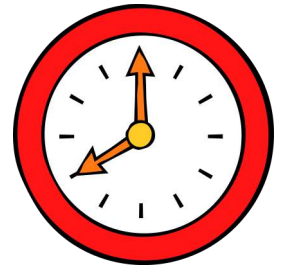
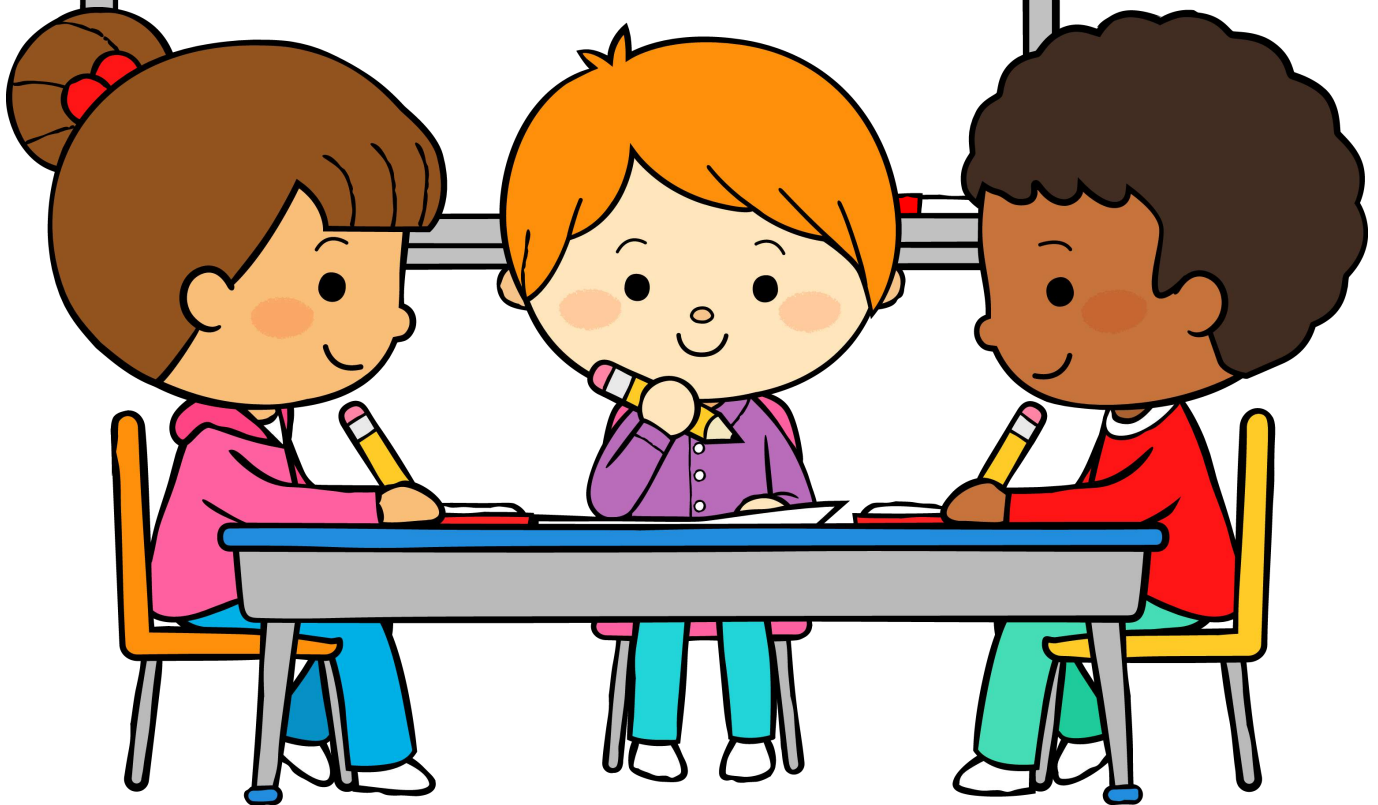


Back to School STEM Activity Pack



S.T.E.M.



LITTLE BINS FOR LITTLE  HANDS

Graphics by: Little Red's Schoolhouse

BACK TO SCHOOL STEM PACK



INTRODUCTION:

Welcome to your Back to School STEM Pack! I hope it sparks creativity and curiosity within young inventors and engineers!

This STEM pack includes fun STEM activities, scientific method, STEAM posters, and much, much more! Plus, there's fun back to school extras like I Spy and bingo!

Feel free to use this pack with one junior engineer or a whole group of junior engineers. You may copy activities as many times as you like for your class, but please send your friends to grab their own pack instead of sharing files.

~ Thank you!

STEM CHALLENGES & ACTIVITIES

These STEM activities are perfect for one kid or a whole group of kids. Use them as ice breakers or team building challenges too!

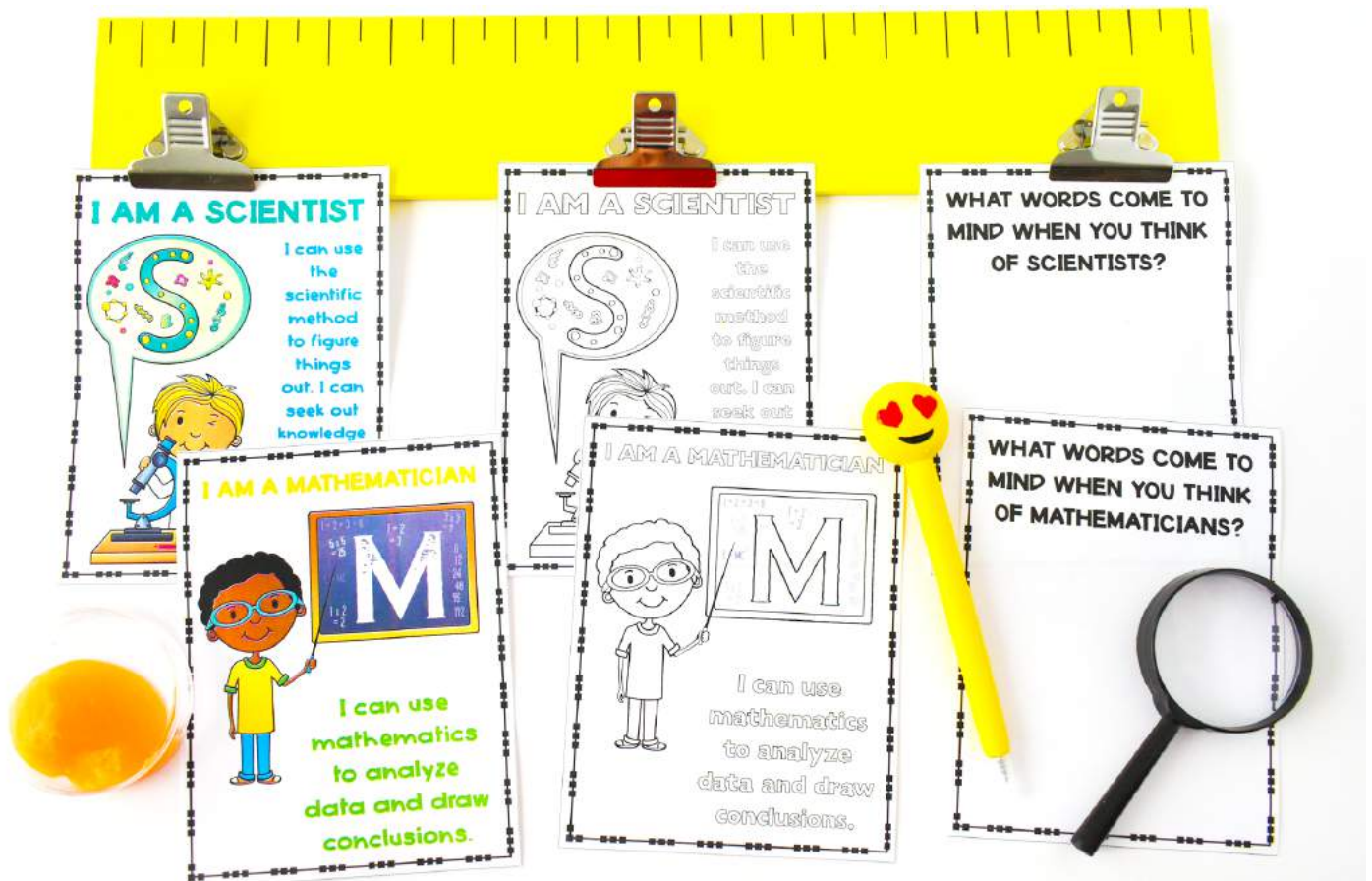


What's Included:

- Cup Tower Challenge, Strongest Paper Challenge, Straw Tower Challenge, and Marshmallow Tower Challenge
- STEM journal pages
- Engineering Design Process

STEAM POSTERS

S-T-E-A-M posters are fun to hang around the room or paste inside a notebook! There's even a set to color. Included is an additional activity for kids to write about each letter or add words that makes them think of each part of STEAM!



What's included:

- Full color STEAM posters
- B&W STEAM posters to color
- Journal pages to write about STEAM

SCIENTIFIC METHOD POSTERS

We gave our new scientific method posters a super kid twist! Explore the scientific process from asking questions to coming up with tests to analyzing data, and finally to drawing conclusions.

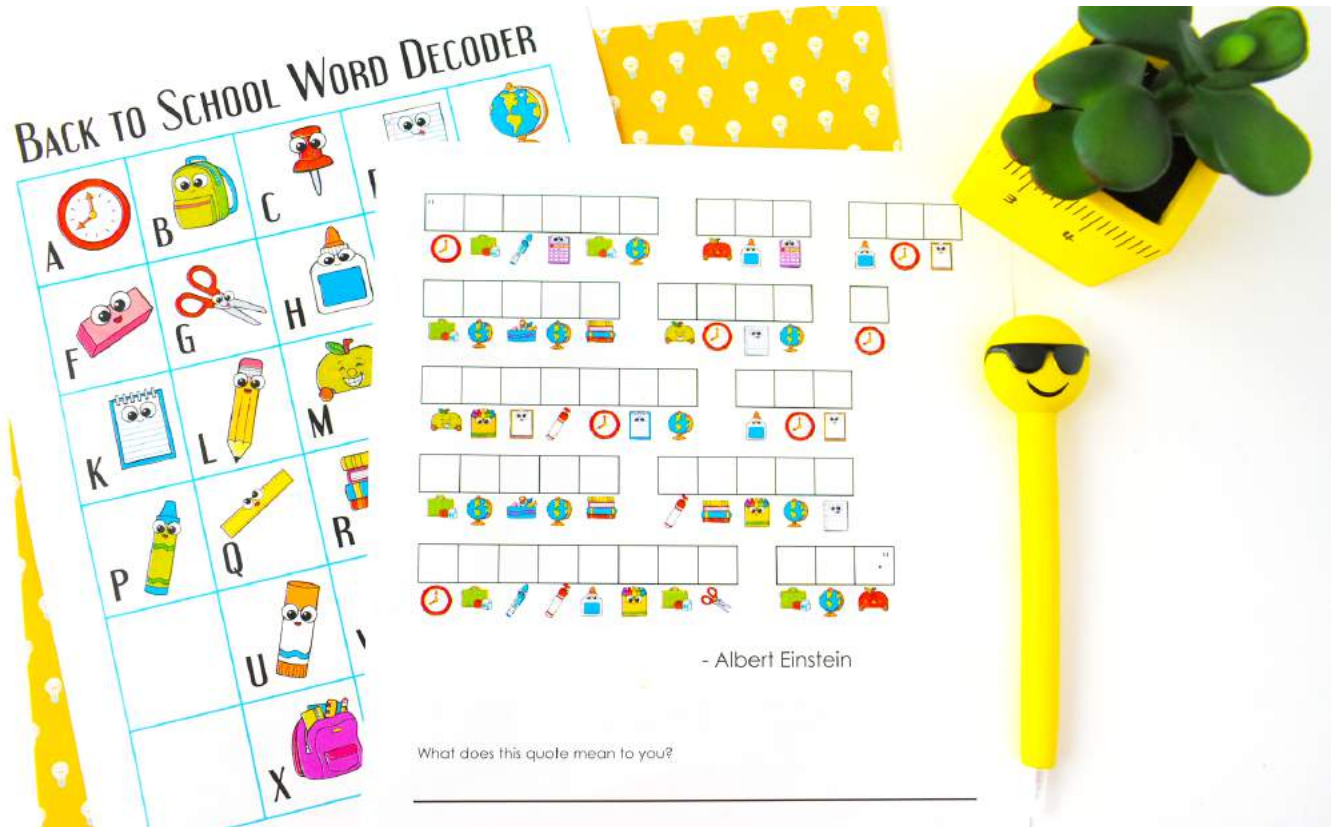


What's Included:

- Full color scientific method posters
- Science journal pages
- Scientific method steps

MOTIVATIONAL CODE BREAKERS

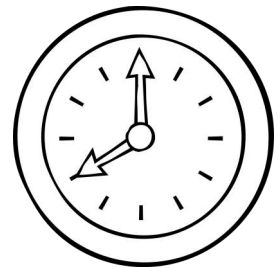
Kids will love this pack filled with motivational quotes in code. Break the code and read the inspiration that awaits. Several quotes have space available for kids to write their thoughts about the quote, and what it means to them.



