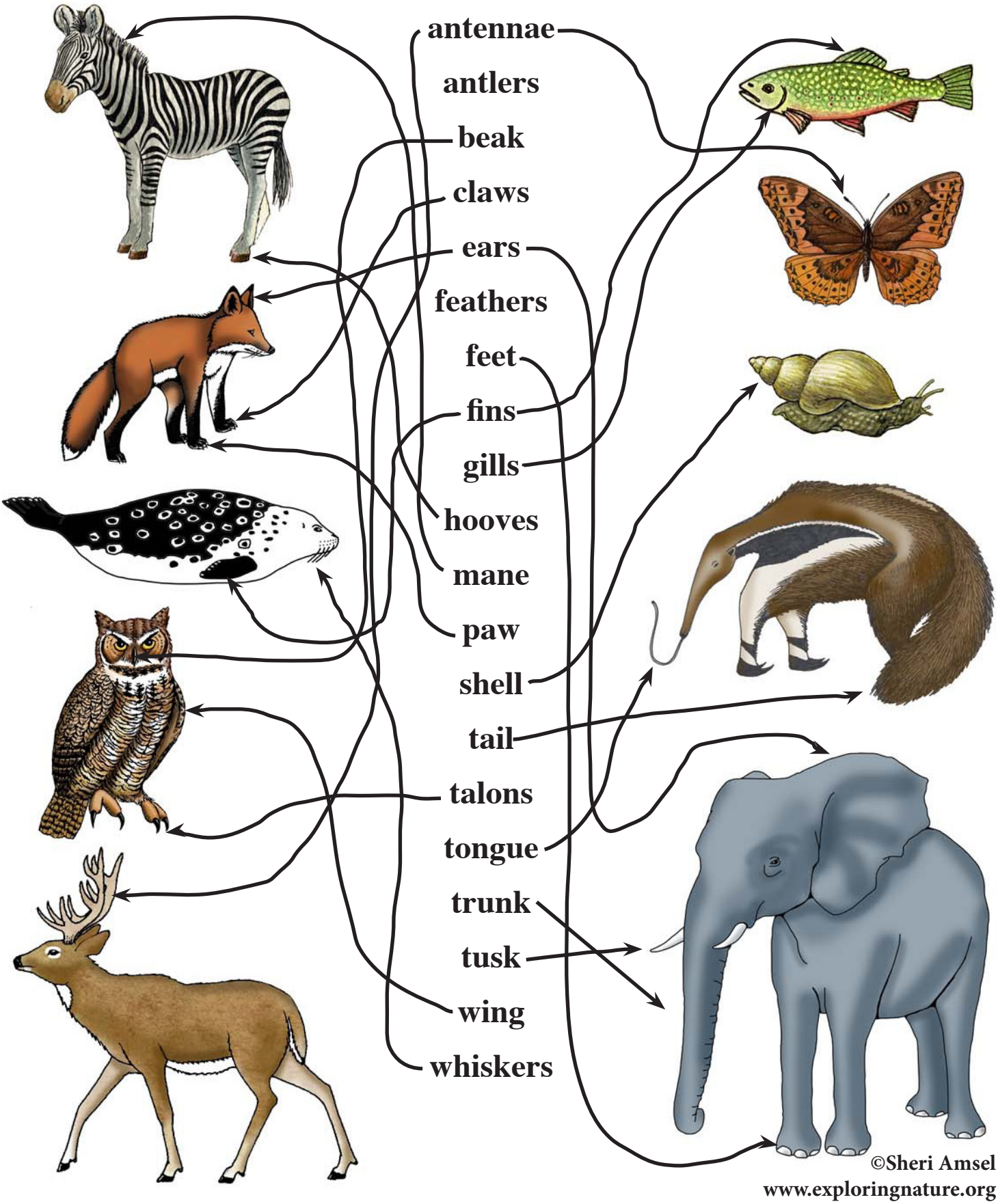




antennae
antlers
beak
claws
ears
feathers
fins
gills
hooves
mane
paw
shell
tail
talons
tongue
trunk
tusk
wing
whiskers

Match the Animal Body Parts KEY

Match the animal body parts to their location on the animals.

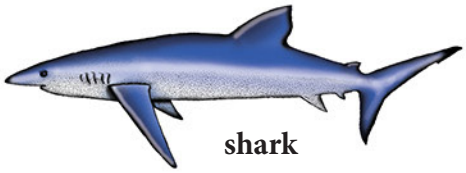


How Animals Move - Matching

LS1.A: Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Match the animals to how they move from place to place.


cheetah


shark


bat


zebra


frog

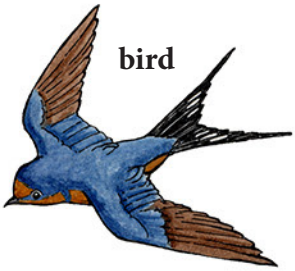
jump

fly

slither

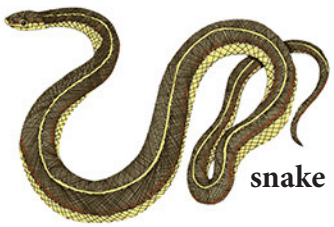
run

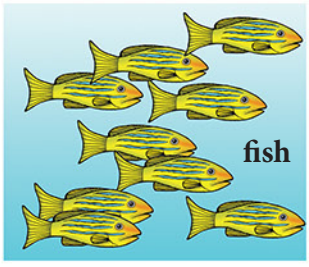
swim


bird


kangaroo


bee


snake

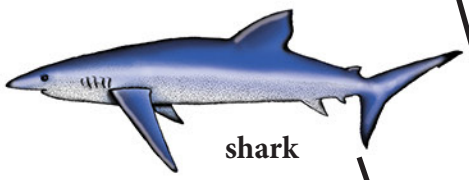

fish

How Animals Move - Matching KEY

LS1.A: Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

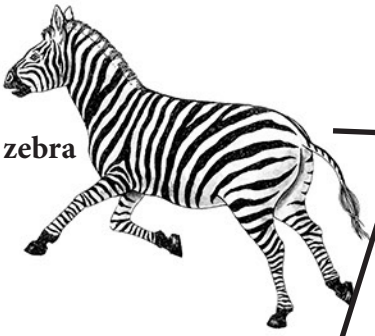
Match the animals to how they move from place to place.

