

Teaching Activity Guide

Beavers

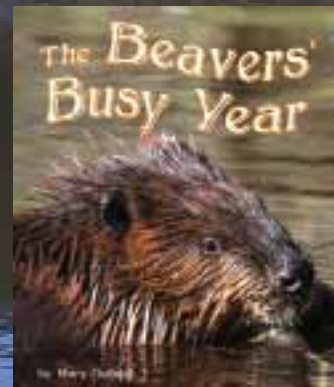
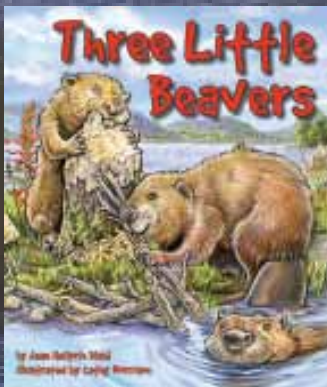


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How to Use This Activity Guide (General)

There are a wide variety of activities that teach or supplement all curricular areas. The activities are easily adapted up or down depending on the age and abilities of the children involved. And, it is easy to pick and choose what is appropriate for your setting and the time involved. Most activities can be done with an individual child or a group of children.

For teachers in the classroom: We understand that time is at a premium and that, especially in the early grades, much time is spent teaching language arts. All Arbordale titles are specifically selected and developed to get children excited about learning other subjects (science, geography, social studies, math, etc.) while reading (or being read to). These activities are designed to be as comprehensive and cross-curricular as possible. If you are teaching sentence structure in writing, why not use sentences that teach science or social studies? We also know and understand that you must account for all activities done in the classroom. While each title is aligned to all of the state standards (both the text and the For Creative Minds), it would be near impossible to align all of these activities to each state's standards at each grade level. However, we do include some of the general wording of the CORE language arts and math standards, as well as some of the very general science or social studies standards. You'll find them listed as "objectives" in italics. You should be able to match these objectives with your state standards fairly easily.

For homeschooling parents and teachers in private schools: Use as above. Aren't you glad you don't have to worry about state standards?

For parents/caregivers: Two of the most important gifts you can give your child is the love of reading and the desire to learn. Those passions are instilled in your child long before he or she steps into a classroom. Many adults enjoy reading historical fiction novels . . . fun to read but also to learn (or remember learning) about historical events. Not only does Arbordale publish stories that are fun to read and that can be used as bedtime books or quiet "lap" reading books, but each story has non-fiction facts woven through the story or has some underlying educational component to sneak in "learning." Use the "For Creative Minds" section in the book itself and these activities to expand on your child's interest or curiosity in the subject. They are designed to introduce a subject so you don't need to be an expert (but you will probably look like one to your child)! Pick and choose the activities to help make learning fun!

For librarians and bookstore employees, after-school program leaders and zoo, aquariums, nature center, park & museum educators: Whether reading a book for story time or using the book to supplement an educational program, feel free to use the activities in your programs. We have done the "hard part" for you.

What Do Children Already Know?

Young children are naturally inquisitive and are sponges for information. The whole purpose of this activity is to help children verify the information they know (or think they know) and to get them thinking “beyond the box” about a particular subject.

Before reading the book, ask the children what they know about the subject. A list of suggested questions is below. The children should write down their “answers” (or adults for them if the children are not yet writing) on the chart found in Appendix A, index cards, or post-it notes.

Their answers should be placed on a “before reading” panel. If doing this as a group, you could use a bulletin board or even a blackboard. If doing this with individual children, you can use a plain manila folder with the front cover the “before reading” panel. Either way, you will need two more panels or sections—one called “correct answer” and the other “look for correct answer.”

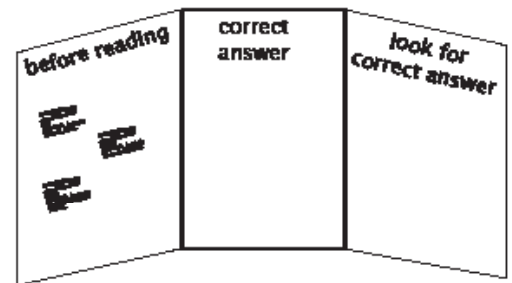
Do the children have any more questions about the subject? If so, write them down to see if they are answered in the book.