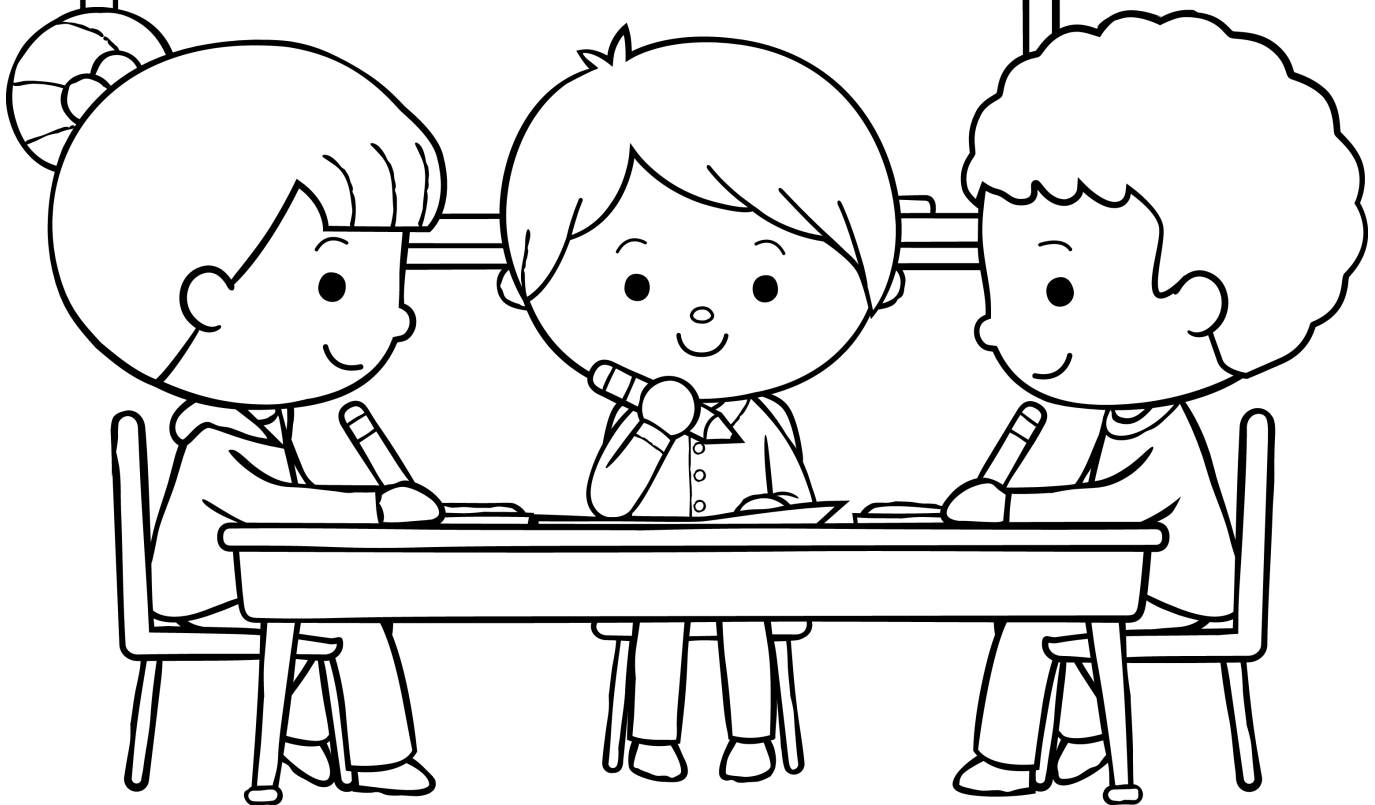
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Back to School STEM Activity Pack



S.T.E.M.



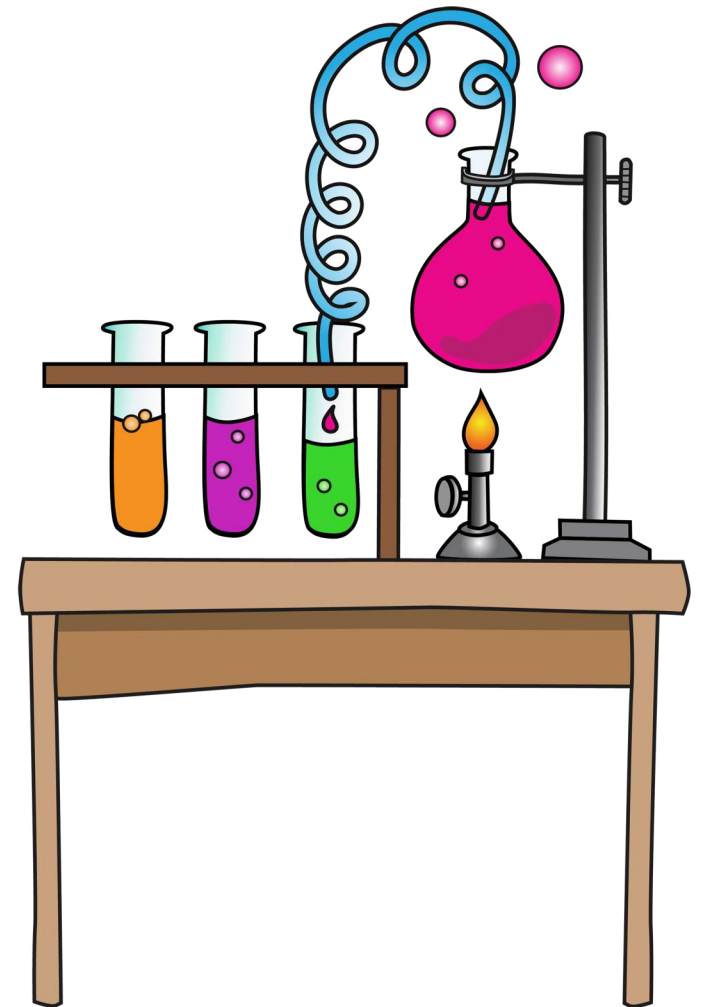
LITTLE BINS FOR LITTLE  HANDS

Graphics by: Little Red's Schoolhouse

ASK QUESTIONS ANNIE



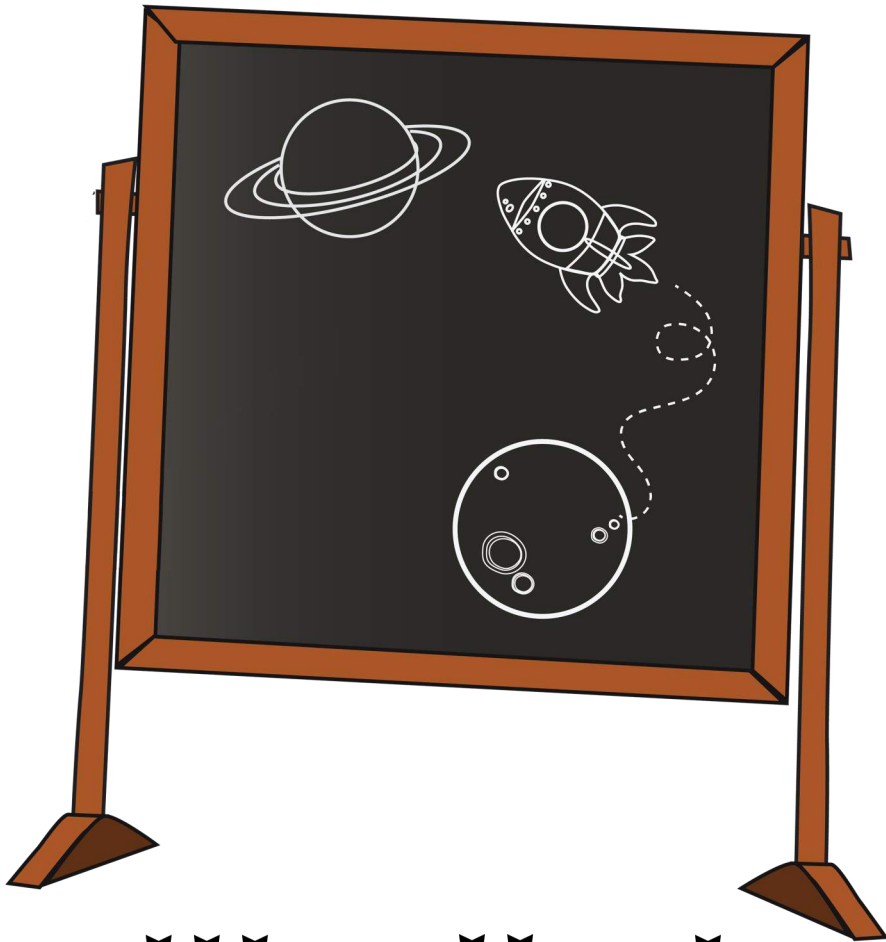
What do
you want
to learn or
test?



DO SOME RESEARCH RACHEL



Gather
information
about what you
want to learn.