cheetah



shark

bat



zebra

frog

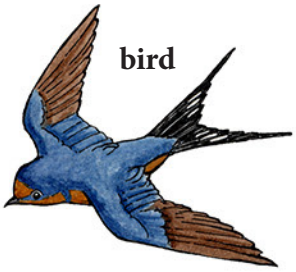
jump

fly

slither

run

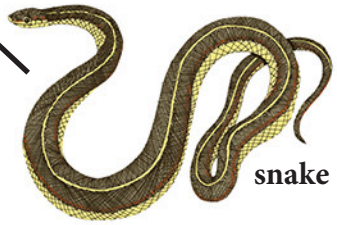
swim



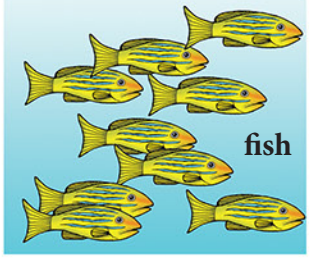
bird

kangaroo

bee



snake

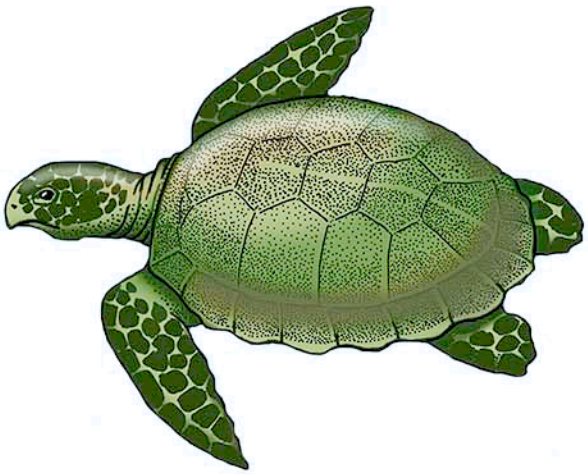


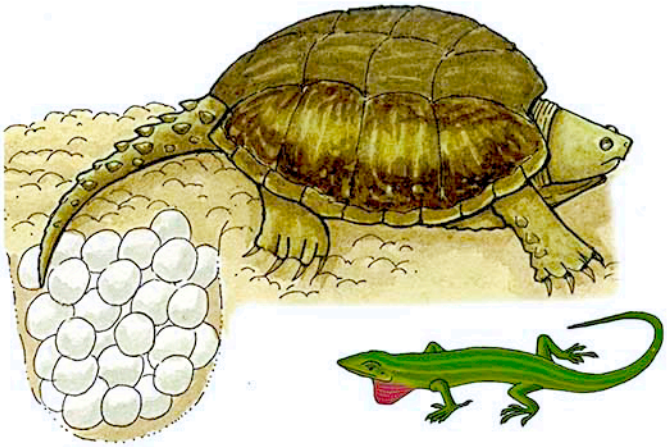
fish

Animal Structure and Function - REPTILES

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

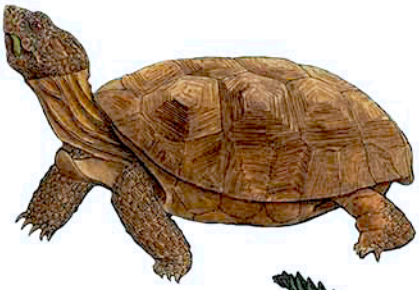
Reptiles are covered with protective shells (turtles and tortoises) and/or tough scales (snakes and lizards). Most have claws and some have fangs. Their colors blend in with their habitat, so protects them from predators.



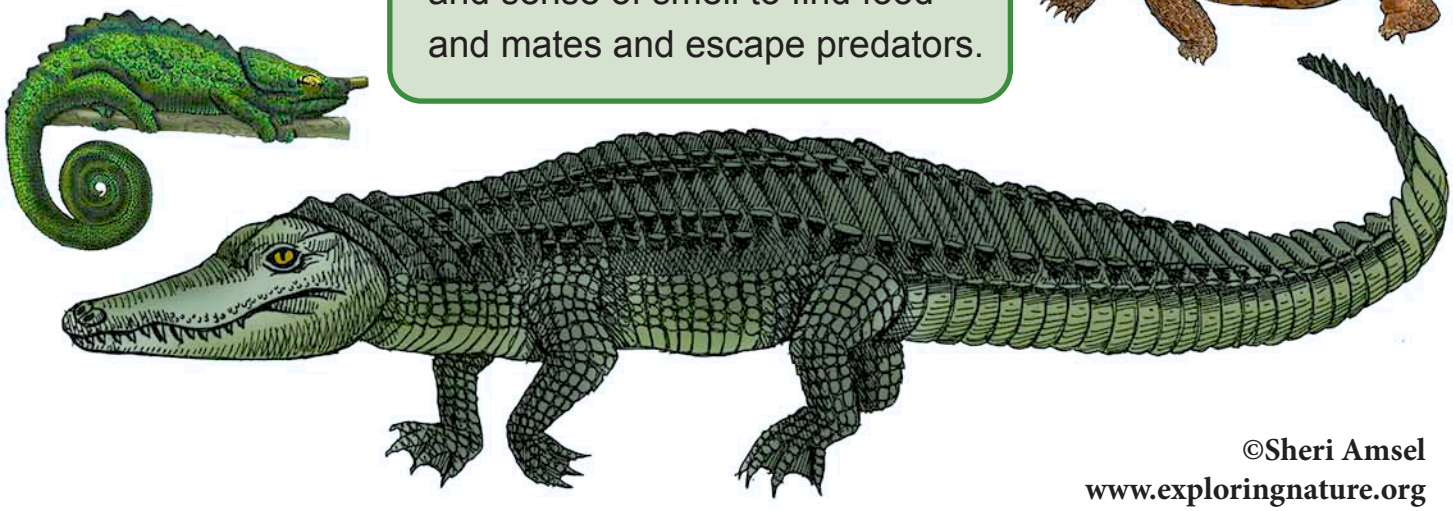


Reptiles move from place to place by walking, swimming or slithering. They move to escape predators, chase prey, or dig in the ground to lay and bury eggs.

Reptiles use their mouths to grasp things, tear food, and defend themselves. In some rare cases (e.g. alligators), they will defend young.



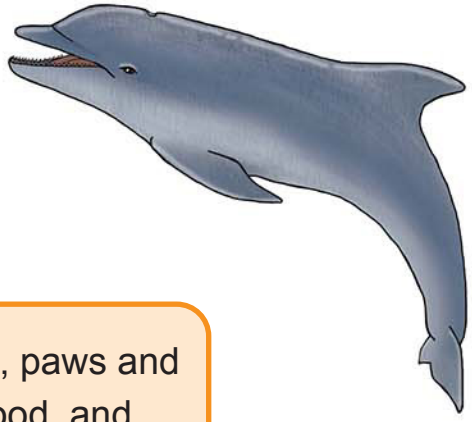
Reptiles use their hearing, vision and sense of smell to find food and mates and escape predators.



Animal Structure and Function - MAMMALS

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

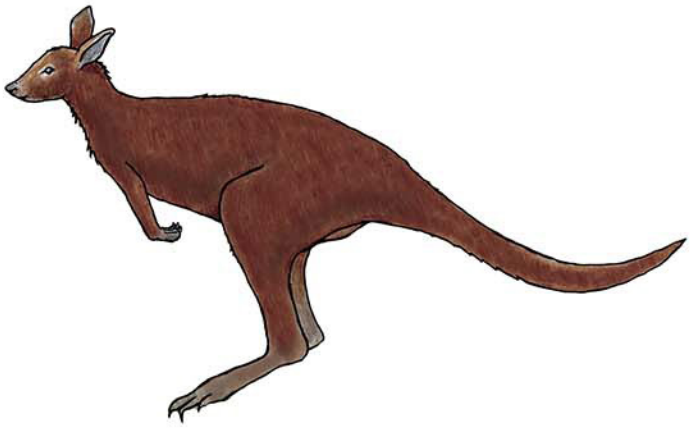
Mammals are covered with hair or fur (except for marine mammals), which helps to keep them warm (or cool). Fur color can help them hide from predators or sneak up on prey.



Mammals use their mouths, teeth, hands, paws and claws to grasp things, carry young, tear food, and defend themselves and their family members.

Mammals move from place to place by walking, running, swimming, jumping or flying (bats). They move to escape predators, chase prey, stay together in a herd and find food, shelter, and mates.

Mammals use hearing, vision and sense of smell (these vary greatly between species) to find food and mates, care for young and escape predators.



Female **mammals** have mammary glands, so can feed helpless newborns nutritious milk.

Mammal Structures and Functions - Matching

Circle the structures that help the raccoon survive on both its body and the list on the right.

Grasp Objects:

Claws/Talons

Paws

Mouth

Beak

Protect Themselves:

Claws/Talons

Teeth

Beak

Shell

Fins (swim away)

Wings (fly away)

Move From Place to Places:

Wings

Paws/Feet

Fins

Find Food:

Eyes

Nose

Stay Warm:

Fur

Feathers

Body Fat

LS1.A: Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Mammal Structures and Functions - Matching KEY

Circle the structures that help the raccoon survive on both its body and the list on the right.

