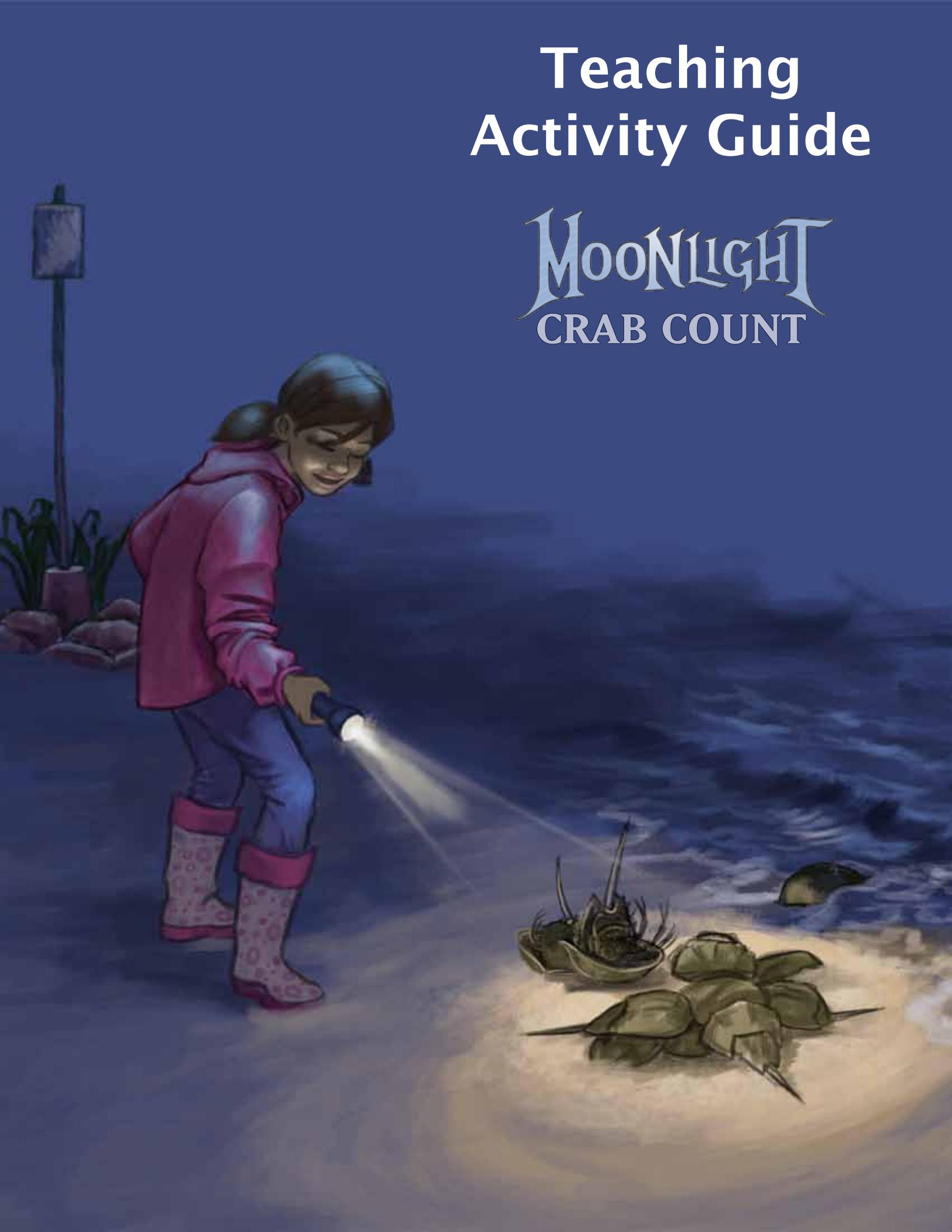
Teaching Activity Guide



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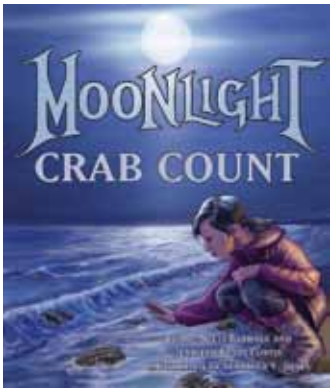

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How to Use This Activity Guide (General)

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 nearly 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 are 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) 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!

