Teaching Activity Guide

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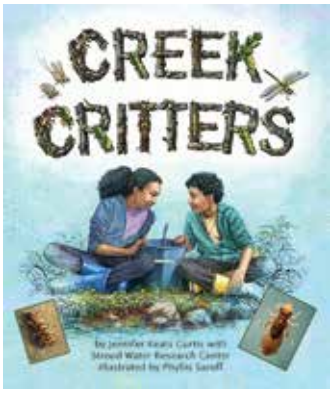

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How to Use This Activity Guide (General)

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!

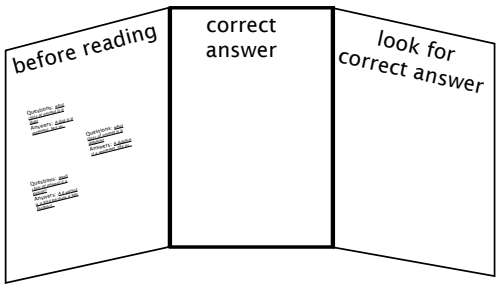
For librarians and bookstore employees; after-school program leaders; and zoo, aquarium, nature center, park & museum educators: Whether reading a book for story time or using the book to supplement an educational program, feel free to use the activities in your programs. We have done the "hard part" 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 do you think the book is about by looking at the cover.
2. What kind of animals do you think “critters” are?
3. How do you think the critters can tell us if the water is healthy or not?
4. What are some things needed to find and study “critters” to tell us if the water is healthy or not?
5. What might be some critters that tell us the water is healthy?
6. Are scientists the only ones who can look for and study water critters? Why or why not?

Comprehension Questions & Writing Prompts

Explain major differences between books that tell stories and books that give information
Identify basic similarities in and differences between two texts on the same topic.
Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

1. Who are the main characters in the story?
2. How old do you think they are? Explain why.
3. Why are they trying to find critters in the creek?
4. What tools do they use to find the critters. Are these things you have in your house?
5. What are aquatic macroinvertebrates (macros for short)?
6. What are young macros called?
7. Where do the young live and where do the adults live?
8. Describe where they find some of the critters hiding.
9. What are some of the critters that indicate that the water is healthy?
10. Do Lucas and his sister find all of the critters they are looking for? If not, which ones are missing?
11. Why were they concerned about the dragonfly nymph being in the same bucket as the other nymphs or larvae?
12. Based on the critters, was the water clean and healthy? Why or why not?

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.

English	Spanish	Part of Speech
aquatic	acuático/a	adjective/adjectivo
big	grande	adjective/adjectivo
under	bajo	adjective/adjectivo
near	cerca	adverb/adverbio
adults	adultos	noun/sustantivo
backbone	espina dorsal	noun/sustantivo
bugs	insectos	noun/sustantivo
caddisfly	frigáneas	noun/sustantivo
dragonflies	libélulas	noun/sustantivo
larvae	larvas	noun/sustantivo
macroinvertebrates	macroinvertebrados	noun/sustantivo
mayfly	efímeras	noun/sustantivo
metamorphosis	metamorfosis	noun/sustantivo
nymphs	ninfas	noun/sustantivo
stonefly	plecópteros	noun/sustantivo
water	agua	noun/sustantivo
begin	comenzar	verb/verbo
change	cambiar	verb/verbo
fly	volar	verb/verbo
live	vivir	verb/verbo

Cross-Curricular Silly Sentences-English

1. Young water _____ (noun) are called _____ (noun) or _____ (noun).
2. _____ (adjective) macroinvertebrates are "_____ (noun)" that spend some or all of their lives underwater.
3. They are _____ (adjective) enough to see with the naked eye, and don't have _____ (noun).
4. _____ (noun), _____ (noun), _____ (noun), and _____ (noun) are all insects that begin their lives underwater.
5. After the larvae or nymphs change through _____ (noun), the adults _____ (verb) around and _____ (verb) near the water.