After reading the book, go back to the questions and answers and determine whether the children’s answers were correct or not.

If the answer was correct, move that card to the “correct answer” panel. If the answer was incorrect, go back to the book to find the correct information.

If the child/children have more questions that were not answered, they should look them up.

When an answer has been found and corrected, the card can be moved to the “correct answer” panel.



Pre-Reading Questions

What are some ways beavers rely on plants?

In what kind of habitat do beavers live?

In what kind of shelter do beavers live?

What are some ways that beavers hide (camouflage) themselves from humans and other animals?

How do beavers warn other beavers of danger?

How do beavers change their environment?

Comprehension Questions & Writing Prompts

Objective Core Language Arts:

Identify basic similarities in and differences between two texts on the same topic.

Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Retell stories, including key details, and demonstrate understanding of their central message or lesson.

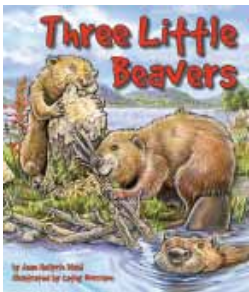
Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

Which of the books was true (non-fiction) and which was a made-up story (fiction)? How do you know?

Can animals really talk the way humans do?

What do beavers do to change their habitat?

How does that affect other animals, including humans?



Why did Beatrix feel bad about herself at the beginning of the story?

What did she do because she felt bad?

How did she sneak past the humans in the canoe?

What were some of the things she ate?

What happened while she was eating?

Why did the humans set beaver traps?

What did Beatrix's family do when they discovered she was missing?

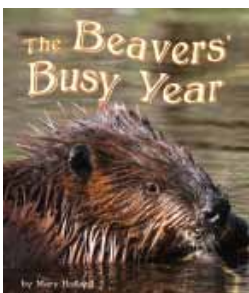
What happened to Bevan and Beverly when they found Beatrix?

How did Bevan and Beverly react when they were trapped?

How did Beatrix react when trapped?

How did Bevan and Beverly rely on Beatrix?

What did the humans do to be able to live with the beavers so the beavers couldn't hurt the property?



What part of their bodies do beavers use to chop down trees?

What are some things that beavers do in the fall?

Where do beavers live in the winter when the ponds are frozen?

How do beavers get food in the winter when the ponds are frozen?

At what time of year are beaver kits born?

How long do kits stay with their parents?

Language Arts & Science: Five Senses

Objective Core Language Literature 4: Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

Re-read the story and write down any words that relate to the five senses:

Touch	Taste	Sight	Smell	Hearing

Cross-Curricular Vocabulary Activities

Objective Core Language Arts:

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content.

Identify new meanings for familiar words and apply them accurately (e.g., duck is a bird & the verb to duck). Use words & phrases acquired through conversations, reading/being read to, and responding to texts.

Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade level topic or subject area.

Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.

Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Use frequently occurring adjectives.

Vocabulary game: This activity is a very general idea and is designed to get children thinking of vocabulary words that will then be used as the beginning vocabulary list for a science lesson.

Select an illustration from the book and give the children a specific length of time (five minutes?) to write down all the words they can think of about the particular subject. It is helpful to project an illustration on a whiteboard. Use eBook or book preview found at www.ArbordalePublishing.com.

The children's word list should include anything and everything that comes to mind, including nouns, verbs, and adjectives. At the end of the time, have each child take turns reading a word from his/her list. If anyone else has the word, the reader does nothing. However, if the reader is the only one with the word, he/she should circle it. While reading the list, one person should write the word on a flashcard or large index card and post it on a bulletin board or wall.

At the end, the child with the most words circled "wins." And you have a start to your science vocabulary list. Note: if a child uses an incorrect word, this is a good time to explain the proper word or the proper usage.

Glossary/Vocabulary words: Word cards may be used (see Appendix) or have children write on index cards, a poster board, or on a chalkboard for a "word wall." If writing on poster board or chalkboard, you might want to sort words into nouns, verbs, etc. right away to save a step later if using for Silly Sentences. Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently. The glossary has some high-level words. Feel free to use only those words as fit your situation.