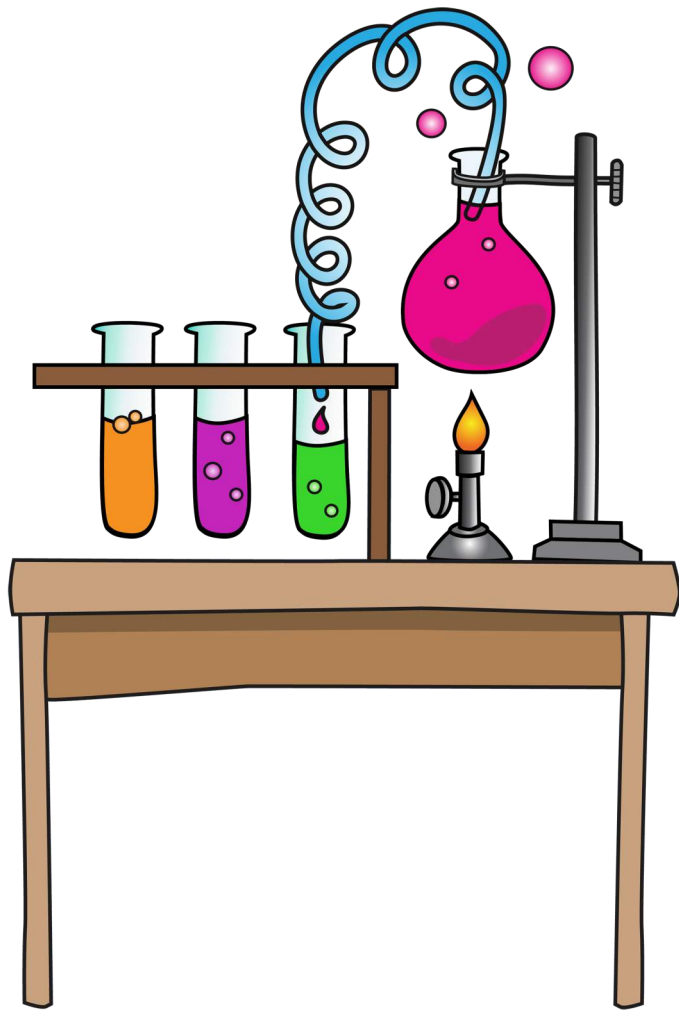


Make a HYPOTHESIS HENRY

Try to predict the answer! A hypothesis sounds like an *If I do this, then this will happen*. This being your experiment and outcome.



Set UP AN EXPERIMENT ERIC

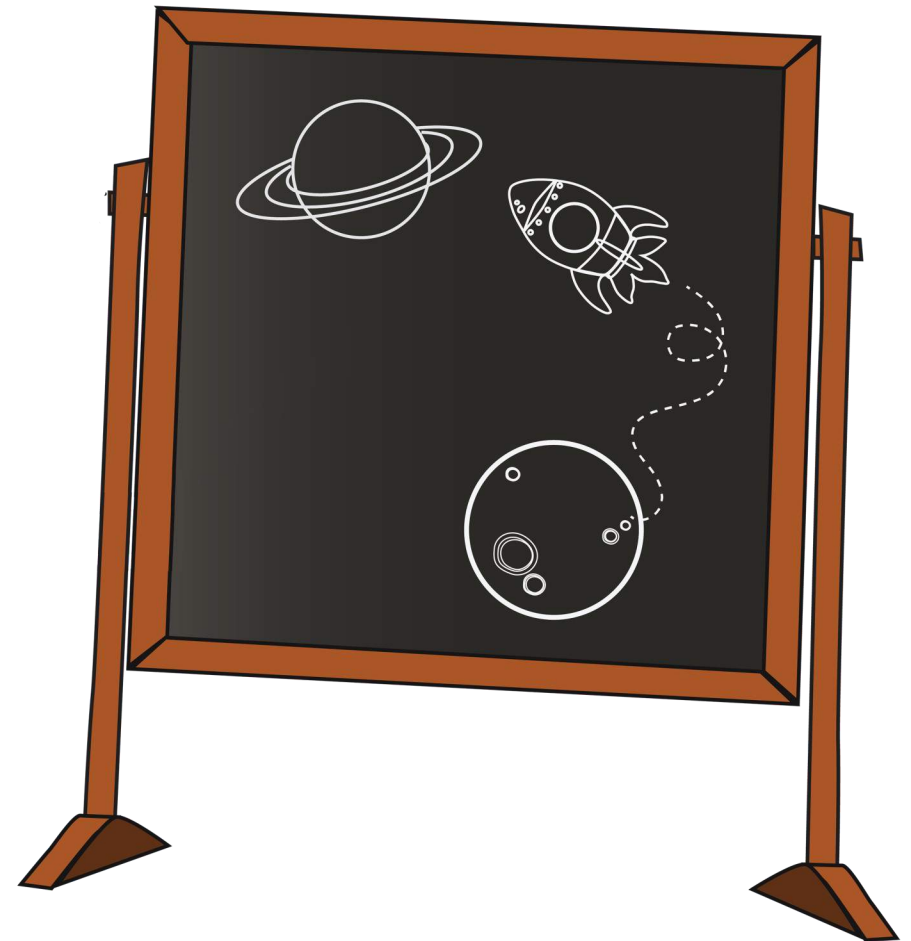


Design a test or experiment to see if your hypothesis is correct!

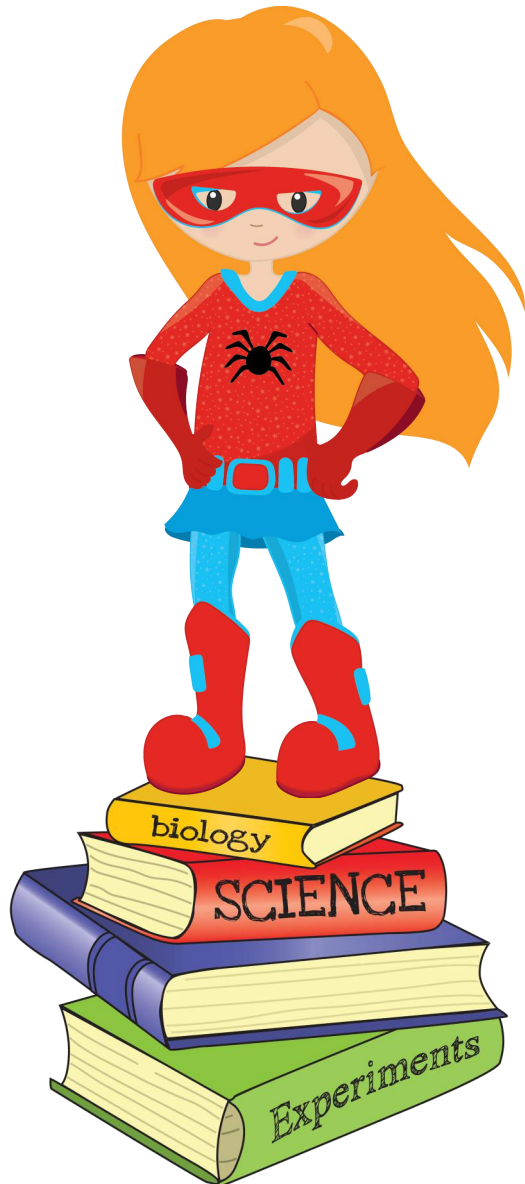
RECORD DATA DANNY



Record
what happens
during the test
or experiment.



CONCLUSIONS CATHY



Analyze or
review your
data to see if
your
hypothesis
was correct!

SCIENTIFIC METHOD

A method or procedure that uses an organized approach to solving a problem or answering a question through the use of a hypothesis, experimentation, observation, and data analysis.