Cross-Curricular Silly Sentences-Spanish

1. Los _____ (sustantivo) de agua jóvenes se llaman _____ (sustantivo) o _____ (sustantivo).
2. Los macroinvertebrados _____ son "_____" que pasan parte o toda su vida bajo el agua.
3. Son suficientemente _____ (adjetivo) para verlos a simple vista y no tienen _____ (sustantivo).
4. Los _____ (sustantivo), _____ (sustantivo), _____ (sustantivo) y _____ (sustantivo) son insectos que comienzan su vida bajo el agua.
5. Después de que las larvas o ninfas cambian mediante la _____ (sustantivo), los adultos _____ (verbo) y _____ (verbo) cerca del agua.

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.

Lucas and I tug on our boots and head down to the freshwater creek. We step right into the water.
Like a team of scientists, we work together, searching for bugs that can only live in healthy water.
I yank up a rock. Nothing. We wade over two steps. I snag a smaller grey stone for inspection.
I carefully scrape the bug into the bucket. He’s a small but mighty dragonfly nymph!
Lucas flips over another rock. I spy what looks like the smallest turtle I’ve ever seen.

Lucas and I push the net underwater along the creek's edge. Of course, Lucas grabs a slimy leaf and flings it at me.

We quietly stare into the net. It's hard, but you have to be patient. There! A caddisfly pokes his head out of a homemade case of rock, leaves, and twigs.

Lucas spots a mayfly! We add him to the bucket.

I peer into the bucket and find the dragonfly stuck to a stick.

We have found macros that can only live in clean water. Lucas now knows how water bugs can tell tales.

We take our story-telling macroinvertebrates back down to the creek and turn the bucket over into the water, returning the bugs to their home.

Animal Sorting Cards

Objective: Classify organisms according to one selected feature, such as body covering, and identify other similarities shared by organisms within each group formed.

Describe several external features and behaviors of animals that can be used to classify them (e.g., size, color, shape of body parts).

Identify observable similarities and differences (e.g., number of legs, body coverings, size) between/among different groups of animals.

Animal Card Games:

Sorting: Depending on the age of the children, have them sort cards by:

- where the animals live (habitat)
- number of legs (if the animals have legs)
- how they move (walk, swim, jump, or fly)
- type of skin covering (hair/fur, feathers, scales, moist skin)
- what they eat (plant eaters/herbivores, meat eaters/carnivores, both/omnivores)
- tail, no tail
- colors or skin patterns
- animal class

Memory Card Game: Make two copies of each of the sorting card pages and cut out the cards. Mix them up and place them face down on a table. Taking turns, each player should turn over two cards so that everyone can see. If the cards match, he or she keeps the pair and takes another turn. If they do not match, the player should turn the cards back over and it is another player's turn. The player with the most pairs at the end of the game wins.

Who Am I? Copy and cut out the cards. Poke a hole through each one and tie onto a piece of yarn. Have each child put on a "card necklace" without looking at it so the card hangs down the back. The children get to ask each person one "yes/no" question to try to guess "what they are." If a child answering the question does not know the answer, he/she should say, "I don't know." This is a great group activity and a great "ice-breaker" for children who don't really know each other.

Charades: One child selects a card and must act out what the animal is so that the other children can guess. The actor may not speak but can move like the animal and imitate body parts or behaviors. For very young children, you might let them make the animal sound. The child who guesses the animal becomes the next actor.

Mayfly Adult

Caddisfly Adult

Mayfly Nymph

Caddisfly Larva

Stonefly Adult

Dragonfly Adult

Stonefly Nymph

Dragonfly Nymph

Macroinvertebrate

my definition	my drawing

Aquatic

my definition	my drawing

metamorphosis

my definition	my drawing

larva or nymph

my definition	my drawing

Answers

Silly Sentences English

Young water bugs are called larvae or nymphs.

Aquatic macroinvertebrates are “bugs” that spend some or all of their lives underwater.

They are big enough to see with the naked eye, and don’t have backbones.

Mayfly, caddisfly, stonefly, and dragonflies are all insects that begin their lives underwater.

After the larvae or nymphs change through metamorphosis, the adults fly around and live near the water.

Silly Sentences Spanish

Los insectos de agua jóvenes se llaman larvas o ninfas.

Los macroinvertebrados acuáticos son “insectos o animalitos” que pasan parte o toda su vida bajo el agua.