Using the Words: The following activities may be done all at once or over a period of several days.

- Sort vocabulary words into nouns, verbs, adjectives, etc. and write what they are on the backs of the cards. When the cards are turned over, all you will see is "noun," etc. (these can then be used for the "silly sentences" on the next page).
- After the cards have been sorted, go over the categories to ensure that all cards have been placed correctly. (Mistakes are a great opportunity to teach!)
- Choose two words from each category and write a sentence for each word.
- Write a story that uses at least ten vocabulary words from the word sort.
- Have children create sentences using their vocabulary words. Each sentence could be written on a separate slip of paper. Have children (individually or in small groups) sort and put sentences into informative paragraphs or a story. Edit and re-write paragraphs into one informative paper or a story.

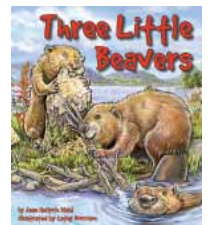
Silly Sentence Structure Activity: This "game" develops both an understanding of sentence structure and the science subject. Use words from the "word wall" to fill in the blanks. After completing silly sentences for fun, have children try to fill in the proper words by looking for the correct information in the book.

Word Bank

Adjective	Noun			Verb
alert	adaptation	fur	pondweed	absorb
back	air	grass	predator	balance
calm	bank	grassland	river	build
cold	bank lodge	guard hair	river otter	carry
delicious	bark	habitat	rock	change
dry	beaver	hand	rodent	chop
felled	beaver pond	hind	scent	close
floating	behavior	human	sediment	destroy
furry	berry (ies)	keystone species	shoot (plant)	dig
graceful	body	kit	sponge	eat
grassy	body covering	lake	stick	feast
high	branch	leaf (leaves-pl)	stream	gnaw
inner	canal	lily tuber	tail	grow
land-based	ceiling	lodge	territory	hold
large/larger/ largest	clover	log	throat	hop
little	creek	logging	trap	leak
long, longer, longest	dam	lumber	tree	mark
new-growth	danger	marsh	twig	mend
nocturnal	dawn	meadow	undercoat/ underfur	push
quiet	dome lodge	mining	valve	quake
spacious	ear	moonlight	water	ring
tasty	elephant	mouth	weather	scuttle
tender	engineer	nictitating membrane	wetland	skitter
warm	environment	nose	woodland	slap
webbed	farming	opposable thumb		snack
wetland	feet	pest		somersault
	fence	plant		steer
	food	pollution		store
	flower	pond		swam
Adverb	front			trap
under				tumble
				warn

Cross Curricular: Silly Sentences

1. ______{noun}s are the ______{adjective} ______{noun}s in North America.
2. They ______{verb} near ______{noun}s, ______{noun}s, ______{noun}s, ______{noun}s, and ______{noun}s.
3. Beavers spend lots of time looking for ______{noun}, ______{verb}ing down ______{noun}s, ______{verb}ing or ______{verb}ing their ______{noun}es or ______{noun}s.
4. They are most active at night (______{adjective}).
5. Beavers ______{verb} the ______{adjective} bark and ______{noun} of some trees.
6. Because they can't reach the ______{noun} or high bark, they ______{verb} the trees down.
7. They also use the ______{noun} from ______{adjective} trees to build ______{noun}s and ______{noun}s.
8. Special "valves" on the ______{noun} (nostrils), ______{noun}s, and back of the ______{noun} close when under water.
9. Beavers ______{verb} their territory with ______{noun}s.
10. They ______{verb} their ______{noun}s on the ______{noun} to ______{verb} other beavers of ______{noun}.



Language Arts: Sequence Sentence Strips

Cut into sentence strips, laminate if desired, and place in a “center.” Have children put the events in order. Children may work alone or in small groups. Cards are in order but should be mixed up when cut apart.

Objective Core Language Arts:

Use temporal words and phrases to signal event order.

Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.



Beatrix beaver did her best to gnaw trees and stash branches to store food for winter. She tried to mend the lodge and the dam. She dug a canal, sort of. Something always seemed to go wrong. Meanwhile, Bevan and Beverly seemed to do everything perfectly.

One evening, she swam away up Beaver Creek to find out. A river otter scared her, but she swam around it.

