Activity Guide

Charlotte’s Web

Based on the Book by E. B. White
Adapted by Joseph Robinette
Directed by Kathryn Chase Bryer
Best for Ages 5+

November 18, 2017 - January 7, 2017
Curricular Connections

Science
- Examine a variety of physical models and describe what they teach about the real things they are meant to resemble.
- Explain there are identifiable stages in the life cycles (growth, reproduction, and death) of plants and animals.
- Compare and describe the changes that occur in humans during their life cycle (birth, newborn, child, adolescent, adult, elder).

Math
- Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by using drawings to represent the problems.
- Become engaged in problem solving that is about thinking and reasoning.

Language Arts
- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
- 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).

Theatre Arts
- With prompting and support, invent and inhabit an imaginary elsewhere in a dramatic play or a guided drama experience (e.g., process drama, story drama, creative drama)
- Participate in a variety of physical, vocal, and cognitive exercises that can be used in a group setting for drama/theatre work.
- Compare family life in the local community by considering jobs, communication, and transportation.

Health
- Identify food categories
- Name a food source for each nutrient

Social Studies
- Examine differences between past and present time.
- Compare family life in the local community by considering jobs, communication, and transportation.
SCIENCE

Up Close with Charlotte

Science Standards MD3-5.1.a.1, MDPK-2.D.2-3, MD3-5.3.1.a.1
Language Arts Standards CCSS.ELA-LITERACY.RI.3.7, CCSS.ELA-LITERACY.W.3.3

Ask your students the following questions:
What kind of creature is Charlotte, the titular character in Charlotte’s Web? Are there clues in the title of the play that indicate what kind of animal she is? What descriptive words would you use to describe Charlotte? Can you guess the name of her species? In this activity, students will be bona fide arachnologists, gaining creative understanding of some of nature’s most misunderstood creatures.

Activity

1. Divide the class into groups of four to five students and pass out copies of the Who is Charlotte? Info Sheet, located on the next page. Students should take turns reading the info sheet aloud to their group, and study the illustration together. They should then fill in the blanks on the spider diagram.

2. Using the info sheet and their knowledge of spider anatomy, have each group work together to imagine and design a new breed of spider. Each group should use a blank sheet of paper and pencils to sketch out and label the parts of their new spider. How is their spider different or similar to Charlotte?

3. Once each design is complete, have the groups present their sketch of a new spider to the scientific community. They should tell the class their spider species’ name, as well as information they have decided about their spider’s habitat, adaptations, lifestyle, or any other fun facts.

4. After the presentations, have students individually write a descriptive paragraph about their spider as if it were a character in Charlotte’s Web. Make sure to give the spider a name and write about their personality. Perhaps their spider is giant and scary, but really just wants to make friends! It could also be a scrappy young spider who accidentally bumps into things as it swings. How does their spider anatomy inspire its personality? What kind of performer would play this spider on stage? Encourage your class to be creative and use descriptive adjectives.
Who is Charlotte?

Good question! Charlotte is an *Araneus Cavaticus*, better known as common **Barn Spider**. Native to North America, Barn Spiders often build their webs in between structures such as bridges, fences, porches, and of course, barns. Like most spiders, Charlotte’s fangs have venom! Don’t worry, though- Charlotte’s venom isn’t strong enough to harm humans.

Spiders belong to a group of animals called **arachnids**. Arachnids are creatures with two body segments, eight legs, and no wings or antennae. Arachnids are not able to chew. Many people think that spiders are **insects**, but they are mistaken. Insects have six legs instead of eight and three main body parts instead of two. Most insects have wings.

Spiders have two body segments. The front segment is the **cephalothorax**. The spider’s eyes, mouth, **fangs**, stomach, brain, eight legs, and **poison glands** are parts of the cephalothorax. Most spiders have eight eyes, but some have fewer. Next to their fangs, spiders have **pedilaps**, which help to hold prey while the spider bites it.

The second segment of a spider’s body is the **abdomen**. This is where a spider has its **spinnerets**, which the spider uses to spin its web. The spider’s body has oil on it to keep the spider from sticking to its own web!

Spider legs are covered with hairs. The hairs pick up vibrations and smells from the air. Spiders have 48 knees! Yup, count them...eight legs with six joints on each.

All spiders have fangs, and most have poison! Lucky for us, most spider poison will not harm people, because it is quite weak. Most spiders use their venom to paralyze insect prey long enough to eat it. For other spiders, their poison is strong enough to kill their prey. Of course, poison also comes in handy when being attacked by a predator. There are a few spiders with poison strong enough to cause pain or even nerve damage in humans. These spiders include the **Black Widow** and the **Brown Recluse** spiders. Although people sometimes think Tarantulas have dangerous poison, this is untrue. A bite from a tarantula is only about as painful as a bee sting!

