



# Nature-Watch Activity Kit

## Spider Web Frame

(Nature Watch Kit #143)

### Kit Contents

<u>Item:</u>	<u>Kit Size</u>	
	<u>25</u>	<u>100</u>
Foam Spider Web Frame Sets	25	100
Black Chenille Stems	200	800
Wiggle Eyes	200	800
Glue	1	2
Cords for Hanging Frames	25	100
Instructor Manual	1	1

*This page includes the Next Generation Science Standards (NGSS) mapping for this kit and Science, Technology, Engineering, and Math (STEM) extensions (on back) to use in adapting and extending this activity to other subject areas.*

### Next Generation Science Standards Alignment

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1. Use a model to represent the relationship between the needs of plants and animals (including humans) and the places where they live.

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

**See Back for  
STEM Extensions**

*This Nature Watch Activity Kit contains an Instructor Manual and materials to implement the curriculum. The kit was designed to be used with adult supervision only. Unsupervised use is not recommended.*



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## STEM Extensions

### Science

Go on a spider safari. Look around outdoors for spiders (look carefully, as they can be hard to spot sometimes!) and document each one that you find by photographing it and taking notes about its appearance, location, and behavior. Share your observations with others to see if you came across any of the same species of spiders. (Note: Do not touch any of the spiders.)

Create a Venn diagram that shows the similarities and differences between spiders and insects.

Spiders show bilateral symmetry, which means that if you divide the spider's body down the middle, the two halves would be the same. Draw one half of a spider and color it in. Have a classmate complete the spider by drawing the other half, making sure it is the same as the first half. What other organisms show bilateral symmetry?

Make a giant spider web by wrapping string around an arrangement of tacks on a bulletin board; by drawing in chalk; or come up with your own way. Try making different kinds of webs – look up orb, tangle, and funnel webs to see examples. As a group, you can create a web on the floor by sitting in a circle and rolling a ball of yarn from person to person.

### Technology

Create an electronic bulletin board by “pinning” spider pictures. Write an appropriate caption for each picture that explains what you like about the spider or an interesting fact about it. Then share your board with classmates and take a look at their boards to learn about other spiders.

Create a quiz show game about spiders in PowerPoint. Play back the slides and try to stump your classmates, then click to reveal the answer. Decorate your slides with a spider theme.

### Engineering

Design a dragline like the kind that spiders use. Figure out a way to make the dragline go up and down quickly, so the spider can descend and ascend when it wants to. Test out your dragline with fake spiders, big and small.

Some spiders create shelters for themselves to stay safe. For example, one type of spider rolls up a leaf, holds it together with silk, then goes inside. An underwater spider makes a bell-shaped shelter and goes inside it. Come up with some new ideas for spider shelters using materials that are found in their natural habitats. How would a spider make these shelters?

### Math

Use the information in “Did You Know” on page 4 to figure out approximately how many spiders would be found on a football field. Try making a to-scale model of this by creating a football field from craft supplies, then using some tiny objects to act as the spiders. Does the football field look full of spiders or is there a lot of empty space?

Take a poll to see who likes spiders and who doesn't (or who is afraid of spiders and who isn't). What is the ratio of people who like spiders to people who don't? Use the data you collect to make a graph. Repeat the poll with other classes/groups of students to see if you get a similar ratio or not.