Beatrix climbed into a grassy meadow. She chewed a thin aspen trunk and skittered out of the way in time for the timber to fall. Then she snacked on nearby berries.

Near the water grew a delicious-looking clump of clover. As she reached for it—whap!—a box-shaped trap slapped shut around her.

Beatrix watched the creek flow by, toward the dam and home. She stayed calm and alert, ready for whatever would happen next.

Bevan and Beverly swam up the creek looking for Beatrix. Beverly was so excited to find Beatrix that she turned somersaults until—whap—a trap caught her, too.

Bevan chopped down a young willow. As he pushed branches into the cages to give his sisters something to eat, he slipped and found himself—whap—in trap number three.

At dawn, people appeared. They lifted the three traps and set them facing each other on the grass. Beverly threw herself against the metal sides. Bevan huddled with fright. But Beatrix stayed curious and levelheaded. So Bevan and Beverly relaxed a little, too.

Then, hammering and sawing started. Beatrix usually slept during the day, but there was too much noise for that now. Someone shoved a branch into her cage: Bleh! Oak leaves, not what she liked to eat.

Hours went by, until Creak! The door to Beatrix' cage lifted. Creak! Creak! Bevan and Beverly's cages opened, too. Bevan and Beverly were too scared to move, until they saw Beatrix.

She lumbered into the sunlight, happy and hungry. Low fences now ringed the delicious trees and gardens. Beatrix led her brother and sister down the bank to the creek, where the three little beavers feasted on lily tubers and pondweeds.

Language Arts: Shades of Meaning

Objective Core Language Arts Vocabulary Acquisition and Use:

Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.

Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).

Choose words and phrases to convey ideas precisely.

Use the word in the word bank to answer the questions.

1. What are some of the verbs that show how beavers move?
2. What are some of the verbs that indicate eating?
3. Can you explain the difference between the types of wetlands where beavers live?

Word Search

Find the hidden words. Even non-reading children can match letters to letters to find the words! Easy—words go up to down or left to right (no diagonals). For older children, identify the coordinates of the first letter in each word (number, letter).

	A	B	C	D	E	F	G	H	I	J
1	C	E	P	I	X		B	A	R	K
2	A	F	I	L	O	A	E	P	E	T
3	G	S	Y	I	G	N	A	W	C	A
4	M	U	T	G	U	K	V	O	E	H
5	L	V	E	Q	T	R	E	E	S	U
6	R	C	L	O	V	E	R	K	D	O
7	C	H	O	E	S	A	S	H	F	I
8	K	O	D	A	M	T	R	A	P	M
9	R	P	G	B	U	W	O	D	I	A
10	A	B	E	N	Q	U	N	Z	E	J

BEAVERS

LODGE

DAM

TRAP

GNAW

TREES

CHOP

CLOVER

BARK

Compare/Contrast: Beaver and Human Senses

Objective Core Language Literature 4: Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

Students know that senses can provide essential information (regarding danger, food, mates, etc.) to animals about their environment.

Identify the five senses and their related body parts: sight - eyes, hearing - ears, smell - nose, taste - tongue, touch - skin,

Identify the structures of living organisms and explain their function.

Compare and contrast beaver and human body parts used for senses. Draw the different body parts.

to smell	to feel
to hear	to see

Beaver Adaptations

Objective: Identify adaptations that help plants and animals survive and grow in their environment

Identify external parts of plants and animals

Observe and compare the structures and behaviors of different kinds of plants and animals

All living things have body parts or behaviors called adaptations to help them survive in their habitat. These adaptations help animals get and eat food, breathe, and find or build shelters.

Beavers have a third eyelid to protect their eyes when they are underwater. These eyelids (nictitating membranes) are clear so beavers can still see when underwater.



Beavers' ears close automatically when they go underwater.



One toe on each of a beaver's hind feet is split. They use these nails to comb bugs and burs out of their fur, and to rub oil into their guard hairs to make them waterproof. Sometimes they even use their nails to remove splinters in their teeth!



Beavers have two layers of fur on their bodies. There is a thick layer of soft fur, called underfur, next to the beavers' skin. The underfur keeps the beavers warm. The outer layer of fur is made up of longer, waterproof hairs called guard hairs that keep the underfur dry.