EXPERIMENT

A scientific procedure set up to test a hypothesis or make a discovery. It usually involves a dependent variable, independent variable, and a control. The outcome is not necessarily known.

DEPENDENT VARIABLE

The dependent variable is the outcome that occurs in your experiment and a response to the changing independent variable.

HYPOTHESIS

An educated guess or simple explanation made as a starting point for further investigation or experimentation.

INDEPENDENT VARIABLE

The independent variable is the part of your experiment that you want to test.

CONTROL

The control is the neither the independent nor the dependent variable. The control is what you will compare the results in your experiment.



MY SCIENCE INVESTIGATION

My Question

Hypothesis

Supplies Needed

What is the Control?



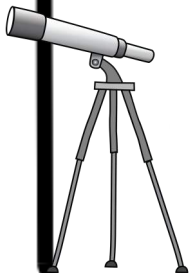
Dependent Variable?



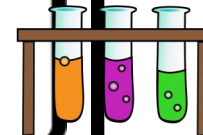
Independent Variable?

Experiment

Observations



Conclusions





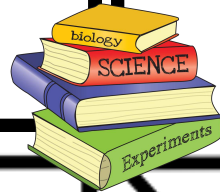
MY SCIENCE INVESTIGATION

Research Notes

My Question

Supplies Needed

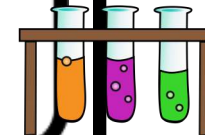
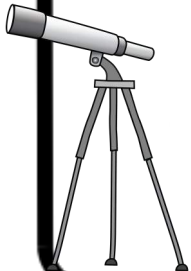
Hypothesis



Experiment

Observations
draw or write

Conclusions

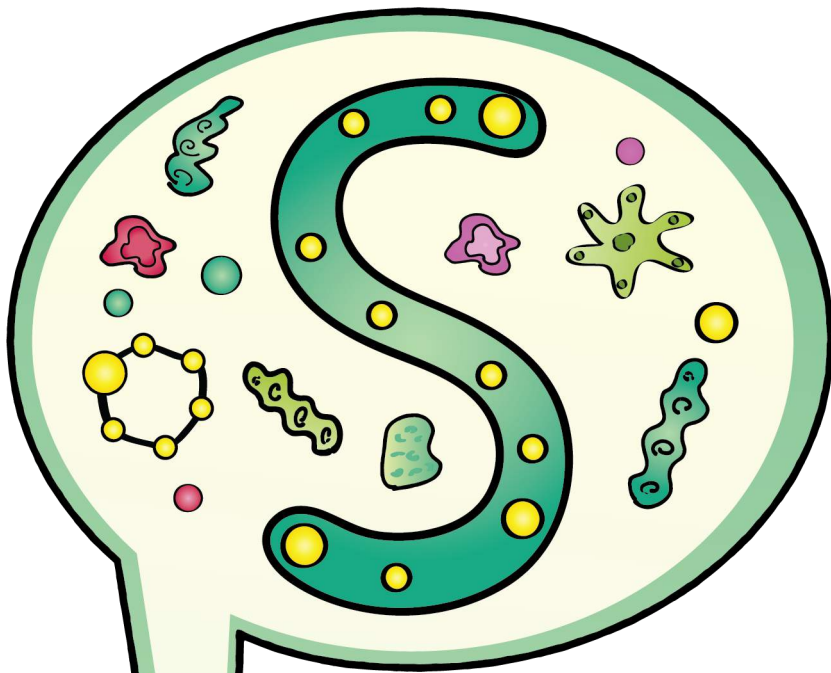


I AM A SCIENTIST



I can use
the
scientific
method
to figure
things
out. I can
seek out
knowledge
about
the
natural
world.