Grasp Objects:

Claws/Talons

Paws

Mouth

Beak

Protect Themselves:

Claws/Talons

Teeth

Beak

Shell

Fins (swim away)

Wings (fly away)

Move From Place to Places:

Wings

Paws/Feet

Fins

Find Food:

Eyes

Nose

Stay Warm:

Fur

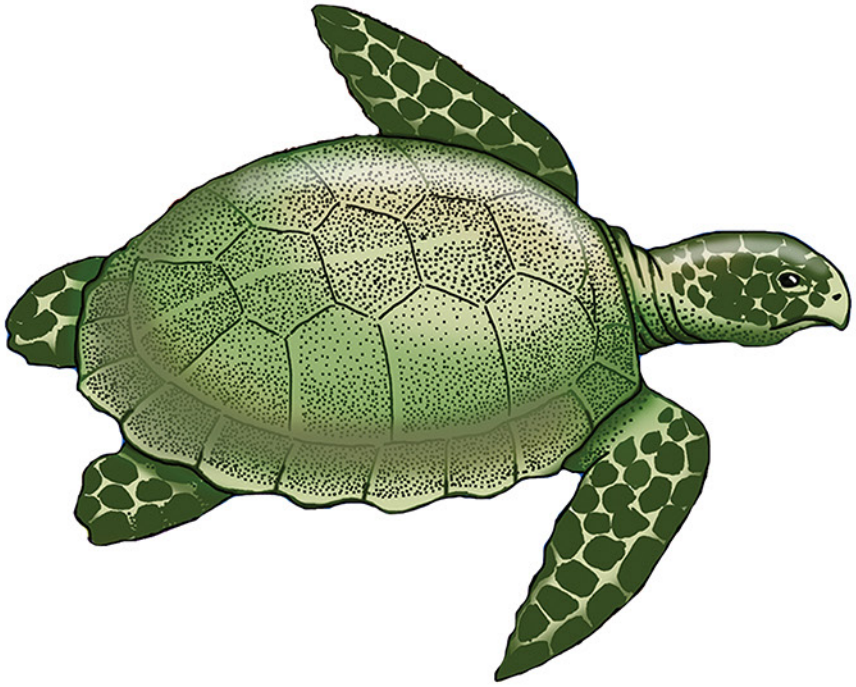
Feathers

Body Fat

LS1.A: Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Reptile Structures and Functions - Matching

Circle the structures that help the sea turtle survive on both its body and the list on the right.



Grasp Objects:

Claws/Talons

Paws

Mouth

Beak

Protect Themselves:

Claws/Talons

Teeth

Beak

Shell

Fins (swim away)

Wings (fly away)

Move From Place to Places:

Wings

Paws/Feet

Fins

Find Food:

Eyes

Nose

Stay Warm:

Fur

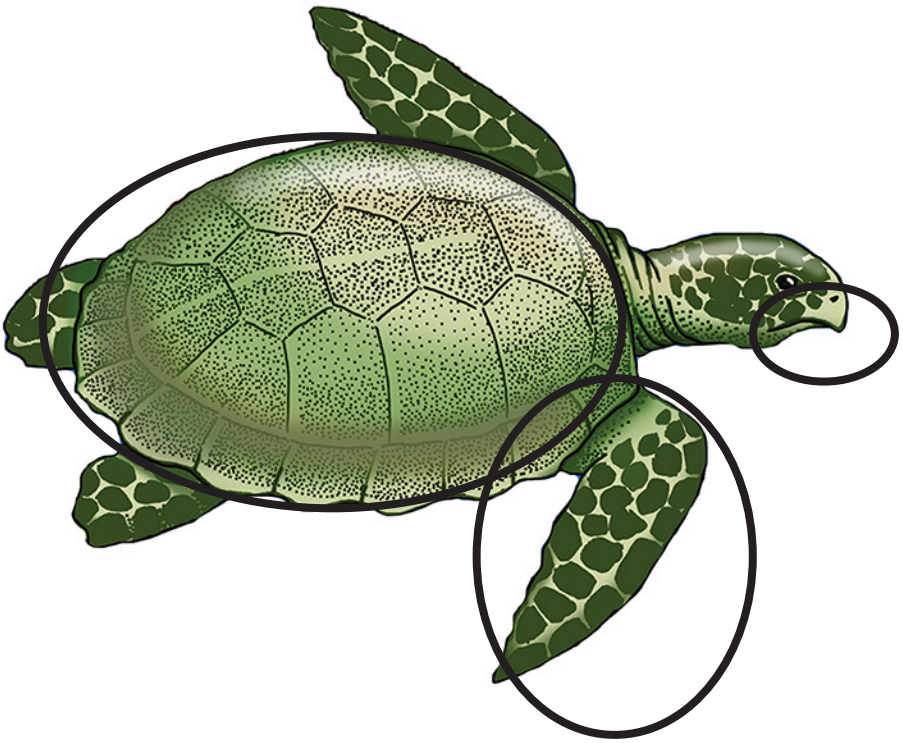
Feathers

Body Fat

LS1.A: Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Reptile Structures and Functions - Matching KEY

Circle the structures that help the sea turtle survive on both its body and the list on the right.



Grasp Objects:

Claws/Talons

Paws

Mouth

Beak

Protect Themselves:

Claws/Talons

Teeth

Beak

Shell

Fins (swim away)

Wings (fly away)

Move From Place to Places:

Wings

Paws/Feet

Fins

Find Food:

Eyes

Nose

Stay Warm:

Fur

Feathers

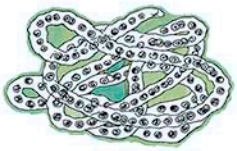
Body Fat

LS1.A: Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

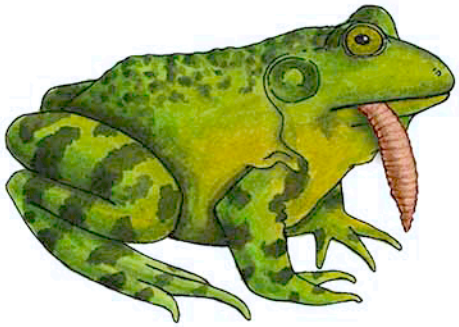
Animal Structure and Function - AMPHIBIANS

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

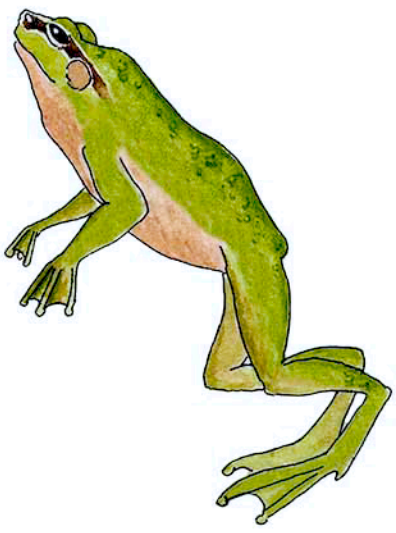
Amphibians have soft skin that needs to be in a moist environment. Some have toxins in their skin that make them inedible. Their colors blend in with their habitat, so protects them from predators. Amphibians hatch from eggs in the water. At first the breathe through gills and over time they change into their adult form.



Amphibians move from place to place by walking, hopping or swimming. They move to escape predators, find food, shelter, and return to the water to find mates and lay eggs (females).



Amphibians use their mouths to grasp and snap up food.



Amphibians use their hearing, vision and sense of smell to find food and mates and escape predators.

Animal Structure and Function - BIRDS

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Birds are covered with feathers which helps to keep them warm (or cool) and warm eggs and hatchlings. Feathers also helps with flight (in birds that fly). Feather also have colors that help males birds attract a mate and female birds blend in when nesting.

Birds move from place to place by flying, running or swimming. They move to escape predators, chase prey, stay together in a flock and find food, shelter, and mates.

Birds use their beaks and talons to grasp things, tear food, and defend themselves and their young.

Birds use their hearing, vision and sense of smell to find food and mates, care for young and escape predators.

Bird Beaks and Food - Matching

LS1.A: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Match each bird's beak to the food it was designed to eat.

