


Christmas



STEM COUNTDOWN CHALLENGE CARDS

Mark off each day as you complete the STEM challenges.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25 

Christmas STEM Activity Supply List

Acrylic paint	Golf tees	Rubber Bands
Aluminum foil	Gumdrops	Sand
Baking soda	Hammer	Scissors
Baggies	Hinges	Screwdriver
Bamboo sticks	Jingle bells	Skewers
Cardboard	Leaves	Soil
Clothes pins	LEGO® bricks	Sponges
Coffee filters	Lollipop sticks	Springs
Cookies	Magnets	Stapler
Cookie cutters	Marbles	Sticks
Cotton balls	Nails	Straws
Cotton swabs	Needle and thread	String
Craft paper	Newspaper	Styrofoam balls
Craft sticks	Nuts & bolts	Tape
Diapers	Paint	Tape measure
Dryer hose	Paper	Tea lights
Duct tape	Paper cups	Tin can
Faux plants	Paper clips	Toilet paper rolls
Feathers	Paper plates	Toothpicks
Felt	Peeps	Twine
Fish line	Pencil	Twist ties
Flat marbles	Pipe cleaners	Washers
Food coloring	Plastic bowls	Washi Tape
Funnel	Plastic spoons	Water
Gears	Plastic wrap	Wire
Glitter glue	Pom-poms	Wooden planks
Glow stars	Raffia	Yarn
Glue	Ribbon	Zip ties



BUILD A CHIMNEY FOR SANTA

Use items from the supply list to make the chimney for Santa.



DESIGN & BUILD

A CHRISTMAS TREE

Use items from the supply list to make a new tree for Santa.



CANDY ENGINEERING

What can you build for Santa using gumdrops and toothpicks?



DISSOLVING CANDY CANES

What is the fastest way to dissolve a candy cane? Record your results.



PARACHUTE FOR SANTA

Just in case Santa falls, make him a parachute.



SILENCE A JINGLE BELL

Bells are noisy, can you make a quiet jingle bell?



BUILD A PLASTIC CUP TREE

Can you build a Christmas tree with 100 cups?



CREATE A JINGLE BELL MAZE

Use a cardboard box top and create a maze for a jingle bell.



BUILD A PULLEY FOR SANTA

Help Santa move that big bag of presents easily.



SANTA'S LETTER AIRPLANE

Write a letter to Santa and turn it into an airplane. How far will it go?



MAKE A PAPER CHAIN

A classic project, but this one should be the length of your room.

A MAP FOR SANTA

Remind Santa which house is yours! Draw a map of your street.



HOW LONG IS SANTA'S SLEIGH

Look up the information and use a tape measure to check out the size.



COOKIE TASTE TESTING:

5 SENSES

What cookies will Santa like best? Use the 5 senses to find out.



DRAW A FLOOR PLAN FOR SANTA'S WORKSHOP

Design Santa a new workshop.



DESIGN A NEW TOY MAKING MACHINE

How can Santa make more toys faster?



HOT CHOCOLATE TESTING

Which makes a better hot chocolate, milk or water?

Which melts the marshmallows faster?



MAKE FAKE SNOW

Have you ever turned a diaper into fake snow or used a fake snow kit?



ADDING CHRISTMAS

Find 25 Christmas objects.
How many combinations of the objects equal 25?
Write them all down.



GRINCH HEARTS

Make the Grinch a new heart in three different sizes!
Read the book too!



DESIGN & BUILD A CHRISTMAS ORNAMENT

Use nuts, bolts, washers and pipe cleaners to create an ornament.



CHRISTMAS CARD BUILDING CHALLENGE

Use Christmas cards to build a structure.



RACING SANTA'S SLEIGH

Build vehicles for Santa and race them.



Hint, add a balloon.

TRACK SANTA CHRISTMAS EVE



Look up the official NORAD Santa tracker.
Follow Santa on the map.



CHRISTMAS DAY FINAL STEM CHALLENGE

After you have unwrapped the presents, lay out the pieces of wrapping paper and see how much of the floor you can cover.

Measure the area.



1. Print and cut out the Christmas STEM challenge cards. Use the blank ones if you want to create your own STEM challenges.
2. Find a fun way to display the cards like a small artificial tree or put each challenge in an envelope in a basket.
3. Start gathering some of the simple supplies this month before the countdown starts.
4. Fill up a bin with items from the supply list.
5. Have paper, colored pens, scissors and glue available.
6. Don't stress if you can't do them all. Have fun and try some as a family. Help out as needed. Some challenges may require more help than others.