

Anansi's Tricks of the Trade

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Overview

Topic: Addition and comparison. Anansi the Spider has many tricks of the trade for math and science. This lesson will explore several problem solving and critical thinking strategies which involve addition, mass, and levers. Students will try to beat Anansi at his own game.

Length of Lesson

45 minutes

Instructional Video & Technology

Mathica's Mathshop #3, Food for Thought 
 (Extensions) *Science is Elementary #6*, Let's Explore Tools and Work 
 (Extensions) *Telling Tales #10*, Anansi's Rescue from the River
 (Extensions) *Animal Families #19*, The Spider
 (Extensions) *The Ultimate Children's Encyclopedia* CD-ROM by The Learning Co.
 (Extensions) *Wishbone #106*, Bark that Bark
Thinking Science CD-ROM by EdMark
Sammy's Science House by EdMark
The Graph Club by Tom Snyder Productions
Kid Pix by Broderbund's
 World Wide Web <www.janetstevens.com/books>

Learning Objectives

The student will be able to:

- solve basic addition and subtraction problems using problem solving strategies (Va. SOLs Math 1.9)
- compare the weight of two objects using a balance scale (Va. SOLs Math 1.14)

Materials

For the Teacher:

- brown paper shopping bag with 2 bananas & about 10 small potatoes of equal size hidden inside
- variety of Anansi the Spider literature selections (Example: *Anansi and the Moss Covered Rock* by Eric Kimmel)
- large balance scale
- meat tray filled with a layer of clay spread in the tray
- 8 yellow and 8 orange popsicle sticks
- poster board sized drawing of Anansi the Spider which shows 8 legs
- egg carton with 12 small white cubes or 12 plastic eggs

For each pair of students:

- 8 orange and 8 yellow Unifix cubes (or 8 orange and 8 yellow colored popsicle sticks)
- 1 ruler and 1 crayon
- 10 paper clips (large or small) or substitute Unifix cubes or similar counters

Pre-Viewing Activities

1. Before the lesson, read and discuss a short Anansi the Spider story. Focus on how Anansi tries to trick the animals in the story. Ask students to explain how Anansi is a trickster.



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2. Have students retell the Anansi story previously read. Recall the tricks he played and what happened in the story.

3. Show the class the shopping bag (with bananas and potatoes hidden inside.) Give one clue such as "You have to buy these at the grocery store." Have students predict what is inside by the "20 Questions" game format. Students may ask up to 20 yes/no questions to figure out what is in the bag. Show the bananas and potatoes after a student guesses correctly or at the end of the game.

Focus for Viewing

Tell students that Mathica the elf has been shopping and will be visited by someone today in the Mathshop. Ask "Who do you think Mathica's visitor will be? Watch and see so you can tell me." Note to the Teacher: Show the trailer for Mathica's Mathshop only if the class has not previously viewed the series.

Viewing Activities

1. **START** the video *Mathica's Mathshop #3* from the beginning (after the trailer.) **STOP** as the toy spider drops down and Mathica says "She's sitting outside on a tuffet, eating curds and whey." Ask students to describe Mathica's visitor and tell who it is.

2. **Focus:** What types of tricks might Anansi play on Mathica? Tell the class that they will also be learning some tricks (strategies) which will help them figure out math and science problems.

Tell students to watch to see if they predicted the tricks Anansi will play on Mathica. **START** the video. **STOP** when the sign "How many eggs did Anansi eat?" appears on the screen and the narrator reads it. Ask students which tricks Anansi has tried so far were guessed by the class. Ask students to describe how Anansi has changed (from a spider to a Spider Man) and then to retell Anansi's trick on the Alligator. Have two students role play the alligator and Anansi to retell the story. Use plastic eggs or white Unifix cubes to act out the problem.

3. **Focus:** Remind students to watch out for Anansi's tricks again and **RESUME** the video. **STOP** as the sign appears when Mathica says "How many different ways can Anansi play 8 rows of carrots and corn?" Ask students: Why does Anansi want 8 rows of corn?

NOTE TO THE TEACHER Pause vs. Stop

When using a video interactively with students, teachers need to decide when to use **PAUSE** and when to use **STOP**. **PAUSE** the video when the anticipated discussion or activity will take less than two minutes. **STOP** for longer periods. Pausing for too long at one time can cause video heads on the VCR to become clogged which may require cleaning to correct.

4. Show the tray of clay and have a student place yellow and orange sticks in a row to show one combination for 8. Record the equation on the board. Have another student show a different way to make 8 rows and record the equation on the board. Have students predict what combination Anansi will like. **RESUME** the video and **STOP** when the screen shows $4 + 4$ and Mathica says "You plant half your garden in carrots and half in corn." Ask students to explain what Mathica means. Ask students: What are some other combinations of corn and carrots that make 8 rows. Have students show these with the sticks and tray. Record several more equations on the board.