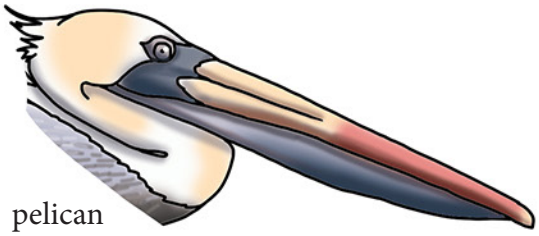
hawk

woodpecker

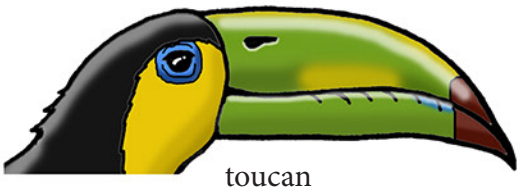
cardinal

hummingbird

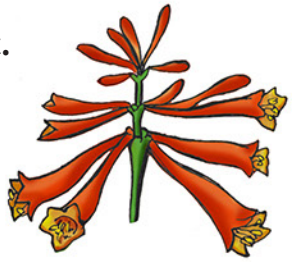
bluebird

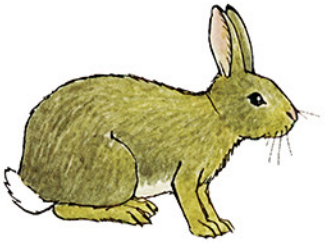


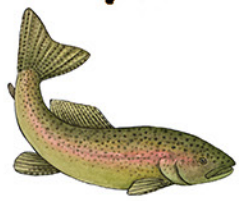
pelican

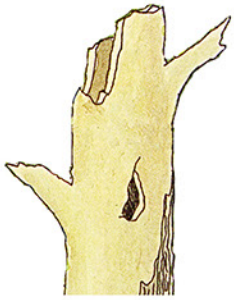


toucan









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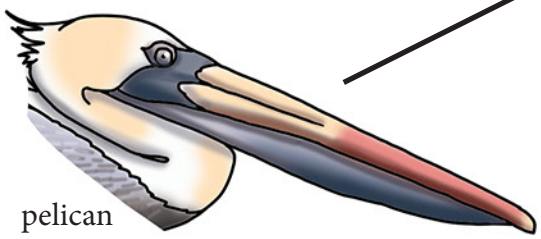
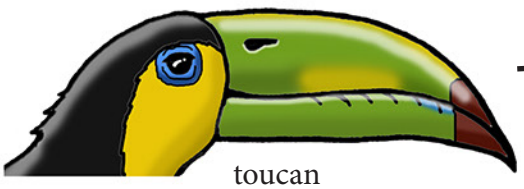


pelican



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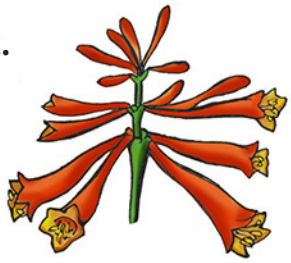
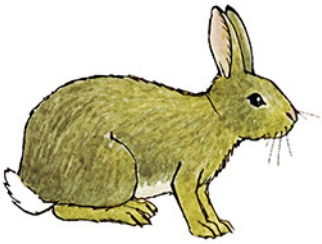
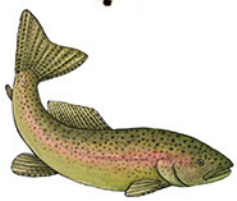
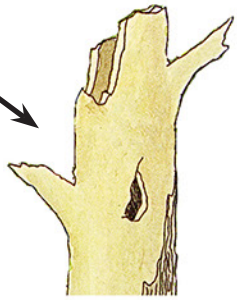








Animal Structures and Functions - Matching

LS1.A: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

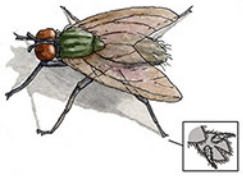
Match each animal's structures to how they function (may be more than one).

Snowshoe hare turns white to blend in and hide from predators. It has large back feet for jumping away quickly.

Skunks raise tail and sprays when startled.

Beaver has sharp front teeth for chewing wood and webbed feet for swimming.

Housefly has taste buds on feet for tasting food quickly when it lands.



Bobcat carries prey in its mouth. It has big furry feet for walking on snow.

Fox has large ears for hearing prey. Their tiny body allows them to scamper fast.

To Grasp Objects

To Protect Themselves

To Move From Place to Place

To Seek, Find and Take in Food

Animal Structures and Functions - Matching KEY

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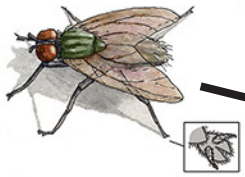

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- To Grasp Objects
- To Protect Themselves
- To Move From Place to Place
- To Seek, Find and Take in Food

Structures and Functions in Dogs
Matching Activity

Draw a line from a dog's external parts (structures) to the functions that keep it alive to complete your Structure and Function Model.

Seek, Find and Take in Food and Water.

See

Hear

Take in air.

Grasp Objects.

Protect Themselves.

Move from Place to Place.

LS1.A: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

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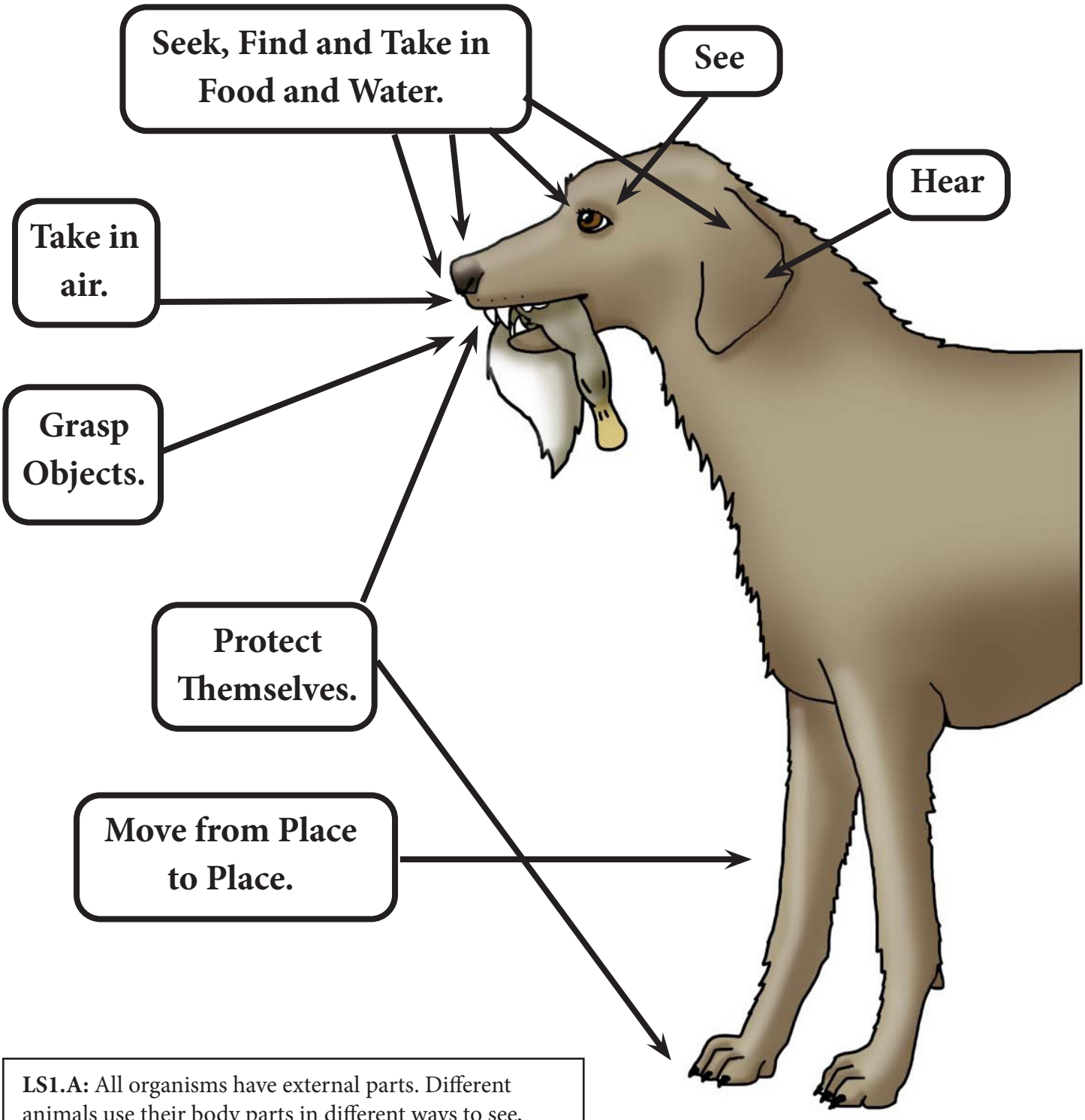