Now that you have learned about spider bodies, use the word bank to label the diagram of a barn spider on the next page!
Anatomy of a Barn Spider

Word Bank
Cephalothorax - Fangs - Eyes - Legs - Pedilaps - Abdomen - Spinnerets
As I Grow

Science Standards MDK-2.C.1.a-d
Visual Art Standards MDI:3-5:1

Charlotte’s Web begins with the birth of Wilbur and ends with the birth of Charlotte’s babies. In the play, we see Charlotte die and Fern grow into adolescence. At its core, this story is a celebration of all the stages of life.

List the five stages of life (newborn, child, adolescence, adult, and elder) on the board. What do your students know about each of these stages? Categorize the characters from the story of Charlotte’s Web within each stage of life. Are there some characters that move from one stage to a different one? How do different species of animal move differently through the stages of life?

What happens to Charlotte at the end of the story? What stage of life are your students in currently? Ask your students what they like and do not like about their current stage. What do they imagine life will be like during the other stages?

Explore these ideas through the As I Grow Worksheet on the next page.
**As I Grow**

Use crayons, markers, or colored pencils to draw yourself at different stages of life!

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newborn</strong></td>
<td>I was a newborn in _________ (year)</td>
<td></td>
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<tr>
<td></td>
<td>Drawing:</td>
<td></td>
</tr>
<tr>
<td><strong>Child</strong></td>
<td>I am a child in_________ (year)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drawing:</td>
<td></td>
</tr>
<tr>
<td><strong>Adolescent</strong></td>
<td>I will be a teenager in __________ (year)</td>
<td></td>
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<tr>
<td></td>
<td>Drawing:</td>
<td></td>
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<tr>
<td><strong>Adult</strong></td>
<td>I will be an adult in _________ (year)</td>
<td></td>
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<tr>
<td></td>
<td>Drawing:</td>
<td></td>
</tr>
<tr>
<td><strong>Elder</strong></td>
<td>I will be an elder in __________ (year)</td>
<td></td>
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<tr>
<td></td>
<td>Drawing:</td>
<td></td>
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</tbody>
</table>
MATH

Trash Math with Templeton


Templeton the rat is often seen collecting trash on stage in Charlotte’s Web. What objects did your students remember seeing him carry? What else do they think he might have collected during a county fair? Use the Trash Math Worksheet on the next page to explore volume and mass in Templeton’s world!

HEALTH

Meal Time

Health Standards 6.1-2.F.1

Charlotte’s Web opens with the birth of the main character, Wilbur. Ask your class to describe Wilbur as a newborn pig. Why did Fern’s father want to get rid of Wilbur? How did Fern help Wilbur to grow bigger? The nutrients Wilbur was given helped him grow. Ask your students what kind of foods they eat to help them grow. Show students the plate diagram on https://www.choosemyplate.gov/ that explains the proportions of the different food groups that make up a healthy diet.

Activity

Ask each student to draw their own plate, guided by the Choose Your Plate model. The plate should contain foods they like to eat! Once each student has drawn a plate, break students into four to five groups and have them compare their plates. Then, each group should make a new plate they all agree is well balanced. Have each group present their new plate to the class. Decide as a class whether each plate meets the standards for a balanced meal.
Templeton’s Trash

Templeton picked up more trash at the fair than he can bring back to the farm. Look at the pictures to see all the food Templeton found! Help Templeton figure out what he can bring and what he has to leave behind.

1g Apple 0.5g Cotton Candy 2g Popcorn 1.5g Chocolate

1g Gummy Bear 6g Hotdog 3.5g Funnel Cake 3g Chips

5.5g Pizza 5g Turkey Leg 0.5g Chewed Gum 1g French Fries
1. Templeton’s bag can hold 20 grams of trash. He has 30.5 grams of trash to sort through. Use addition and subtraction to figure out what Templeton can bring back to the barn and what he has to leave behind. Write out the mathematical steps you took and solve the answer. Make sure you show your work and write down the correct units of measurement.

My Bag (20 g)

2. Now that he has 20g of food, Templeton wants to have more sweet food than salty food. Look through your bag and make sure there are more sweet foods than salty food. Use addition and subtraction. How many sweet foods and how many salty foods do you have?

Number of sweet foods: _____________

Number of salty foods: ______________

3. Bonus: Templeton wants share some of his collection with Charlotte’s three babies. How many grams of Templeton’s collection will Templeton and the three babies get for the bag to be shared equally? Use division.

____________________ grams each
Ask your students what the word ‘protect’ means to them. Discuss how the characters in *Charlotte’s Web* protect one another (e.g., Goose and Gander protect their eggs, Fern protects Wilbur, Charlotte protects Wilbur, etc.). Characters in stories are often motivated by their desire to protect something or someone. Can your students think of any other stories where characters want to protect something from harm?

**Activity**

It’s time to create a story! Based on the word ‘protect’, have your students brainstorm ideas for a short story about a character who wants to protect someone or something. For an example brainstorm structure, see the table below.

Their stories can be based on something that happened in their lives or involve completely imagined characters (even animals like in *Charlotte’s Web!*). Encourage your students to brainstorm more than one idea before picking one to write out. Once the brainstorm is completed, they should begin writing their narrative. Each story should have a clear beginning, middle, and end.

