



JOIN US AS WE EXPLORE SPRINGS!

A spring is an object that is used to store energy. If you have ever played with or seen a toy Slinky, you have seen a spring! When a spring is compressed or pulled apart, it uses that energy to try and return to its original shape. The more a spring is compressed or stretched apart, the more force is released by letting go of the spring. Springs can make objects move, like the spring in a wind-up toy. Springs can also make objects stop, like the springs on a doorstep.

We think of springs as having a coil or spiral shape, but springs can have a zig-zag shape, cone shape or even look like a bow-and-arrow. Springs can be very stiff and not move much, or springs can be bouncy. Springs come in all shapes and sizes!

Let's learn more about springs as we spring into science!

LET'S READ

Find a comfortable spot and read about springs! Here are some ideas to get you started:

- *The Marvelous Thing That Came From a Spring* by Gilbert Ford
- *Exploring Magnets and Springs* by Carol Ballard
- *How Toys Work: Springs* by Sian Smith

You can download digital copies of these books for free from openlibrary.org. Here is how:

1. Go to openlibrary.org.
2. Click the blue "sign up" button on the top right to create a free account. You will be sent a confirmation email.
3. Sign in.
4. Type the book title and author into the search bar.
5. Find your book and click the blue "borrow" button.
6. Don't forget to return your book when you are finished reading it!

KEEP GOING:

Set up an online reading group with some of your friends or family. You can read the same book, then talk about what you learned, or you can read different books and share fun facts about springs.

SEARCHING FOR SPRINGS!

Many things use springs! Springs are everywhere and are used in different ways. They can provide bounce, hold things together, store energy and release it, provide support, help objects to be flexible and more! Explore how springs move, stretch and compress with this activity.

Before you start, you should have:

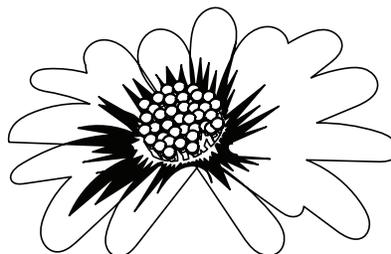
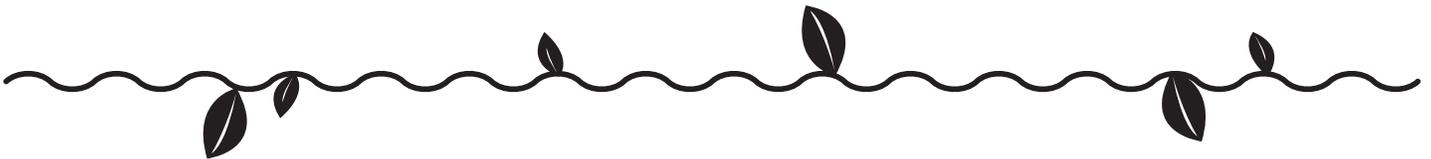
- Two or three springs in different sizes (you can find these online or at a hardware store)
- A journal or piece of paper
- Something to write with, like a pencil or pen
- A ruler, or something to measure with

GET STARTED:

1. Observe the springs and draw them in your journal. What shape and color are they? Are they long or short? Big or small?
2. Play with the springs! Can you make the springs bounce? Can you stretch them or compress them?
3. Measure each spring and record how long they are in your journal.
4. Compress each spring as much as you can and measure them. Record how long they are in your journal. Which spring became the shortest when compressed?
5. Stretch each spring as far as you can and measure them. Record how long they are in your journal. Which spring became the longest when stretched?
6. Compress each spring and gently let them go. What happened to the springs?
7. Stretch each spring and gently let them go. What happened to the springs?
8. Think: What are some things you think springs could be used for? Do you think one spring would be better than another to do different tasks?
9. Share what you observed with someone!

KEEP GOING:

- Search throughout your house to see if you can find any examples of springs.



