

SUMMER BREAK @HOME

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Calling All Inventors!

Read about famous inventors and their inventions, then become an inventor yourself by making the projects in this book! This kit comes with a few special supplies that you can use with things you can find around you to build some of the projects in the book. You might not have the exact supplies to make each project, but sometimes the best ideas come from using some creativity and imagination.

This kit includes:

- *Calling All Minds!* by Temple Grandin
- A few special supplies:
 - Silver paper to make a kaleidoscope
 - Paper fasteners to create a marionette puppet and other paper toys
 - Balloon and newspaper for papier mache
 - Yarn to use for multiple projects
 - File folders to use in projects that need cardstock or other thick paper
 - Propeller, index card, and craft stick to make a simple helicopter
 - White paper for multiple projects
 - Paper clips for multiple projects
- A few ideas for other ways to complete some projects with alternative supplies.
- Library book recommendations about other inventors and inventions

As you create your projects, share them with the library community on social media by using the hashtag **#RCLReadMakeDo** to show us what awesome inventions you're making! We can't wait to see what your mind can do!

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Kaleidoscope

There are great instructions for making your own kaleidoscope in *Calling All Minds*. Here's another great way to make one with supplies that you might have around you!

You'll need:

- Cardboard tube (toilet paper tube is the best size!)
- Colorful paper or paint to decorate the tube (optional)
- Shiny silver paper (included in this kit)
- Drinking straw, pencil, or stick
- Markers or colored pencils
- Scissors
- Tape
- Circle template (at the back of this packet. Trace or print it on thick paper or glue or tape it to cardboard to make it stronger!)
- Rubber band (optional)

Directions:

1. Decorate your tube with colorful paper or paint. (Optional.)
2. Fold your silver paper into a triangle with the mirror side on the inside, leaving one small flap to fold over the top. Tape the folded piece over the top of the triangle.
3. Put the mirror triangle inside the tube, and tape it to the end of the tube to hold it in place.
4. Tape a straw (or pencil or stick) onto the tube.
5. On your paper circle template, color in your circle with lots of colors, then cut out the circle.
6. Cut on the X so the straw can fit through. It helps to fold the circle in half and make a little cut, then fold it in half the other way and make another cut.



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7. Fit the straw through the paper circle, and try out your kaleidoscope! Look through the open end of your kaleidoscope and spin the circle slowly. If your paper feels loose on the straw, you may want to wrap a rubber band around the straw to hold it in place.
- What do you see?
 - How does the picture change?
 - Does it change if you spin faster?
 - Do you see different things when your kaleidoscope is around a lot of light?



Challenge: Using your scrap paper, make a cover for the end of your kaleidoscope with a small hole for your eye, and tape it to the kaleidoscope. How does this affect what you see?

Challenge: Using your paper circle template (or other paper, if you run out!), make different designs on each circle. How do the different designs look in the kaleidoscope? What shapes and colors reflect best in it?

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Marionette Puppet

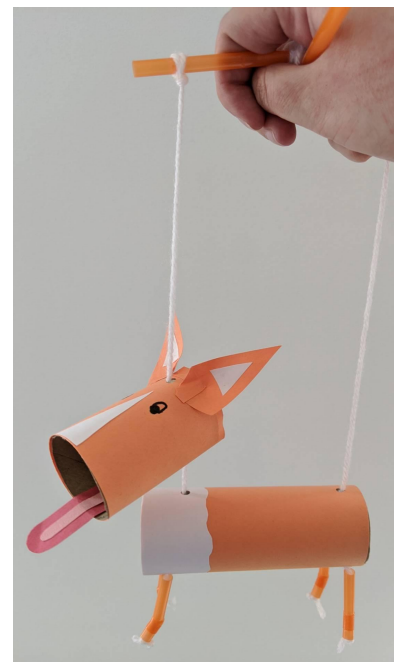
Calling All Minds has great ideas for making a marionette puppet, but not everyone has poster board at home. There's a good chance, though, that you might have a cardboard tube from paper towels or toilet paper that you could put to use! Try these instructions to make a magical moving marionette!