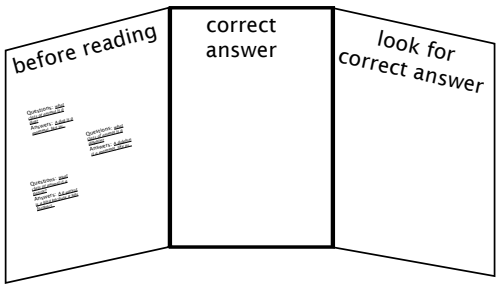
For librarians and bookstore employees; after-school program leaders; and zoo, aquarium, nature center, park & museum educators: Whether reading a book for story time or using the book to supplement an educational program, feel free to use the activities in your programs. We have done the "hard part"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

1. What are horseshoe crabs?

2. Do you think horseshoe crab tails are dangerous? Why or why not?

3. What does a horseshoe crab use its tail for?

4. Horseshoe crabs are not real crabs. To what kinds of animals do you think they are more closely related?

5. How long do you think horseshoe crabs have been on earth?

6. Horseshoe crabs come ashore at a certain time of year to lay eggs. When do you think that is?

7. What are some ways that humans use horseshoe crabs?

8. Without horseshoe crab eggs, what other animal might go extinct?

9. Why are scientists worried about horseshoe crabs?

10. Why do people count horseshoe crabs?

11. How do people count the crabs if there are hundreds in one location?

12. How do people count the crabs if there are thousands in one location?

Comprehension Questions & Writing Prompts

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

1. Describe the location of where the story took place.

2. What were some of the things the characters took to the beach with them?

3. What time of day did the story take place?

4. What time of year did the story take place?

5. Who were the two main characters?

6. What was the dog's name?

7. How did Leena know the horseshoe crab was a boy?

8. What does a horseshoe crab use its tail for?

9. To what kinds of animals are horseshoe crabs are more closely related than crabs?

10. How long have horseshoe crabs been on the Earth?

11. What are some ways that humans use horseshoe crabs?

12. Without horseshoe crab eggs, what other animal might go extinct?

13. How do people count the crabs if there are hundreds in one location?

14. How do people count the crabs if there are thousands in one location?

Observation Skills: Art Scavenger Hunt

Objective Core Language Arts Integration of Knowledge and Ideas: Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
Use illustrations and details in a story to describe its characters, setting, or events.

1. How old do you think Leena is in the story? Can you explain your reasons?

2. Describe what safety items Leena and her mom were wearing in the boat.

3. Describe the lights on the boat. Why do you think they needed lights?

4. The story takes place in June (summer). How can you tell that it's cool?

5. On the page where Leena is holding a flashlight and the mom is writing on a clipboard, (also shown below) describe the horseshoe crabs...how many, what they are doing, etc.

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 (on the next page). Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently.

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

Build a word bank using words found in the story or For Creative Minds.

Adjective	Noun	Verb
coastal	back	cover
female	bay	crawl
four	beaches	dig
full	egg	hang
green	hole	lay
high	horseshoe crab	live
male	moon	migrate
new	nest	spawn
old	ocean	travel
young	red knot	
	sand	
	shore	
	spring	
	tide	
	water	
	winter	

Cross-Curricular Silly Sentences

1. The Atlantic horseshoe crab _____ (verb) in coastal waters from the Yucatan Peninsula in Mexico to Maine in the United States.
2. There are _____ (number) species of horseshoe crabs in the world. The Atlantic horseshoe crab is the only one in the Americas.
3. In the _____ (noun), horseshoe crabs _____ (verb) (migrate) from the _____ (noun) and _____ (noun) to beaches along the Eastern Seaboard.
4. They _____ (verb) on the _____ (noun) under the full and new _____ (noun) in _____ (month) and _____ (month).
5. Female horseshoe crabs _____ (verb) up the _____ (noun) to the high tide line.
6. Male horseshoe crabs _____ (verb) onto her _____ (noun).
7. The female horseshoe crab _____ (verb) _____ (noun) in the sand.
8. She lays up to _____ (number) _____ (adjective) eggs in each hole.
9. The male horseshoe crab fertilizes the _____ (noun) in the hole.
10. This process is called spawning. After the horseshoe crabs leave, _____ (noun) _____ (verb) the nest.