After stories are complete, take volunteers to read their story aloud to the class.

<table>
<thead>
<tr>
<th>My main character</th>
<th>My main character is protecting:</th>
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<table>
<thead>
<tr>
<th>What do they need to protect it from?</th>
<th>How do they protect it?</th>
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</table>

imagination stage
inspire. ignite. engage!
THEATRE

**Animal Menagerie**

Theatre Standards Cr1.1.K; Cr1.1.1; Cr1.1.4.c

The job of an actor is to create characters and tell a story. To help create characters, actors will often look at animals for inspiration. For example, if an actor is playing a sly character, they might try to mimic the movements of a fox. If they are portraying an old character, they might try to hunch their shoulders like a turtle’s shell.

Ask students what their favorite farm animal character was in *Charlotte’s Web*. Talk about how even though the actors were people, they changed the way they moved to resemble animals. To demonstrate this concept, have students think of a pose that best exemplifies their favorite farm animal character from the show and strike it. Have students guess which character their classmates are portraying. Have students then walk around as that character.

**Activity**

Now that the students have an idea of how to move based on a character they have already seen, have them make up a character of their own!

1. Have your students come up with a list of farm animals, including some that were not in the play.

2. From that list, have each student pick an animal. Multiple students can pick the same animal.

3. Ask the students to write down everything they know about their chosen animal, such as if their animal is tall or short, if it has four legs or two, if it has slow movements or fast movements, etc.

4. From what they have written down, have half the class stand up and strike a statue of their imagined animal. Let the other half of the class study the statues, guessing what animal each of their classmates have become. Then, switch groups and have the other half of the class perform.

*Continued on next page*
5. Once the second group has guessed the animals, have the whole class assume their animal statues. Tell the class that if you tap them on the head, they may begin to walk around the classroom like their animal. If you tap them on the head again, they must freeze. Use this as a tool to make sure not too many students are moving at once! Remind them to use only their bodies and not their voices so they can hear your instructions.

6. As they move as their characters, call out suggestions of things to layer on top of their movement (e.g. how would the character move if they were sad, how would they move if they were tired, how would they move in a very hot climate, etc.).

7. Call out three or four suggestions, and then have the students return to their seats. Have each student pull out some paper and journal silently about what moving like an animal felt like. Ask them if that feeling changed when the various prompts were layered on top. Ask the class if anyone would like to share their observations.
SOCIAL STUDIES

Out on the Farm

Social Studies Standards 1.3.B.2.a-c, 3.2.B.d, 3.2.D.1.a

*Charlotte’s Web* takes place in several locations, but most of the action takes place on farms. Ask students if they have ever been to a farm before. Discuss the fact that at one point in history, most people had to be some kind of farmer, and could not walk or drive to a Trader Joe’s! Discuss how society has moved from an agrarian lifestyle to where we are today. Do your students think family farms are still valuable today?

**Activity**

Students should read the *Local Farm Guide* included on the next page. They can also research pictures of local Maryland farms using the internet. From their research, have students design a shoebox diorama of their very own farm. Each diorama needs at least one crop, one farm animal, and one farmer. Make sure the diorama has the name of the farm that it is depicting.

**Suggested Materials**

- Shoebox
- Scissors
- Colored paper
- Plastic farm animals
- Popsicle sticks
- Glue
- String

**Procedure**

1. **Find a base.** The base of a diorama is typically a shoebox, but if a shoebox is not available, get creative! Tissue boxes can make great bases, as well as any kind of reusable container.

2. **Create a background.** The simplest background could be colored paper— green for grass, brown for earth, blue for sky, etc. For a more detailed project, have students paint or draw a landscape.

3. **Make and place the figures.** Students can use a wide variety of things for figures. They can make them out of paper or popsicle sticks, color and cut out coloring pages, or use plastic figurines. With this project, students can get as creative as they’d like and materials allow.
A Taste of Maryland Farms

Maryland farms are extraordinarily diverse. Listed below are three examples of farms that serve all different kind of purposes. Pick one that inspires you or pick a combination of them all and build a diorama of your very own farm!

Different Maryland Farms

Clark’s Farm has been in Howard County for over 200 years. This is a family farm where everyone does their part. They have raised crops and worked in dairy production, but their claim to fame is the beef cattle they raise. They have open fields for grazing, so any diorama based on the Clark’s Farm is going to need some grass and large cattle!

Jones Family Farm prides itself on being a part of the Maryland community. They run their very own farmer’s market where they sell a variety of different produce: spring onions, lettuces, yellow tomatoes, watermelon, and many more. Currently their family friendly pumpkin patch is a big hit. How could you show a pumpkin patch in your diorama?

Poplar Spring Animal Sanctuary is not a farm in the traditional sense. Poplar Farm is a place for farm animals that may have not been treated well by their previous owners. Poplar Spring has over one hundred volunteers and four hundred acres of land to help farm and wildlife animals. If you were to build something based on this sanctuary, you might want to add a variety of different animals to the diorama.