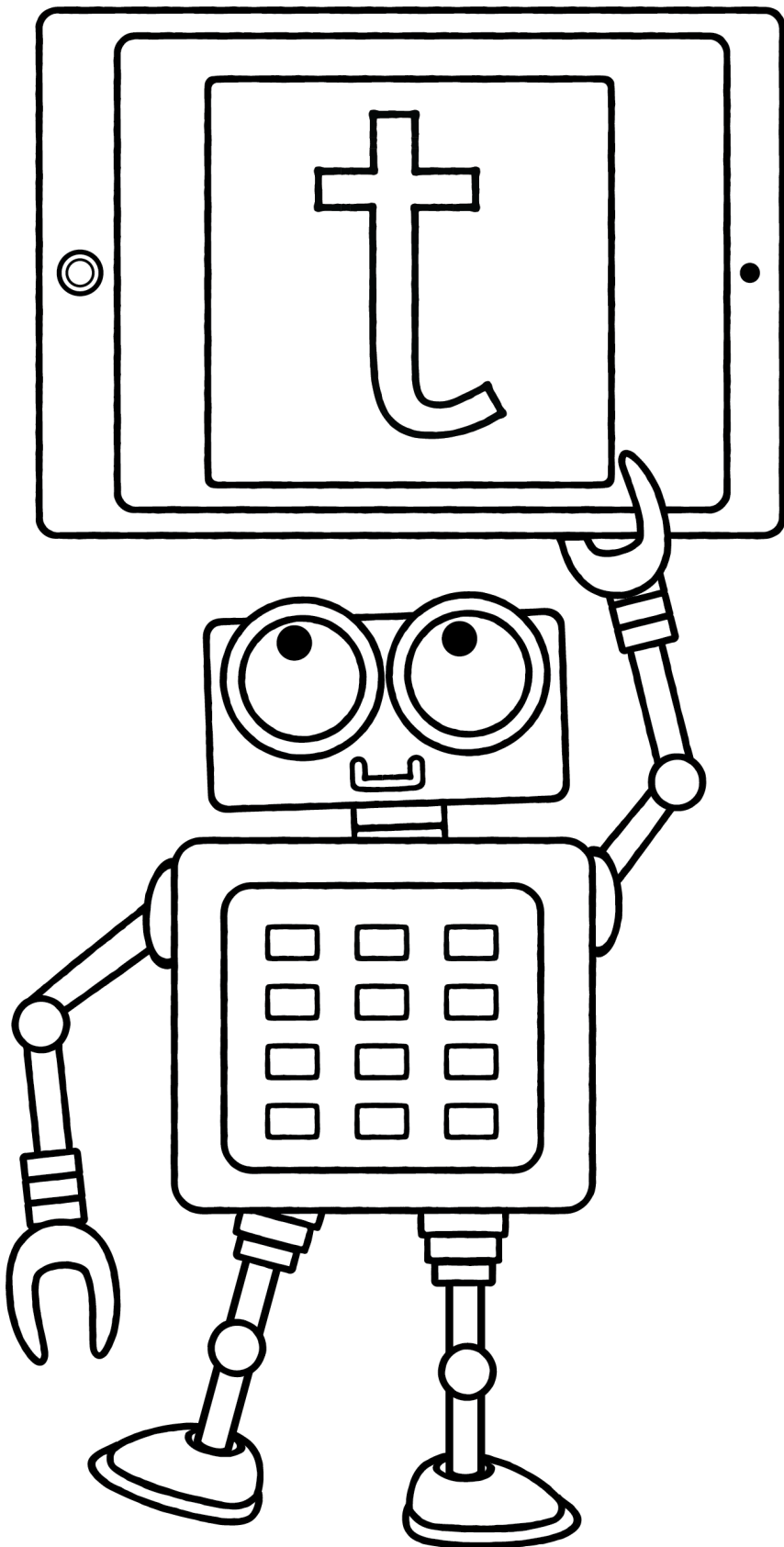
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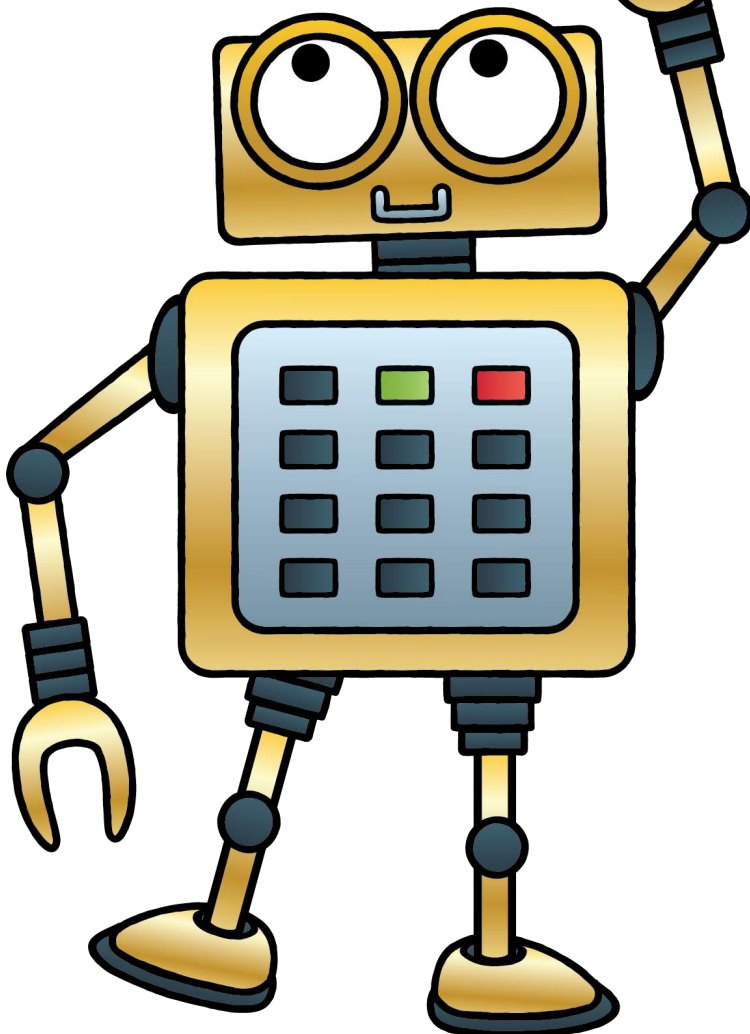
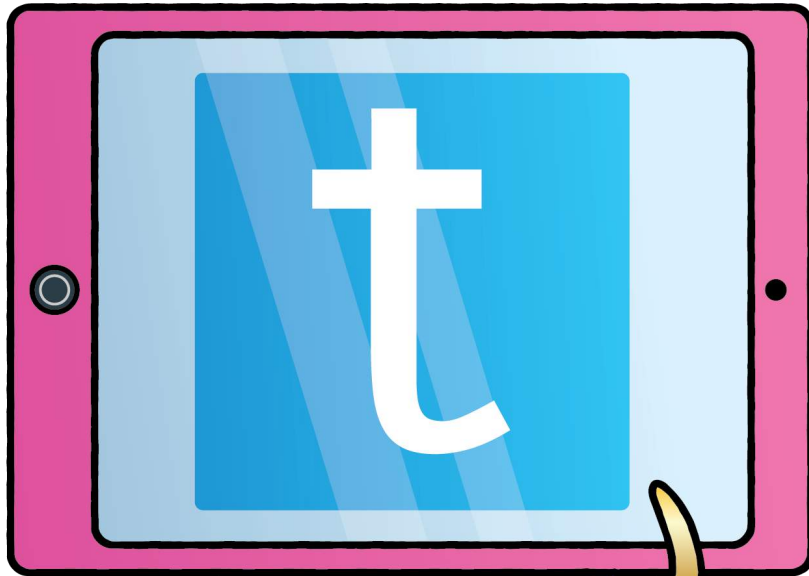


I AM A TECHNOLOGIST



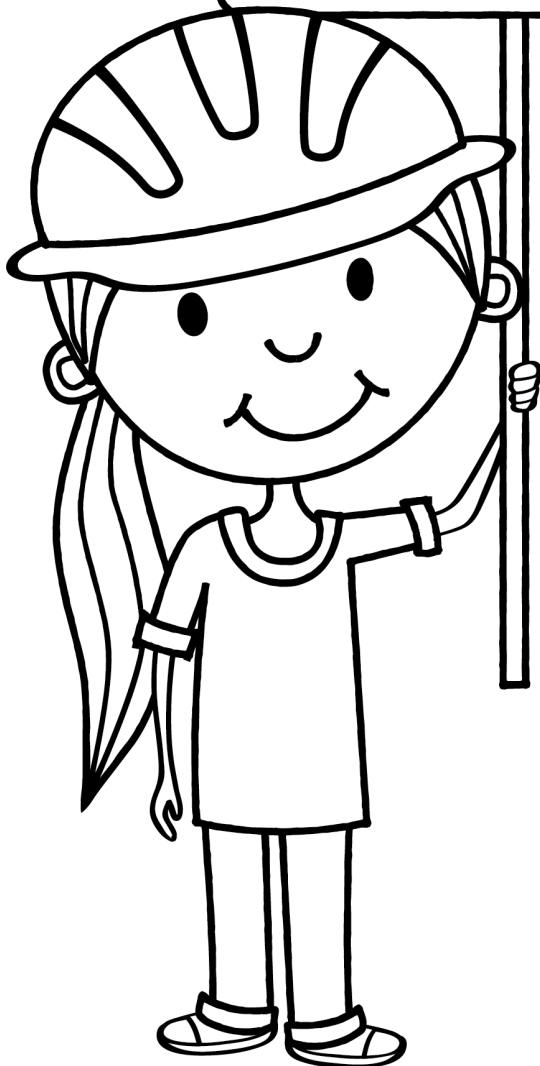
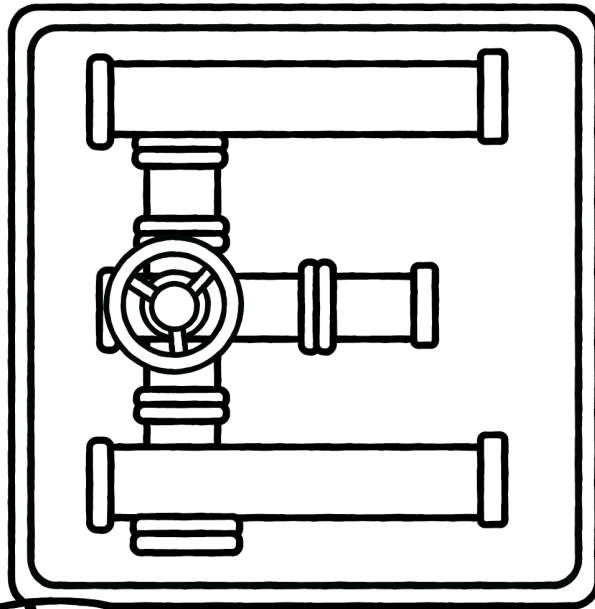
I can
utilize
objects
designed
and used
to solve
problems
for my
projects.
(Technology
is not
limited to
electronic
devices.)