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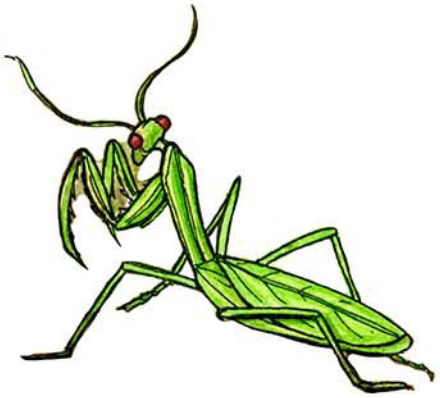
Animal Structure and Function - INSECTS

LS1.A: Structure and Function - All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Insects have a wide variety of traits. Generally, they have 3 body parts (head, thorax and abdomen), 2 pairs of wings, and 2 antennae. They have a wide range of mouth parts including biting, sucking, lapping and chewing. Some have an exoskeleton that is shed as they grow. Some grow and then change in a cocoon to their adult form.



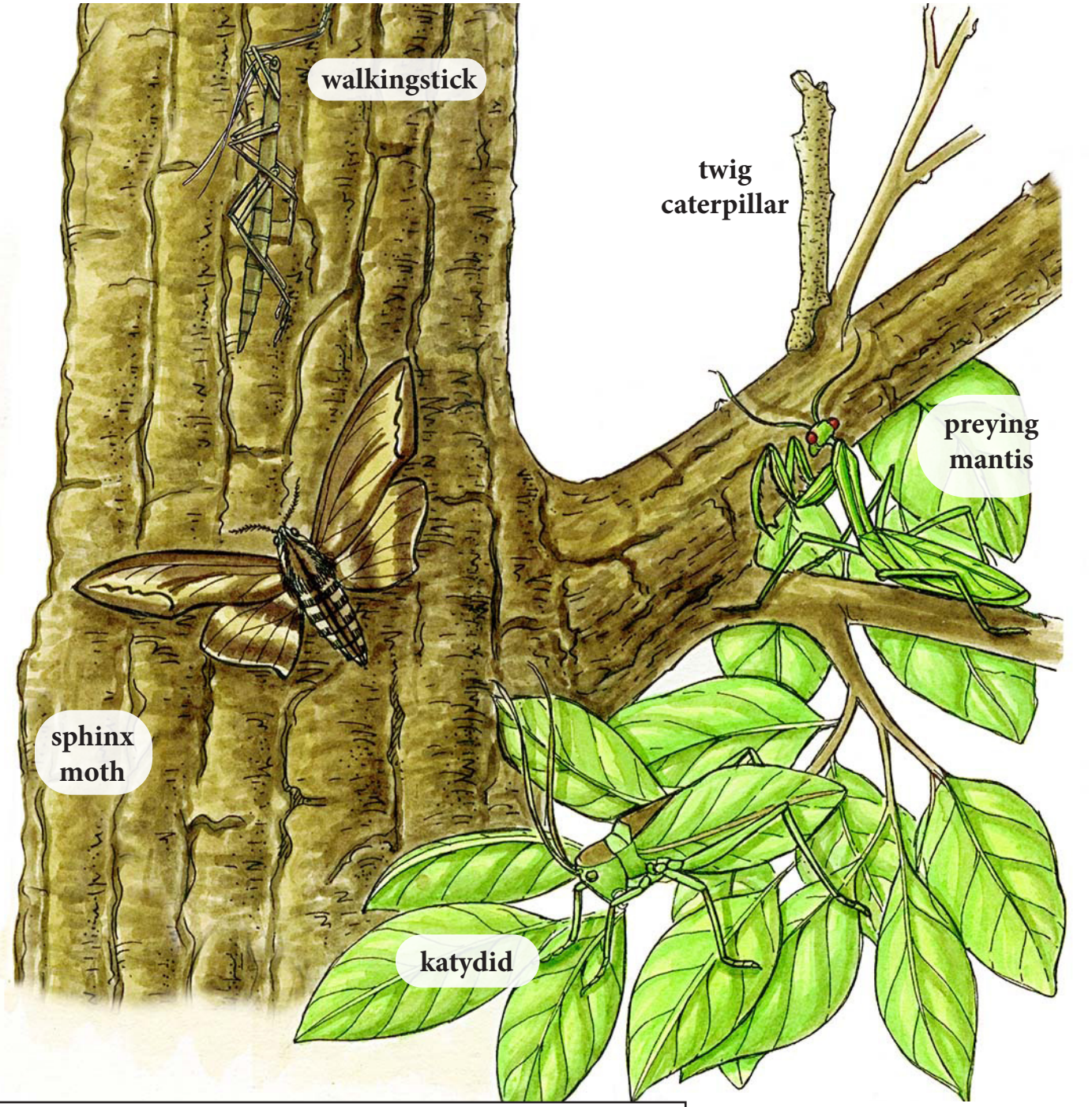
Insects move from place to place by walking, hopping, flying or swimming. They move to escape predators, find food, shelter, mates and lay eggs (females).

Insects grasp things in their mouths (ants), or with their legs (preying mantis). Bees collect pollen in "baskets" on their legs. Butterflies grasp flowers with their feet as they sip nectar.

Insects use their senses to find food, mates shelter and escape predators.

Insect Structures and Functions (K-2)

Look at the 5 insects on this tree. Each of them has body parts that help them hide from predators. They all blend in with **colors**. Some blend in with **shapes and patterns**. Look at how the kaydid's wings looks like leaves and the moth's wings looks like bark. Some blend in with **how they act (behavior).** Notice how the caterpillar stands up like a twig. These are ways animals use their body parts to protect themselves.