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MAKE A PAPER SPRING

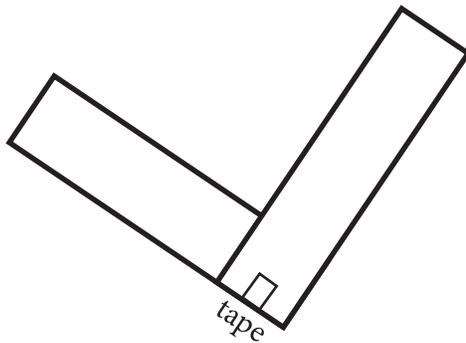
Springs are usually made from different kinds of metal, like copper or steel. You can find metal springs in many things including mattresses, clocks and cars. However, springs can be made from other materials too, like plastic. A slinky is an example of a plastic spring. A bow-and-arrow is a spring that is made of different materials like wood or plastic and string. You can even make your own spring to play with out of paper!

Before you start, you should have:

- Two strips of different colored or white paper (1 inch by 8 inches)
- Tape
- Optional: markers or crayons

GET STARTED:

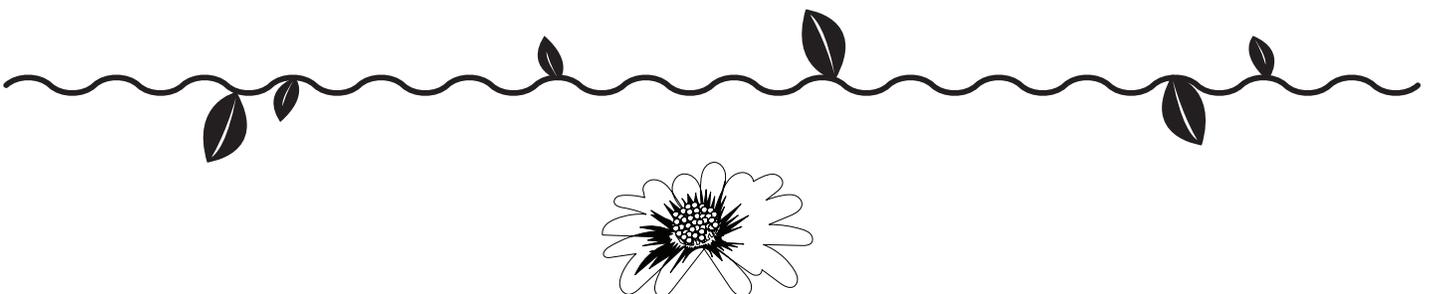
1. Begin by overlapping the ends of the colored paper at a right angle. Use a piece of tape to hold them together.



2. Snuggly fold the bottom strip of paper over the top one.
3. Snuggly fold the strip, now on the bottom, over the paper now on top.
4. Continue the pattern of folding the lower strip of paper over the top strip.
5. When there is no more paper left to fold, use a small piece of tape to secure both ends together.
6. Have fun playing with your paper spring!

KEEP GOING:

- Decorate your strips of paper with markers or crayons before folding them.
- Experiment with ways to make a coil or spiral spring from paper.



CONTINUE →

LET'S PLAY: SPRING RELAY

How do springs move? Springs can twist, bounce, push and pull! Springs can store energy and let it go quickly. Think about ways that a spring can move with this movement activity.

Before you start, you should have:

- Space to move
- A timer
- Optional: a partner

GET STARTED:

1. Think about some ways springs can move. What happens when you push down on a spring and then let go? It bounces!
2. Act like a bouncing spring by crouching low to the ground and jumping, or springing, upwards.
3. How far can you jump like a spring?
4. Pick a place to be the starting line and a place to be the finish line.
5. Bounce like a spring from the starting line to the finish line. How quickly did you finish?
6. Try again and see if you can bounce to the finish line faster or in fewer jumps!