Beavers' tails are flat and covered with scales. Beavers slap their tails on the water to signal danger to other beavers. They also store fat in their tails, and use them as rudders to steer while swimming.



Beavers have strong senses of smell. They use this ability to choose their food, detect danger, and to communicate with other beavers. Beavers' nostrils close automatically when they go underwater.



Beavers have four orange incisors in the front of their jaws: two in the upper jaw, and two in the lower jaw. Can you see the incisors in the photograph of the skull, below? They use their incisors to cut down trees and remove bark from trees. These incisors never stop growing. Chewing wood helps keep the incisors from growing too long. They also have molars in the back of their jaws. They use their molars to grind up the woody bark that they eat.



Beavers use the long nails on their front feet to dig mud for their lodge and their dam. They even carry mud between their front feet and their chest. Their webbed hind feet are bigger than their front feet to help them swim fast and far. They have five “digits” on each of their feet just as we have five “fingers” on each hand and five “toes” on each foot.



Physical or Behavioral?

Objective: Identify adaptations that help plants and animals survive and grow in their environment

Identify external parts of plants and animals

Observe and compare the structures and behaviors of different kinds of plants and animals

Circle whether you think the adaptation is physical (P) or behavioral (B): Circle both if beavers use both.

1. P/B Beavers use their teeth to chop down trees to make lodges and dams.
2. P/B Beavers have “valves” that close their nostrils and the back of their throats so they can swim underwater.
3. P/B Their hind feet have webs to help swim.
4. P/B Beavers build dams to raise the level of water around their lodges.
5. P/B Beavers mark their territory with scents (smell)
6. P/B Beavers living in cold climates will store food underwater for the winter near their home.
7. P/B Beavers eat the inner bark and leaves of some trees. Because they can't reach the leaves or high bark, they chop the trees down.
8. P/B Because they use their tail and back feet to swim, they can carry things when they swim.
9. P/B Beavers slap their tails on the water to warn other beavers of danger.
10. P/B Their front feet are like hands and are used to hold things and dig.
11. P/B Like many mammals, beavers have two layers of fur: long, thick waterproof “guard” hair (that's what we see) and a layer of short, soft underfur for warmth.
12. P/B Long front teeth are used for gnawing on and cutting down trees. The teeth are constantly growing but the gnawing keeps them from growing too long.

Beaver Body Parts

Describe the beaver's body parts and how they are adapted to a beaver's watery habitat. Which body parts make it easier for it to live on land and which in water?



Science Journal (Vocabulary)

beaver

my definition

my drawing

beaver lodge

my definition

my drawing

beaver dam

my definition

my drawing

trap

my definition

my drawing

True or False?

Objective: Critical thinking skills

Circle whether you think the statement is true or false:

1. T/F Beavers eat fish and plants.
2. T/F Beavers help form wetlands that attract wide varieties of plant and animal species.
3. T/F Beaver ponds help control flash floods.
4. T/F Beavers can walk upright, like we do.
5. T/F Beavers can only carry sticks in their mouths.
6. T/F Beavers are one of the smallest rodents in North America.
7. T/F Beavers spend most of their time laying around in the sun.
8. T/F Beavers slap their tails to warn other beavers of danger.
9. T/F Beavers use their tails to help prop them up when cutting trees...kind of like a bicycle kickstand.
10. T/F Beavers live in and around fresh and saltwater.

Math: Measuring (compare & contrast)

Objective Core Mathematics Measurement:

Math, Measurement & Data, Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

Math, Measurement & Data, Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

Math, Measurement & Data, Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length

Beavers are the largest rodents in North America. An adult beaver's tail is about 12 inches (30 cm) long. Including the tail, a beaver can be up to four feet (1.2 m) and weigh as much as 70 lbs. (31 kg).



A beaver lodge's living area is about 8 feet (2.4 m) wide and is lined with bark and grass. How does that compare to the room you are in now? Your bedroom? A bathroom?



How big is it?

Using the right measuring tool (yard stick or measuring tape) and chalk, mark off how big something is on the playground, sidewalk, or driveway.

If you were to lie down on or next to the line, how many times would you have to lie down in order to equal the size?