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.

Leena and her mom took a boat to the island.
Leena took measurements.
Leena and Bobbi found a boy horseshoe crab on the beach.
Leena put it back in the water.
Leena and her mom walked around the bend of the island.

Leena tells Bobbi to sit.
Leena calls out numbers as mom records the numbers on her clipboard.
By the time they finish crawling, most of the horseshoe crabs have crawled back to the bay.
It was time to go home.

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

spawning
sand
beach
green
eggs
horseshoe
count
thousands
moon
crab

Physical 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

Adaptations help animals to live in their habitat: to get food and water, to protect themselves from predators, to survive weather, and even to help them make their homes.

Use the illustrations and text (including the For Creative Minds) in the book to answer the questions.

Body Parts

Tail: What does the horseshoe crab use it's tail for?

Feet: How many pairs of legs does a horseshoe crab have and how many pairs do they use to walk? For what do they use the other pair of legs?

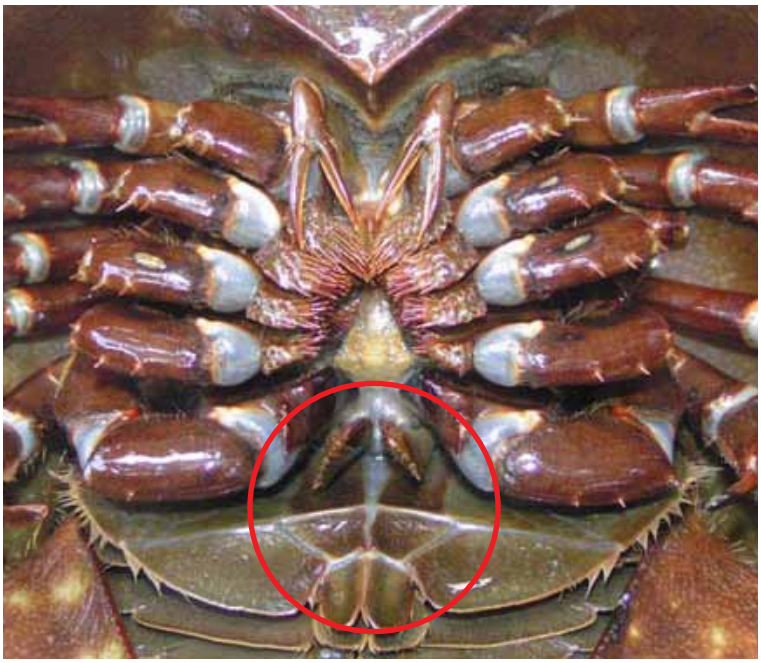
Blood: What is special about their blood and how do humans use it?

Eyes: How many eyes do horseshoe crabs have

Shell: What's the purpose of the shell? How does the shell move?

Hairs: What are the tiny hairs used for?

If you were a horseshoe crab . . .



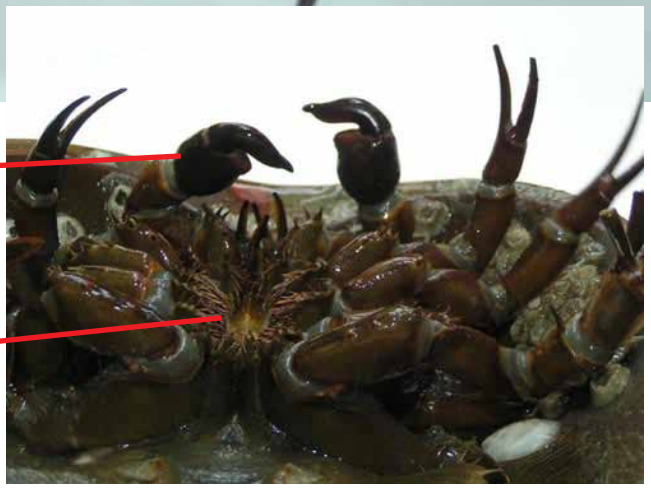
The horseshoe crab's "mouth" is in the middle of its body. If you were a horseshoe crab, your belly button would be your mouth and you would have to crawl around to get your food.