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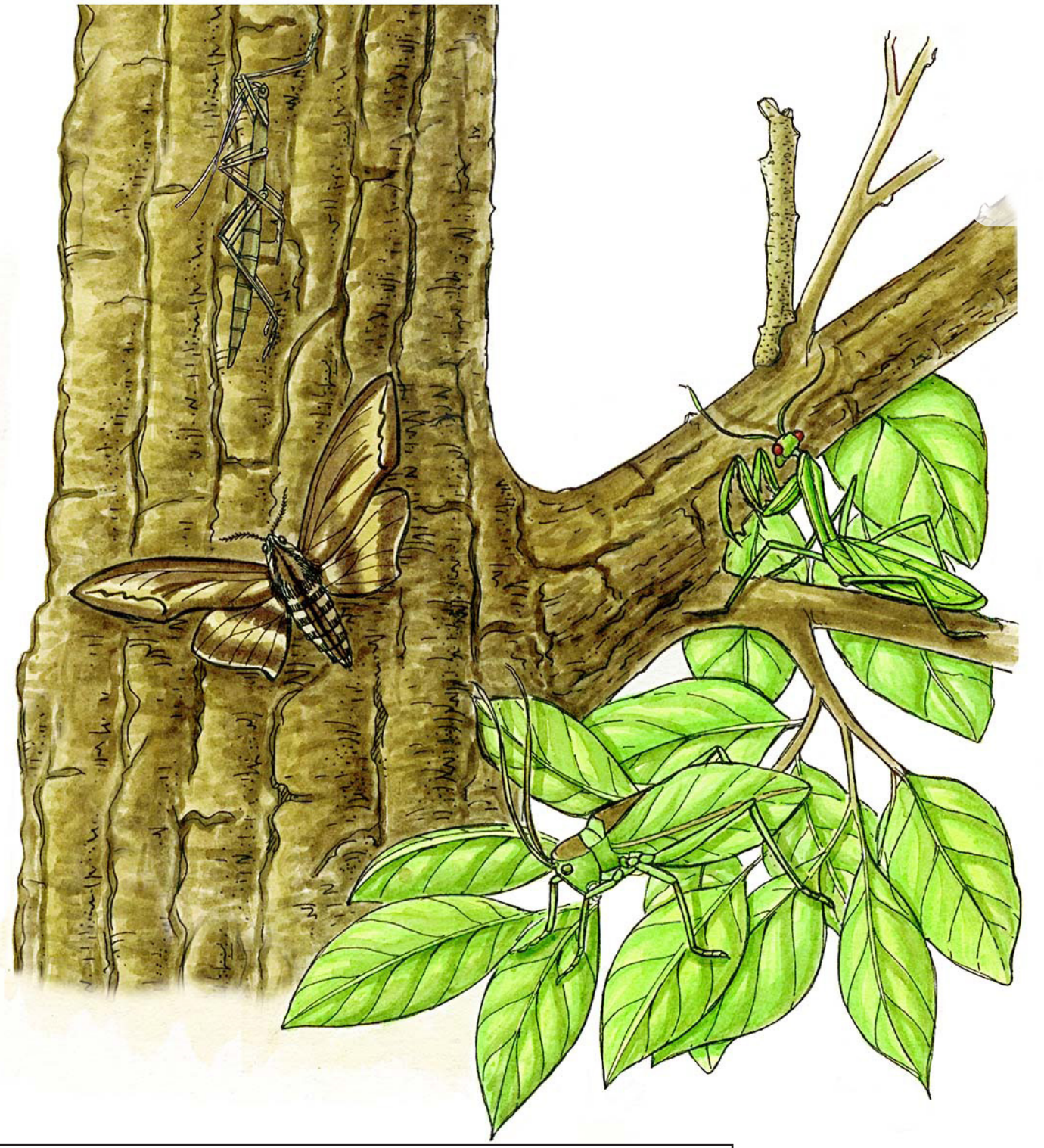
Insect Structures and Functions Search

There are 5 insects hiding on this tree. They each use their body parts - colors, shapes, patterns and behaviors to hide from predators. See if you can find them. Circle the walkingstick, moth, katydid, preying mantis and twig caterpillar.



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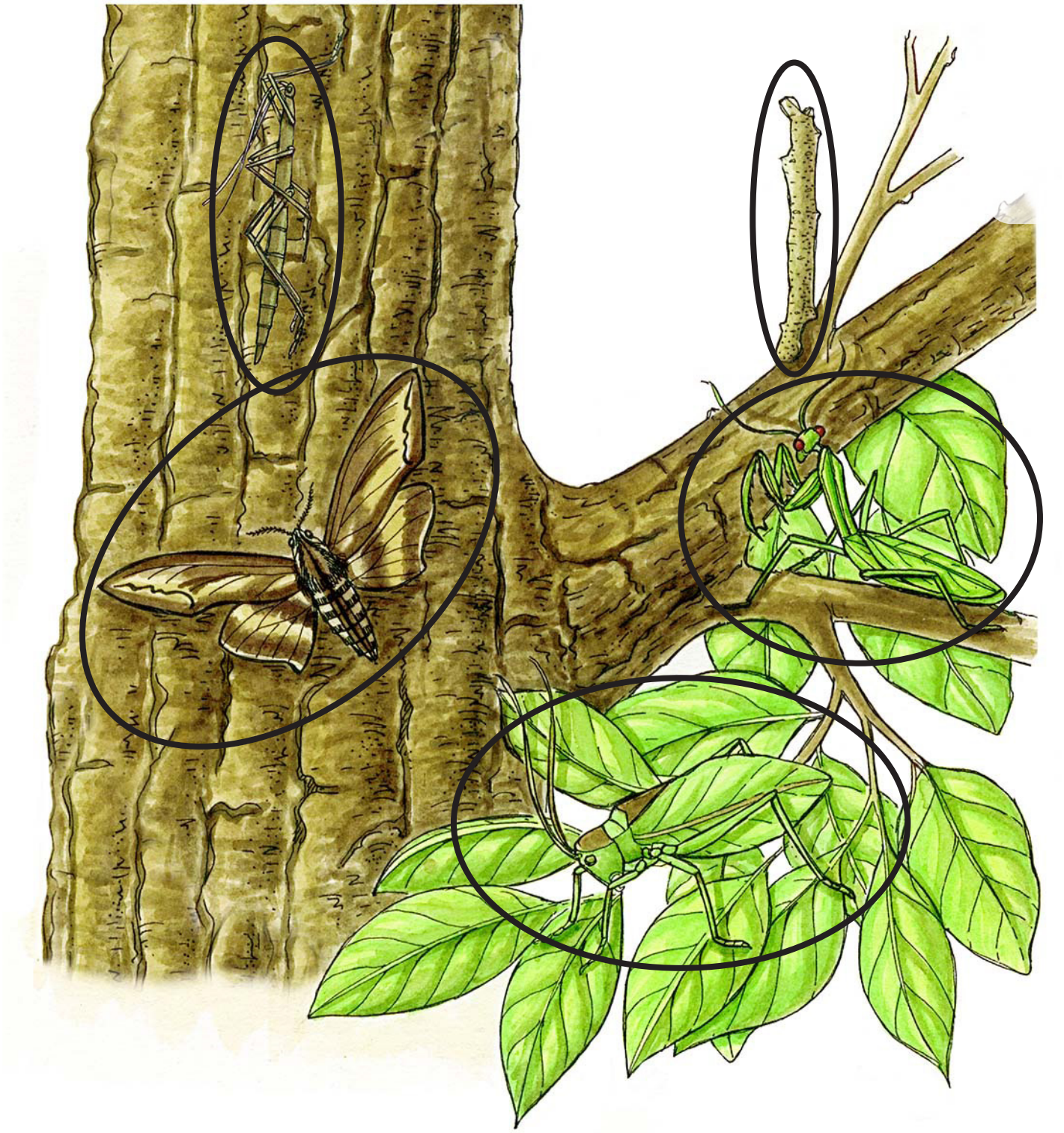
Insect Structures and Functions Search KEY

There are 5 insects hiding on this tree. Each uses their body parts to blend in and hide from predators - from colors, shapes or patterns to behaviors. Circle the walkingstick, moth, katydid, preying mantis and twig caterpillar.