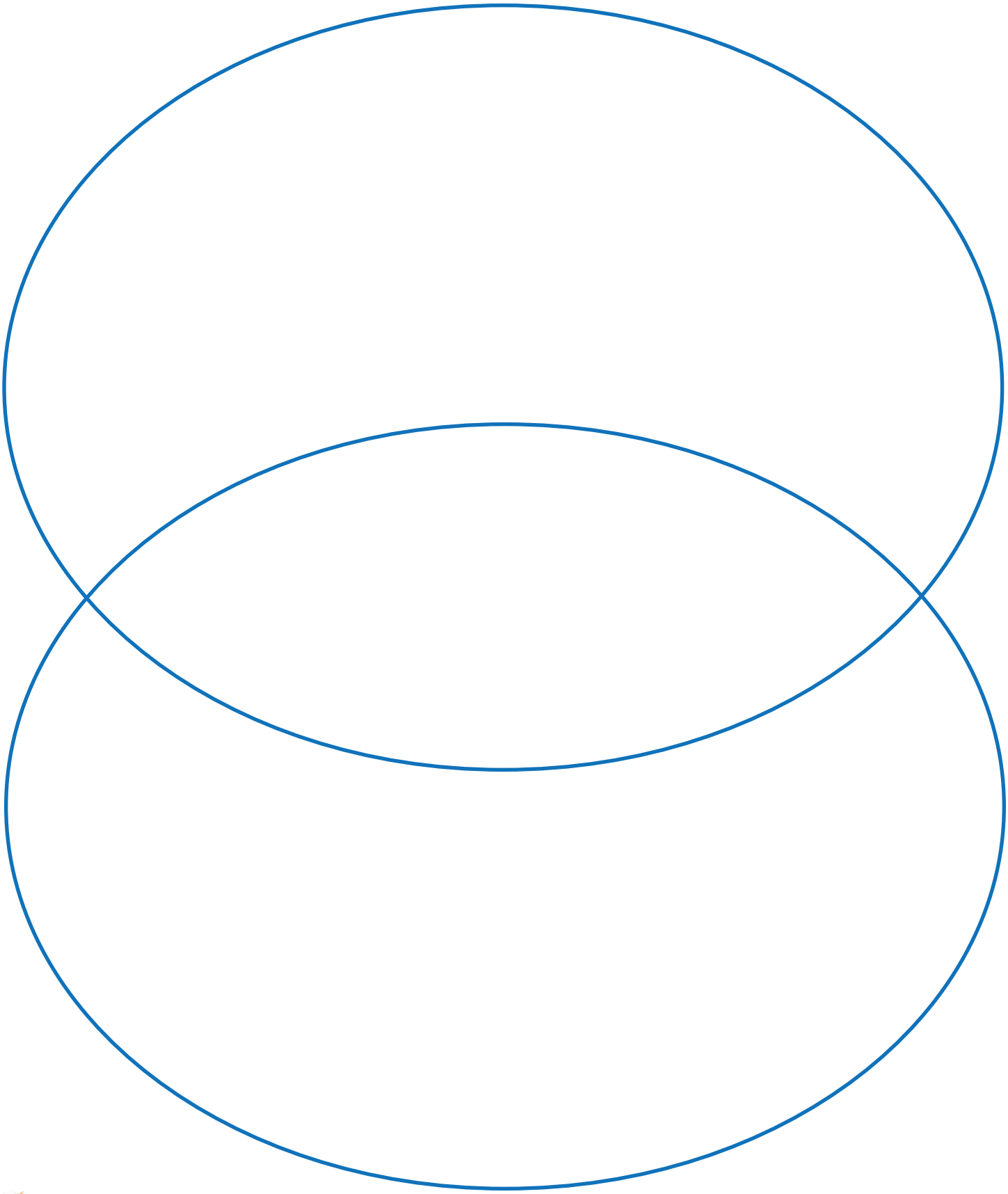
Son suficientemente grandes para verlos a simple vista y no tienen espina dorsal.

Los efímeras, frigáneas, plecópteros y libélulas son insectos que comienzan su vida bajo el agua.

Después de que las larvas o ninfas cambian mediante la metamorfosis, los adultos vuelan y viven cerca del agua.

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 macroinvertebrates.