I AM A TECHNOLOGIST



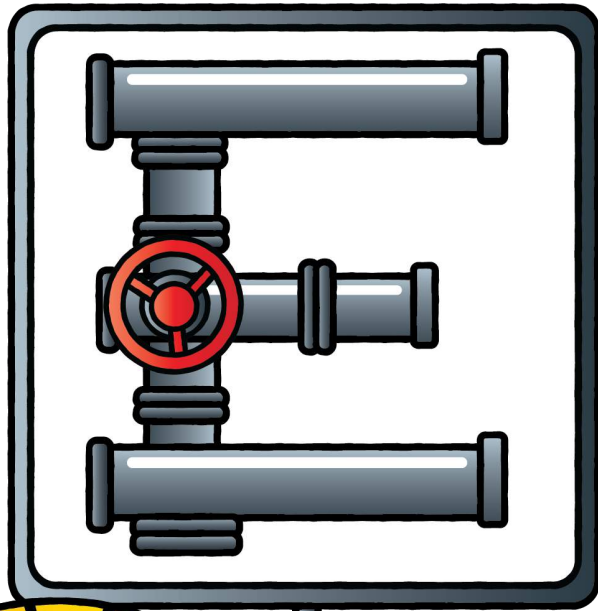
I can
utilize
objects
designed
and used
to solve
problems
for my
projects.
(Technology
is not
limited to
electronic
devices.)

I AM AN ENGINEER



I am a
problem
solver. I
can use
the
engineering
design
process
to
identify
problems
and find
solutions.

I AM AN ENGINEER



I am a
problem
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design
process
to
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problems
and find
solutions.

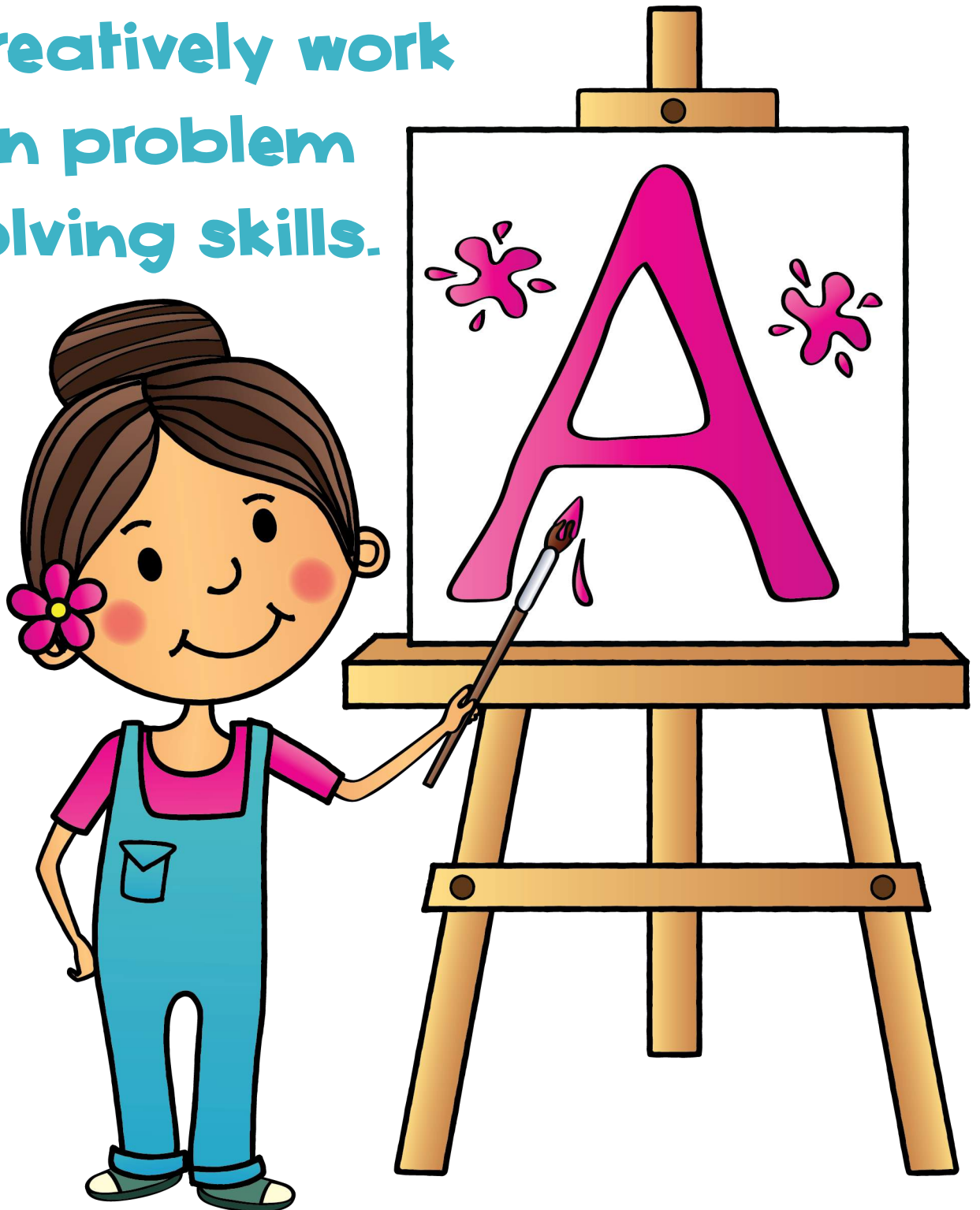
I AM AN ARTIST

I can use the arts
to creatively work
on problem
solving skills.

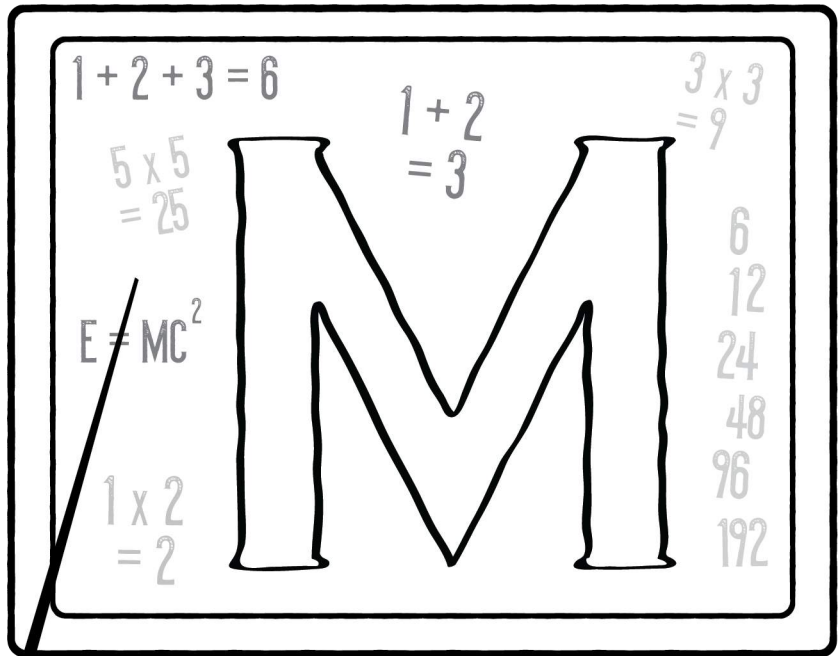
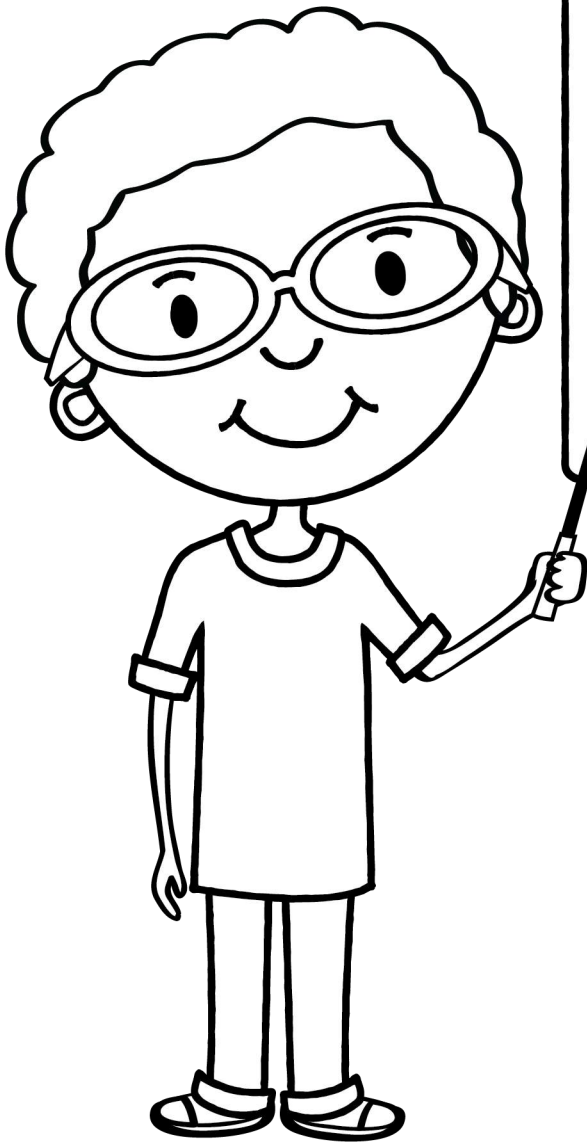