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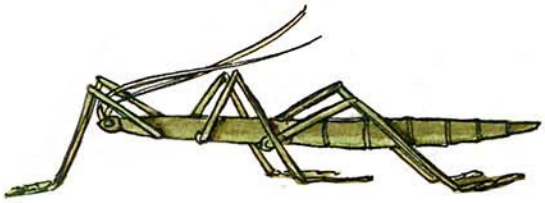
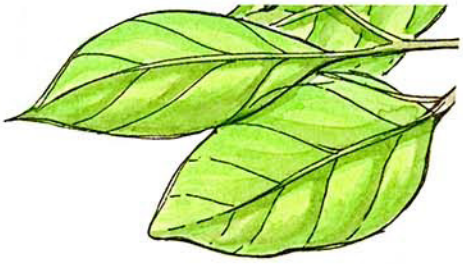
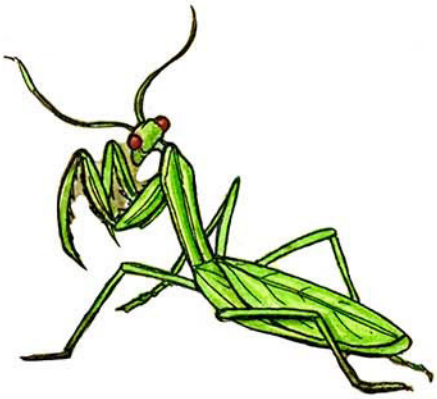
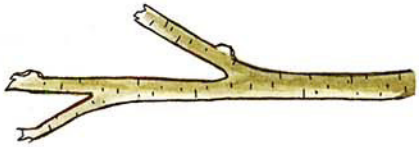
Insect Structures and Functions - Matching

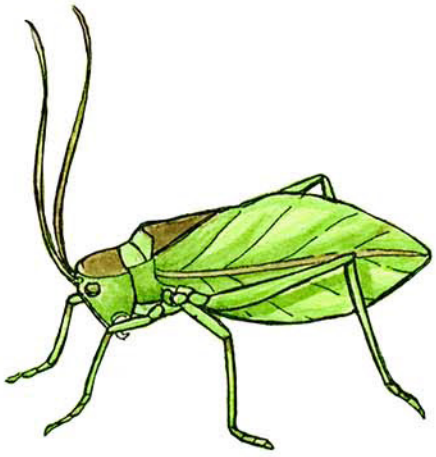
Insects use their body parts to blend into the trees to hide. Match the insects below to the parts of the trees that will hide them best. (HINT: One insect matches two.)











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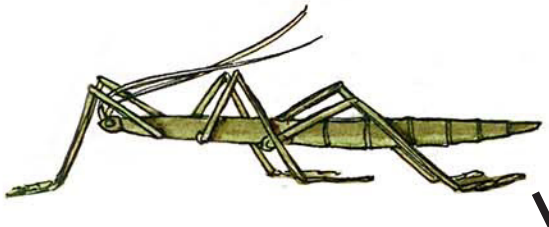

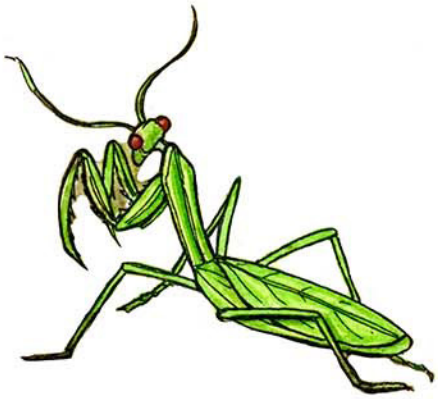

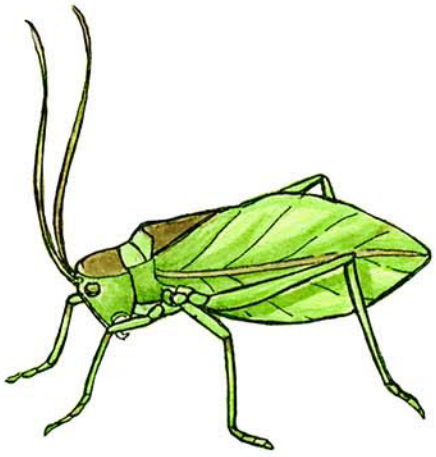

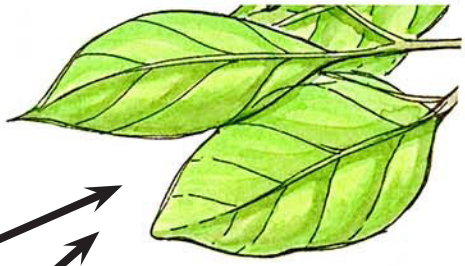

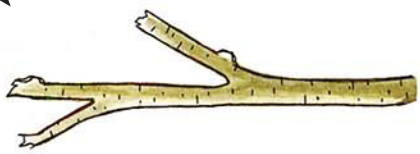

Parts of a Plant - Matching

LS1.A: Structure and Function - All organisms have external parts.
Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

Connect the plant parts to their names.

pea plant

flower

fruit

leaf

roots

stem

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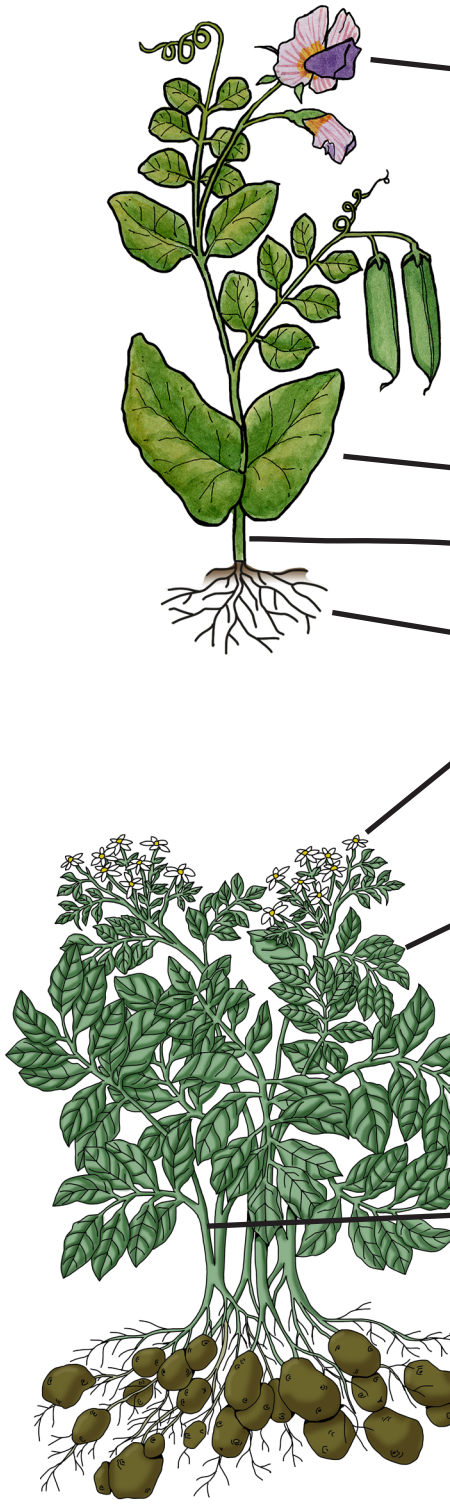


