



SPIDER SCIENCE

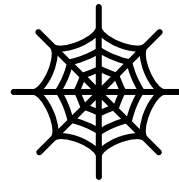
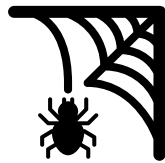
Did you know there are over 43,000 species of spiders in the world? Spiders are not insects. They belong to the **arachnid** family. Most spiders create webs and these webs make repeating patterns – called **fractals**. Let's explore spider webs.

This week's activity: Zentangle Spider Webs

Zentangle Spider Webs

Spider webs are made of liquid silk that is created inside the spider's abdomen. When the spider releases the silk, it forms a solid thread, enabling a spider to construct a web in about an hour. The spider uses its web to catch insects for food. You might see spider webs outside or inside your home.

When spiders form their webs, you will notice there are patterns, like these black and white illustrations:



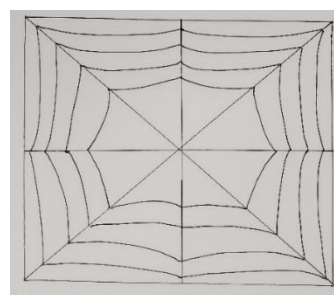
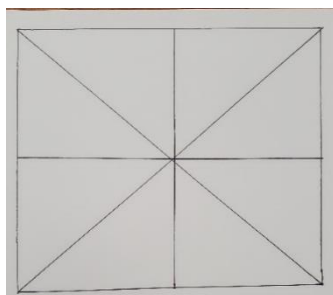
These patterns are called **fractals**. A fractal is a never-ending pattern, one that is made by repeating a simple process. Spider webs are one place we can see fractals in nature. We can also see them in seashells, snowflakes, and trees. Can you think of other places in nature you can see fractals?

Suggested materials:

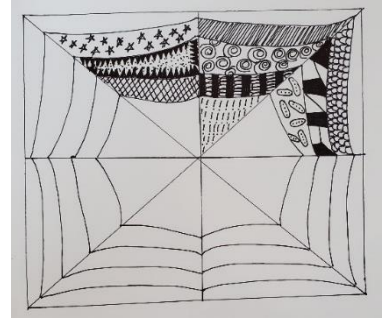
- Pen, pencil, markers or pencil crayons
- Fine black marker
- Paper
- Ruler

Directions:

1. Decide which type of web you would like to make and start to draw it. Will you make a web that starts in the middle of your paper? Or one that starts at one corner? Outline your design in pencil or a fine black marker.

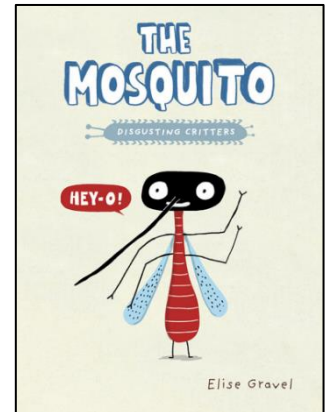
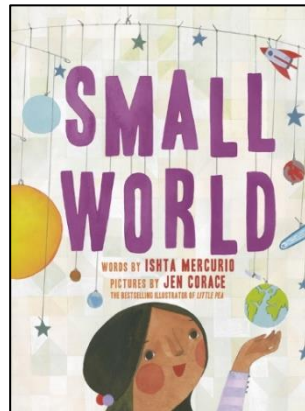
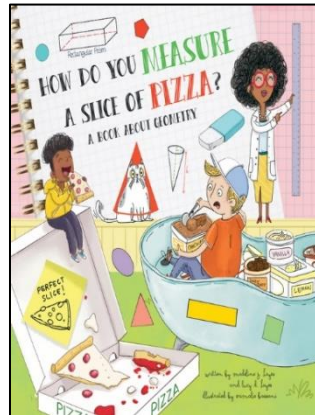
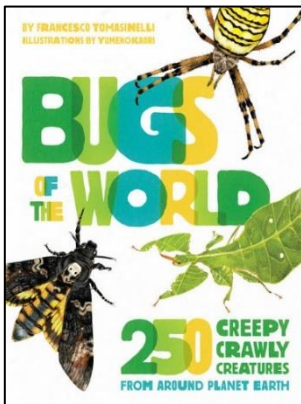


- Once you have created your web, take your black pen or fine black marker and start to fill in the white sections of your web with many patterns. You can choose any patterns you like but keep the pattern consistent in each blank section – this is called **zentangling**. You could make stars, swirls, geometric shapes or any other shape you'd like.
- Once you have completed your spider web design, you can leave it as just black and white or you can use pencil crayons or crayons to colour in the different sections.



Links to eResources:

Check out our [eBooks](#) on these topics:



[Geometry](#) | [Insects](#) | [Nature](#)

Search **Zentangle** on **Hoopla Kids**. Check out *Zentangle for Kids* by Jane Marbaix and *Drawing Zentangle Bugs and Butterflies* by Catherine Aird. Also look up the term **spiders** to find books such as *Spiders Weave Webs* by Katie Marsico and *101 Amazing Facts About Spiders* by Jack Goldstein.

Watch *Spider Webs*, a part of the series *Wild by Nature Shorts* on **Summa Kids**, and Episode 39 of **Earth to Luna!** called *Spinning Webs* on **KanopyKids**. Learn how spiders build their webs, where the string come from that they build them with, and why they build them.

You can get a library card at hpl.ca/online-registration.

If you would like to share one or all your creations, please take a picture and post it to social media using the hashtag, **#HPLmakesomething**.



#HPLmakesomething

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