5. Give each pair of students 8 orange and 8 yellow Unifix cubes (or popsicle sticks) and have them show other ways to make rows for Anansi's garden. After about 5 minutes, have each group share the equation made. Record these on the board. If equations are repeated, place a check mark beside the original equation on the board.

6. Play the game Just Like Me by reading an equation from the board: "I know what 5 rows of corn and 3 rows of carrots in Anansi's garden equals." Students stand up and say "Just like me!" Choose one student to read the equation ($5+3=8$.) Tell another story and have students stand and say "Just like me!" Repeat several times.

7. RESUME the video after reminding students to listen for combinations of corn and carrots Anansi may like. Have students listen to find any combinations that the class did not find. Ask the students to raise their hands during the video when they hear Mathica make an equation they made with popsicle sticks. On the board circle the equations that Mathica shows to Anansi. **STOP** the video as Mathica puts out strawberries on the counter and when the Mathmagician says "Beware Anansi's tricks!"

8. Predict what tricks Anansi will try next. Ask students to guess what Anansi may want from Mathica. **RESUME** the video and **PAUSE** when Mathica says "Which one is heaviest?" and this sign appears on the screen. Ask students to think of ways to figure out which item is heaviest (the balance scale should be in view.) Accept all answers.

9. Ask students to look for Anansi's next trick. **RESUME** the video. **STOP** when Mathica says "Wait, where are you going?" and Anansi moves away with the bananas in his hand. Have students explain Anansi's trick.

10. RESUME the video. **STOP** when Mathica says "What do 2 plump bananas weigh in potatoes?" Discuss whether Anansi is making a fair trade by trading his potatoes for the bananas. Say: Let's see how many potatoes 2 bananas weigh. Model how to compare mass with 2 bananas and several potatoes on the balance scale and record on the board. Emphasize that the balance scale is a tool which we use to help us compare the weights of different items.

11. Focus: Ask students to retell several of Anansi's tricks so far. Ask them to watch the video to see Anansi's last trick. **RESUME** the video and **STOP** as Anansi picks up the banana and Mathica says "Oh no, tricked again!" Ask students to describe how Anansi tricked Mathica.

Post-Viewing Activities

1. Have students think and talk about ways the balance scale is a tool. Ask questions such as:
 - What kind of work does the balance scale do?

- How is the balance scale a tool?
- When do you use a balance scale?
- How did Anansi try to trick Mathica using the balance scale?

2. Have students work in pairs to make a simple balance scale from a ruler and a crayon. Give each pair paper clips or counters to practice making the scale balance. Allow about 10 minutes for exploration and then gather students together to discuss what has been learned. Ask What would Anansi do with this balance scale to trick us? Model how paper clips (or counters) can be placed on various numbers on the ruler to make it balance. Have students work together in pairs to find different combinations which will balance the scale. Have the students tell or record the equations discovered.

Assessment

1. Have students write and color different equations for 12, 10, and 6.
2. Draw and write in science journals about ways to use a balance scale.

Action Plan

1. Field trip to a local zoo or farm
2. Speaker: 4-H extension agent to speak about spiders and good and bad insects in the area
3. Have a carpenter visit the classroom and display tools which are levers that are used in building.
4. Visit an internet site for more information on spiders. <<http://www.stemnet.nf.ca/CITE/spiders.htm>> has lots of informations for students and teachers on spiders

Extensions

Science:

- Grow corn, carrots, potatoes. Talk about seeds,

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size of the seeds, the number to plants which grow, as how much room each takes to grow.

- Watch *Science is Elementary #6*. Have students compare the levers in the video to the homemade balance scales. Lead a discussion of different kinds of levers used at home and at school. Compare the balance scale to the seesaw (lever.) Have students predict how Anansi might use the levers to trick us.
- Examine software such as *Thinking Science*, *Sammy's Science House*, and *The Ultimate Children's Encyclopedia* to learn about tools.
- Design a simple toy. Provide Legos or similar building blocks for students to design simple toys. Have students write in science journals about their toys. Display the toys on a table with the inventors' names beside each toy.
- Learn about real spiders. Send a research team to the library to check out nonfiction books about spiders. Read several of the books to the class. Display in a science corner.

English:

- Read and discuss another Anansi story or view the video *Telling Tales #10*. View *Wishbone #106*.
- Write a class story about Anansi. Students work on groups of 3 to illustrate the story. Make a tape of students reading the story. Share with another class.

Math: Grow plants, measure height, water used daily and graph growth.