Imagine what you would do if something flipped you over onto your back. How would you get your food? That's why their tails to right themselves are so important.

A horseshoe crab will shed it's shell (carapace) as it grows. On average, horseshoe crabs molt 9 times over their lives. Since it's shell is like it's skeleton, that's like you shedding and regrowing a new skeleton as you grow. If you find an empty horseshoe crab shell on the beach, it's most likely a molted shell.

gills to get oxygen from the water

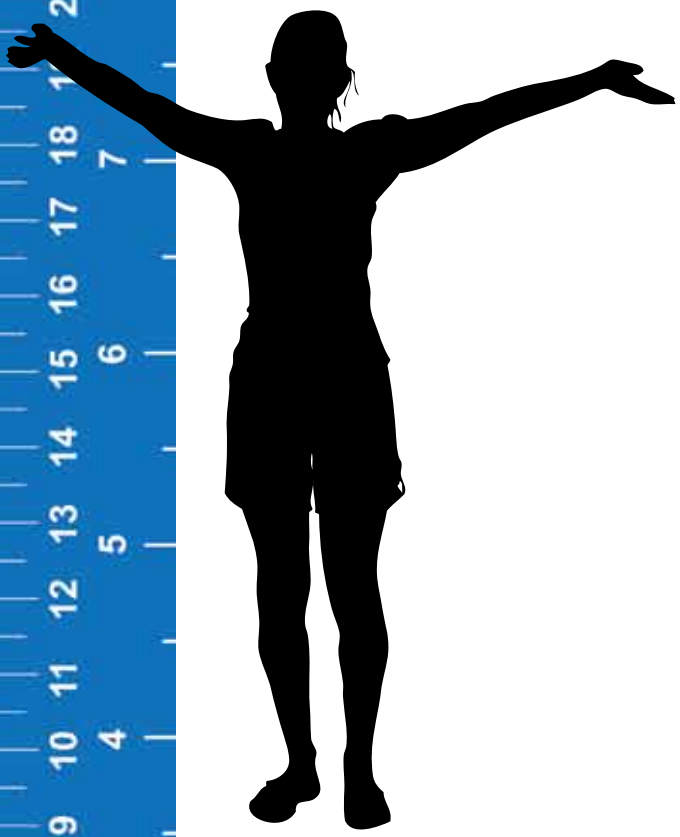
The “boxing glove” claws show it’s a male. Compare these to the first set of claws of the female, above.



“mouth”

Math: Measuring (compare & contrast)

Objective Core Mathematics Measurement:
Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.



What standard measuring tool would you use to measure something in:

Inches or centimeters

Feet or meters

Pounds or kilograms

Try to imagine how big or small something is compared to something you know.

A female horseshoe crab can grow up to about 19 inches. Male horseshoe crabs are smaller. What are some other things about the same size as a female horseshoe crab?

Horseshoe crabs weigh between 3 and 5 pounds. What is something that weighs about the same?

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.