You'll need:

- Cardboard tubes
- Yarn, string, or dental floss
- Scissors
- Tape
- Sticks (craft sticks, pencils, or sticks found in a yard or park)
- Hole punch or other tool to create holes for string
- Optional ideas for building and decorating your marionette: colorful paper, paint, tissue paper, googly eyes, ribbons, straws, glue, markers, recycled materials like bottle caps and scraps of paper. If you have it, you can probably use it!

Directions:

1. Decide what kind of puppet you want to make. A dog? A frog? A giraffe? A dragon? There are so many possibilities!
2. Once you decide, think about what kind of body shape your puppet will need. You'll probably need at least one tube for the body and one for the head.
3. Depending on the shape of your puppet, you might need to make the head tube smaller. The head of this corgi puppet was trimmed to be a little shorter than the body.



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Marionette Puppet

Directions:

4. Decorate your puppet's body and head using the materials you like. You might want to use colorful paper, tissue paper, or use markers to color right on the material!
5. Once you've decorated the puppet, poke holes in the tubes so you can connect the head and body with string. If you don't have a hole punch, the tip of a pen will work!
6. Poke holes in the body to attach legs.
7. Tape or glue two sticks together in the shape of an X. You'll use this as the controller for your puppet.
8. Poke holes in the body and head to attach strings that connect to the controller.
9. Make your puppet move!

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Parachute

Calling All Minds has creative instructions for making a parachute that can safely deliver toys from tall heights. In case you don't have the supplies the book suggests, here's another great way to make one with other supplies you might be able to find around your home.

You'll need:

- Plastic bag, coffee filter, napkin, or other light cloth or paper
- Yarn, string, or dental floss
- Scissors
- Tape (optional)
- Small toy or figurine

Directions:

1. Make sure your parachute cloth or bag is cut into a flat shape. If you're using a plastic bag, you may want to cut off the handles so the bag is a square shape.
2. Cut four pieces of string (or something like string) so that they are the same length.
3. Tie one string to each corner of the parachute. If you're using something round like a coffee filter, space the four ties out across the circle. If it seems like the string needs a little tape, use tape to secure it.
4. Make sure all of the strings are even.
5. Use the strings to tie your toy securely.
6. Stand at the top of a staircase or on a step (be careful!) and let your parachute fly! How did it land? Did your toy stay tied with the string?

Challenge: If you have more than one toy, see which ones fly faster or slower. Why do you think the speed changes?

Challenge: If you have a plastic or paper cup available, try making a basket for your toy to ride in and tie it to the strings. How does this change the speed?

Challenge: Challenge a friend or family member to make a parachute! Race to see whose parachute flies the fastest.

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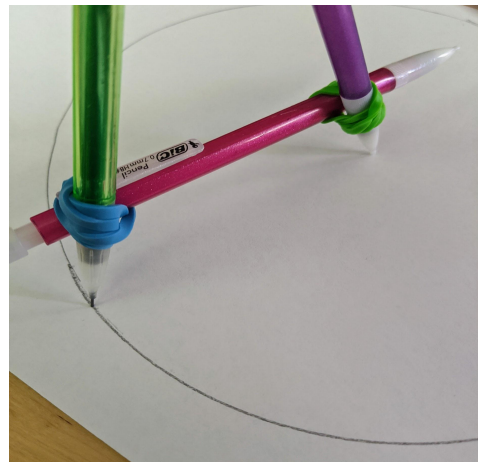
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Homemade Compass

The last project in *Calling All Minds* asks you to use a compass, which is a cool tool people use to draw circles for all kinds of math, science, and art projects. You can make one at home using a pencil and two other stick-shaped materials, plus some rubber bands. You might use pencils, pens, straws, sticks, or something else your imagination invents!

Use the pencil as the drawing tool, and the piece across from the pencil to hold your new compass in place. Use the bottom piece to change the size of the circles you'll draw.



Kaleidoscope template