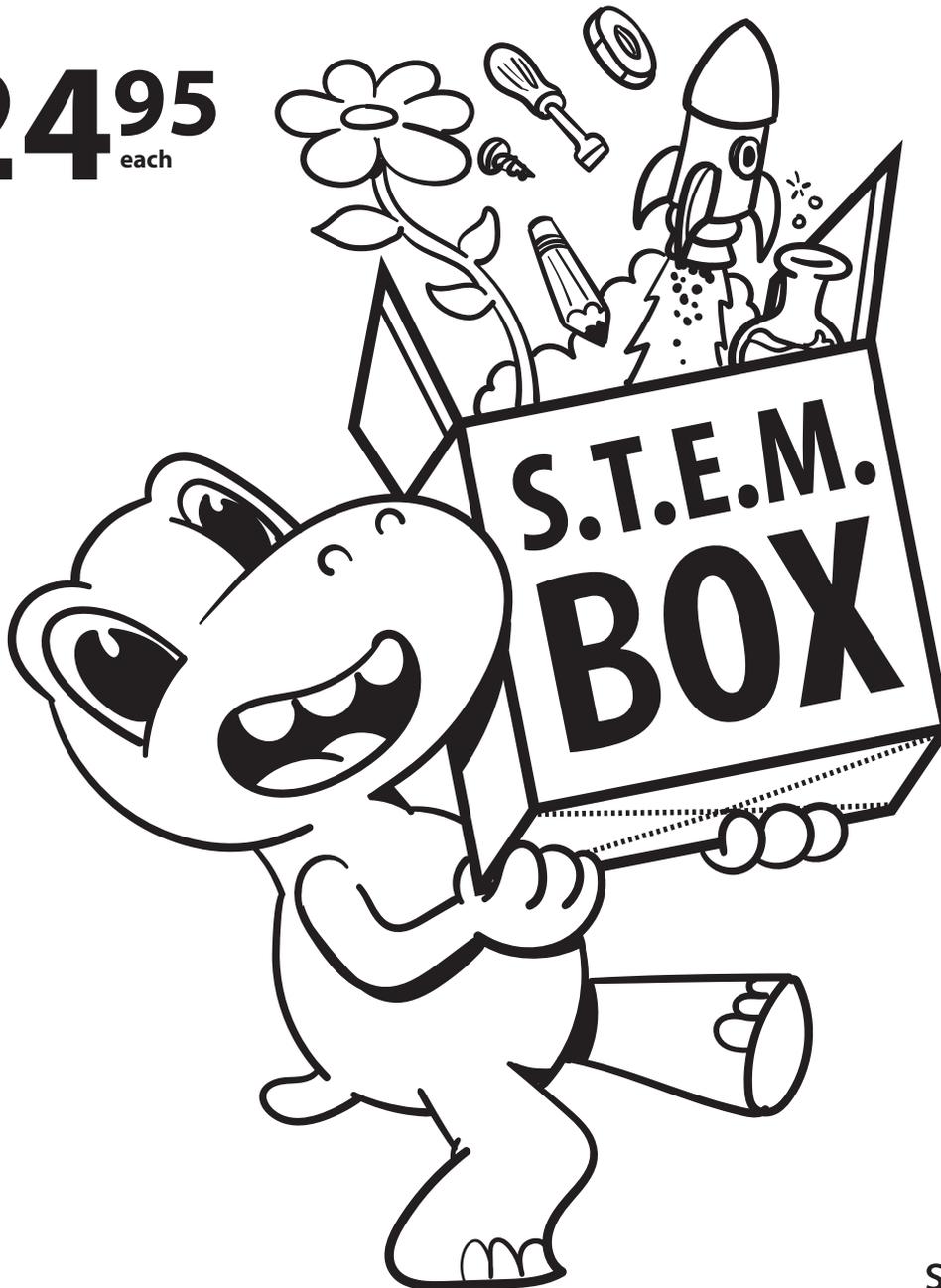
KEEP GOING:

- See if you can get to the finish line in a specific number of jumps.
- Race a partner to the finish line!

The Sam Noble Museum brings the excitement of science discovery to learners at home with STEM Boxes.

Each themed box contains step-by-step directions and supplies needed to complete two or more hands-on activities that meet Oklahoma Academic Standards (OAS) and Next Generation Science Standards (NGSS) for grades K to 5.

\$24⁹⁵
each



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