1

2

3

4

5

6

7

8

9

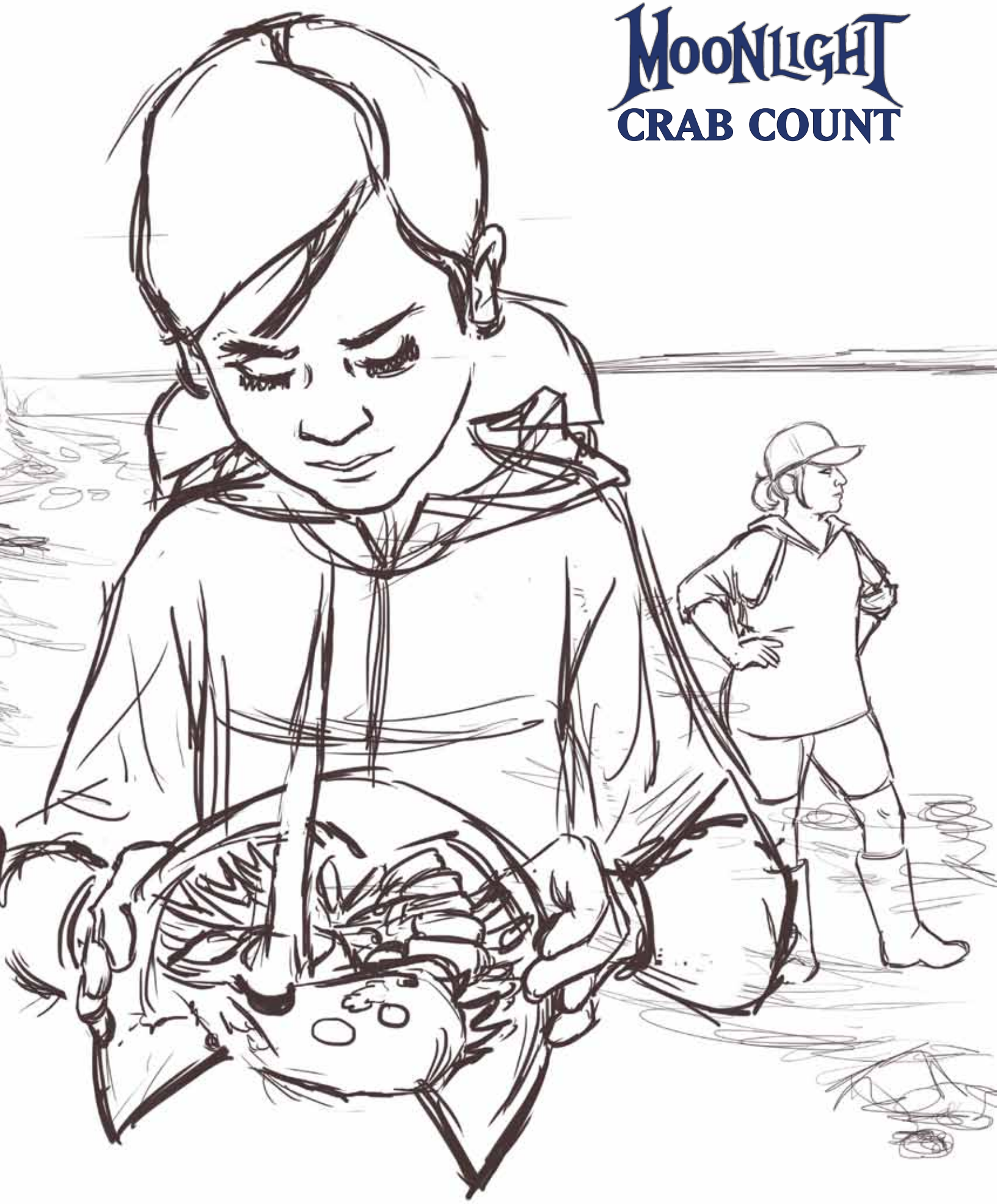
Blue represents the areas where Atlantic horseshoe crabs live.

Red represents the areas where red knots spend time.

On the map in Appendix C, color the coastal areas where you would find Atlantic horseshoe crabs (in blue) and red knots (in red).

MOONLIGHT
CRAB COUNT

MOONLIGHT
CRAB COUNT



MOONLIGHT
CRAB COUNT

Answers

Silly Sentences

The Atlantic horseshoe crab lives in coastal waters from the Yucatan Peninsula in Mexico to Maine in the United States.

There are four species of horseshoe crabs in the world. The Atlantic horseshoe crab is the only one in the Americas.

In the spring,

Atlantic horseshoe crabs travel (migrate) from the bays and ocean to beaches along the Eastern Seaboard.

They meet on the shore under the full and new moons in May and June.

In some areas, they meet as early as February or as late as August.

Female horseshoe crabs crawl up the beach to the high tide line.

Male horseshoe crabs hang onto her back.

The female horseshoe crab digs holes in the sand.

She lays up to 20,000 green eggs in each hole.

The male horseshoe crab fertilizes the eggs in the hole.

