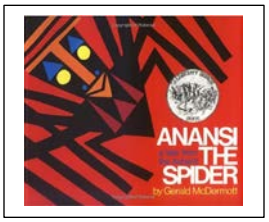
Spider Web STEAM Lesson



Suggested titles:
Any Anansi tales from Africa

- **Anansi the Spider: A Tale from the Ashanti** by Gerald McDermott
- **Anansi Does the Impossible: An Ashanti Tale** by Verna Aardema
- More Titles listed here: https://kidworldcitizen.org/anansi-stories-trickster-spider-west-africa-caribbean/

The Very Busy Spider by Eric Carle
Spiders by Gail Gibbons

Lesson duration: 60-90 minutes with Read Aloud
Suggested Age Range: 4-12

STEM Activity: Build a spider web and "feel' the vibrations when prey lands on the web

- Example: https://buggyandbuddy.com/spider-web-science-activity-for-kids/

***Objective*:** Children will build a model spider web with a center frame and inner woven or tied strands then role play using vibrations to find prey.

***Supplies/Resources/Tech*:**

- yarn or heavy string, one skein per partners or team
- scissors
- 2 chairs per partners or team
- blindfold, bandana or small scarf
- images of a variety of spider webs (from a nonfiction book or online gallery) or use **Spiders** by Gail Gibbons or **Spinning Spiders** by Melvin Berger to describe different web designs
- digital camera, iPad/tablet camera or cell phone camera

Read Aloud: Stop to discuss at talking points and point out any parts that will support understanding of how spider build webs and maintain them and/or different designs of webs.

***Introduction*:**

- Ask children what they already know about spiders.
- Have children turn-and-tell-a-friend. Have a few partnerships share.
- Explain, "Spiders are exceptional hunters that help people by controlling the numbers of harmful insects like germy flies, dangerous disease carrying mosquitoes or aggressive, stinging wasps. They eat hundreds of tons of insects each year. Most spiders are shy and harmless. Even if spiders make you just a little nervous, know they are your arachnid friends."

Children Ask Questions: Encourage children to ask questions about spider webs and how they are made. Answer procedure questions directly. Record these, if able, to revisit later. (Some questions may be answered today and others another visit. You might have to read to find out an answer to your questions. You might look on the Internet or find a YouTube video answer. Some questions just can't be answered and that's okay.)

***Engineering Challenge*:** "Spider webs are elastic and have almost the same strength as a band of steel! Silk spinning spiders use artistic geometric design to create their webs. Show children pictures of spider web designs from books or online. Ask children to describe what they notice about the webs. Have children turn-and-tell-a-friend what they notice. Regain attention. Ask children how they think a spider builds their web. Have children turn-and-tell-a-friend what they think. Optional: show a brief video

about how some spiders start with a “frame” then add the center spirals. [See Smithsonian link below.] Of show the step-by-step pictures from the buggy and buddy link above” Yarn frame, then center strands. Have children describe how this might be done.

***Guided Practice*:**

- Have children partner up and arrange the chairs back to back.
- Encourage them to start with a “frame of yarn.”
- Circulate, helping just a little, as needed. Prompt children to think about how to create a web, not giving them the answers.
- Next have them add in center strands. These do not have to look like spirals or squares, they just need to add to the webbing.
- Circulate, helping just a little, as needed. Prompt children to think about how to add into the webbing, not giving them the answers.

***Independent Practice*:**

- After partners have made final adjustments, have one partner put on a blindfold, using a hand laid lightly on the webbing to model a spider.
- Ask the other child to tap or softly “pluck” anywhere in the web to see if the “spider” can sense the vibrations/movement along the strands.
- Have the “spider” try to guess where on the web the prey is, then peek under the blindfold.
- Repeat two more times.
- Have children switch roles so the other partner can “hear” where on the web its prey is.
- Encourage families to take a picture of their child(ren)’s web and, if possible, record a photo of each spider web to display on a bulletin board.
- Have children dismantle and clean up their model webs.

Children answer questions posed as able or researched Return to the list of questions children asked and have children answer, as able.

***Children Share/Present*:** Have children describe how they created their spider web model. Have children describe what was easy about and what was difficult. How did they solve any difficulties? Who did they ask for help and how were they helped?

- Have everyone applaud for each project.

Additional resources:
https://animalsake.com/what-do-spiders-eat
https://www.terminix.com/blog/education/spider-abilities
https://www.smithsonianmag.com/smithsonian-institution/ask-smithsonian-how-do-spiders-make-webs-180957426/

Developed by: Chelsey, Creator or Buggy and Buddy.com. (September 2015) Spider Web Activity for Kids. https://buggyandbuddy.com/spider-web-science-activity-for-kids/

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