flower

fruit

leaf

roots

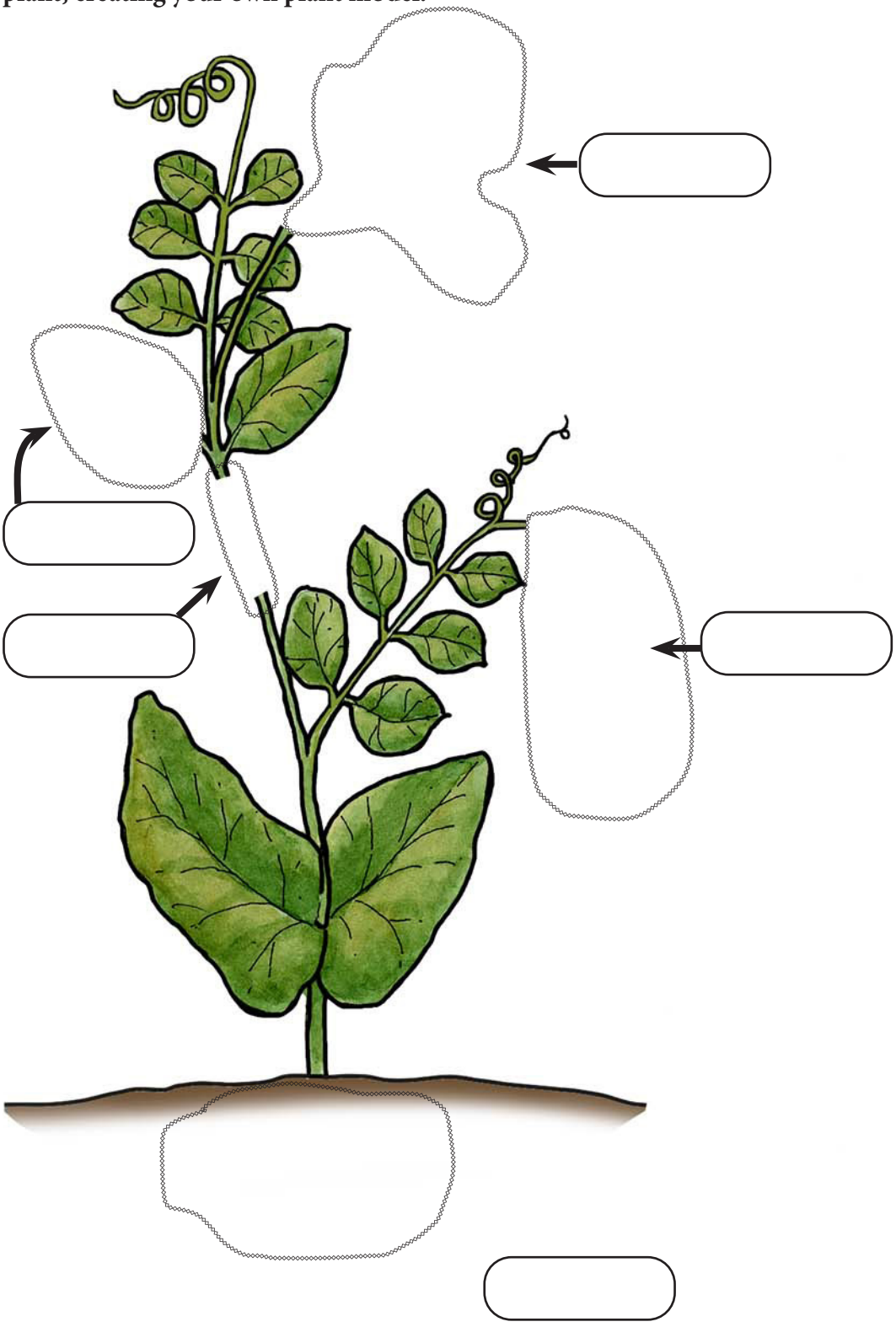
stem

Parts of a Plant

2-D Model Building Activity

LS1.A: Structure and Function - All organisms have external parts. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

Cut and paste the plant parts and their names to where they belong on the plant, creating your own plant model.



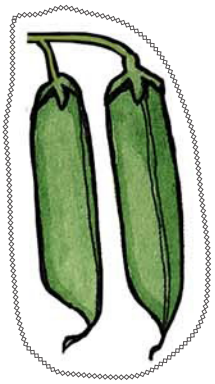
flower

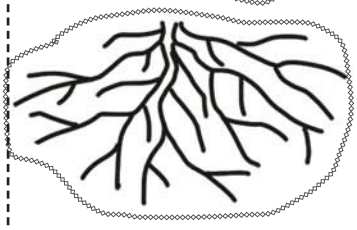
fruit

leaf

roots

stem





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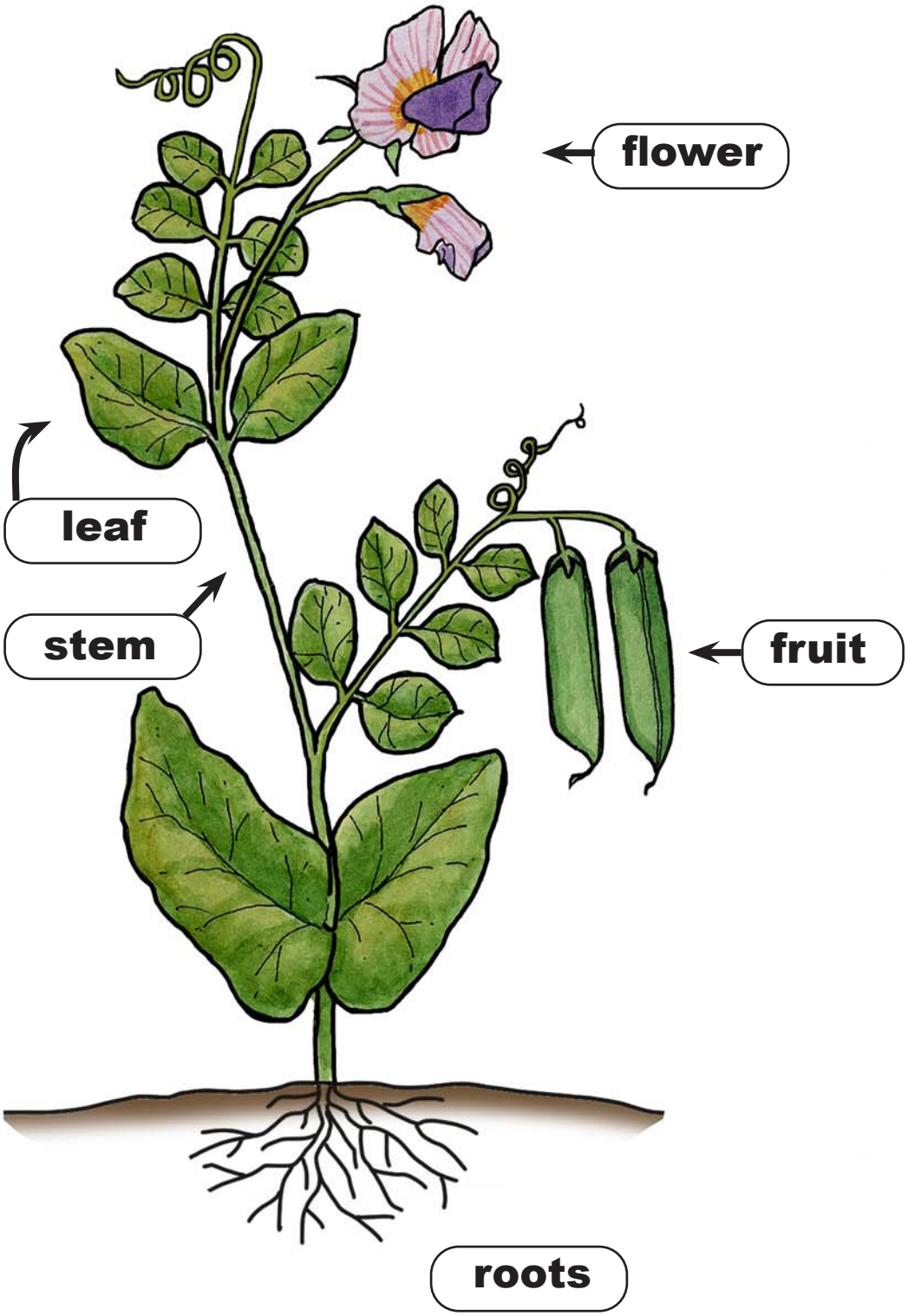


Learning from Nature - Matching

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Match the ways humans may have mimicked nature to solve problems.

airplanes

helicopters

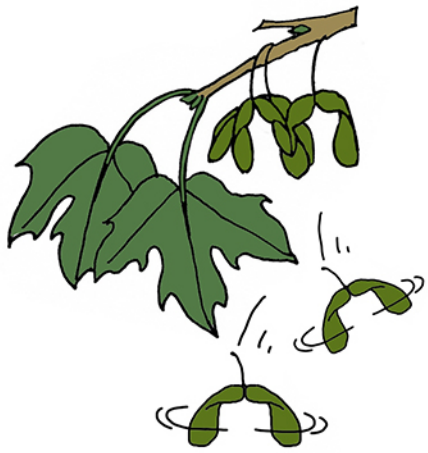
parachutes

velcro

Dandelion seeds spreading in the wind.

Plant seeds clinging to animal fur or clothing.

Maple seeds spinning away from their parent tree.



Bird flight