Math Cards

Objective Core Mathematics Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (up to 10)

Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Use numbers, up to 10, to place objects in order, such as first, second, and third, and to name them

For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

Math Card Games


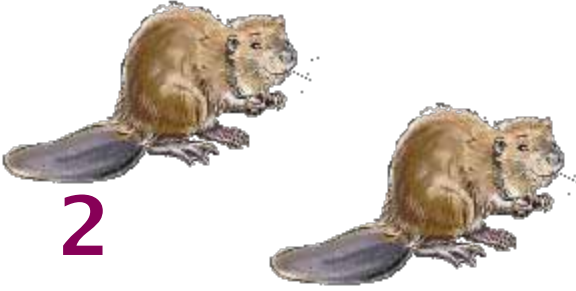

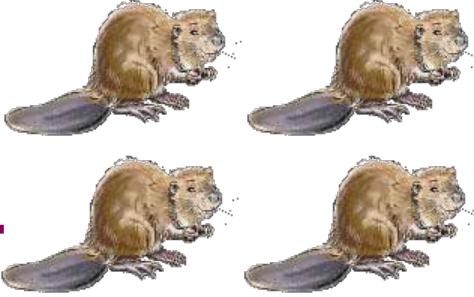
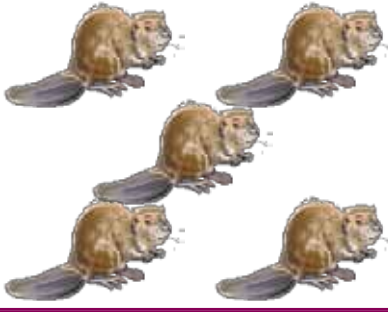

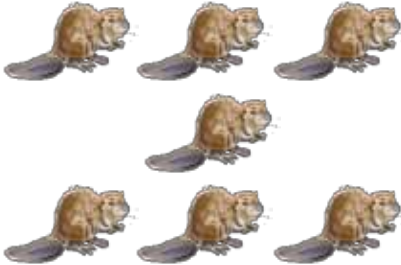

(Make four copies of the math cards to play these games):

Tens Make Friends Memory Game is a combination of a memory and adding game.


- Play like the memory game, above.
- If the animal numbers add up to 10, the child keeps the pair and takes another turn.
- If they do not add up to ten, the player should turn the cards back over and it is another player's turn.

Go Fish for Fact Families is a twist on "Go Fish."

- Shuffle cards and deal five cards to each player. Put the remaining cards face down in a draw pile.
- If the player has three cards that make a fact family, he/she places them on the table and recites the four facts related to the family. For example, if someone has a 2, 3, and 5, the facts are: $2 + 3 = 5$, $3 + 2 = 5$, $5 - 2 = 3$, $5 - 3 = 2$.
- The player then asks another player for a specific card rank. For example: "Sue, please give me a 6."
- If the other player has the requested card, she must give the person her card.
- If the person asked doesn't have that card, he/she says, "Go fish."
- The player then draws the top card from the draw pile.
- If he/she happens to draw the requested card, he/she shows it to the other players and can put the fact family on the table. Otherwise, play goes to the next person.
- Play continues until either someone has no cards left in his/her hand or the draw pile runs out. The winner is the player who then has the most sets of fact families.

<p>1</p> 	<p>2</p> 
<p>3</p> 	<p>4</p> 
<p>5</p> 	<p>6</p> 
<p>7</p> 	<p>8</p> 

9



Map: Beaver Range and Distribution

Beaver Range and Distribution



Use the Beaver Range and Distribution Map (left) to color areas where beavers live.

Do beavers live in your state or province?

Why do you think beavers don't live in the SW deserts?



Coloring Pages



Color and add the beaver's habitat.

The Beavers' Busy Year



Three Little Beavers

Three Little Beavers



Appendix A—“What Children Know” Cards

<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>	<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>
<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>	<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>

beaver

lodge

dam

pond

rodent

incisors

tree bark

fur

underfur

eyelids

webbed feet

food pile

kits

groom

split toenail

beaver canal

scent mound

tracks

scat

food supply

tail

bank lodge

**nictitating
membrane**

third eyelid