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

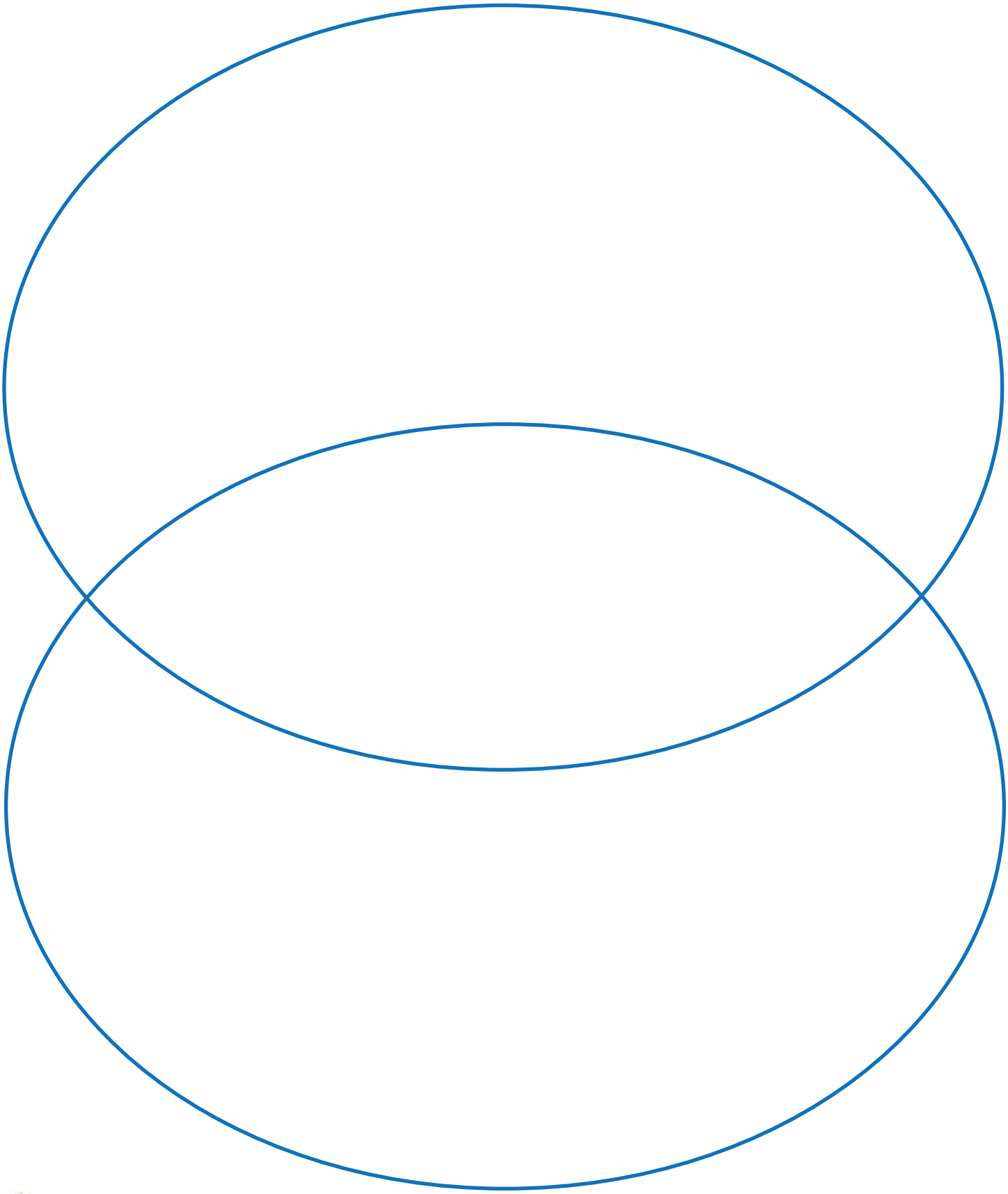
spawning	1,G
sand	3,J
beach	10,C
green	6,A
eggs	8,E
horseshoe	2,D
count	1,E
thousands	3,B
moon	9,C
crab	5,B

Appendix A—"What Children Know" Cards

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

Appendix B—Venn Diagram

Compare and contrast two



Appendix C—U.S. Map