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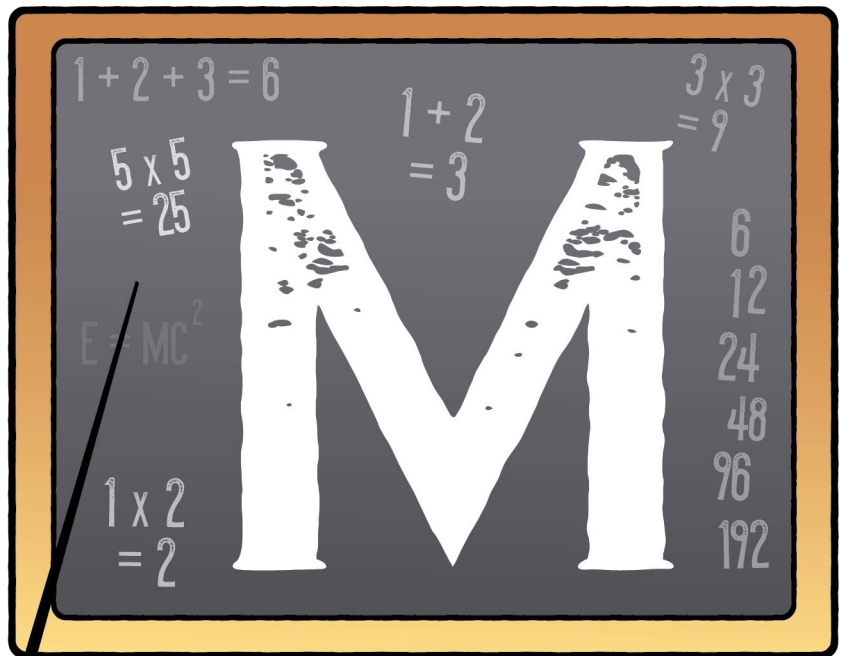


I AM A MATHEMATICIAN

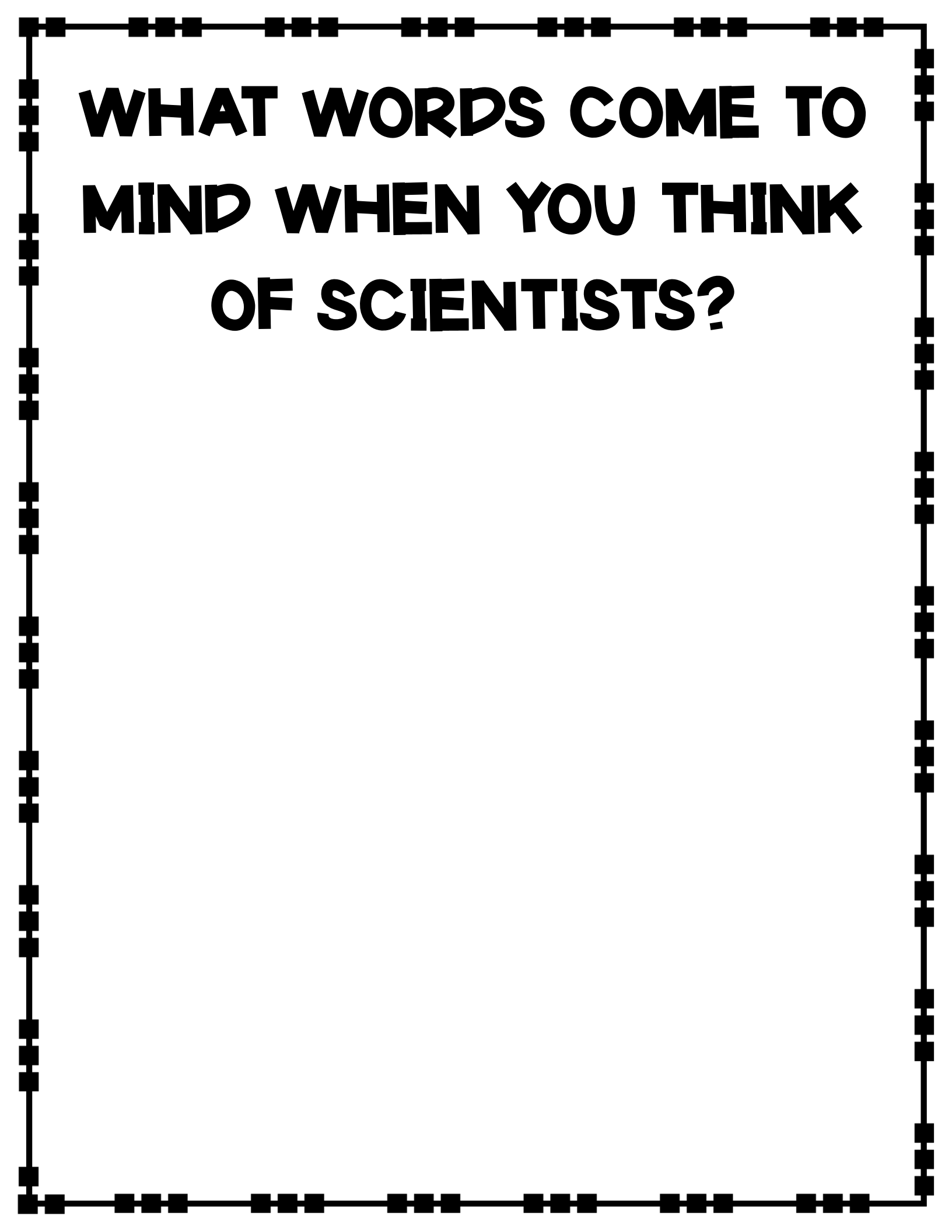


I can use
mathematics
to analyze
data and draw
conclusions.

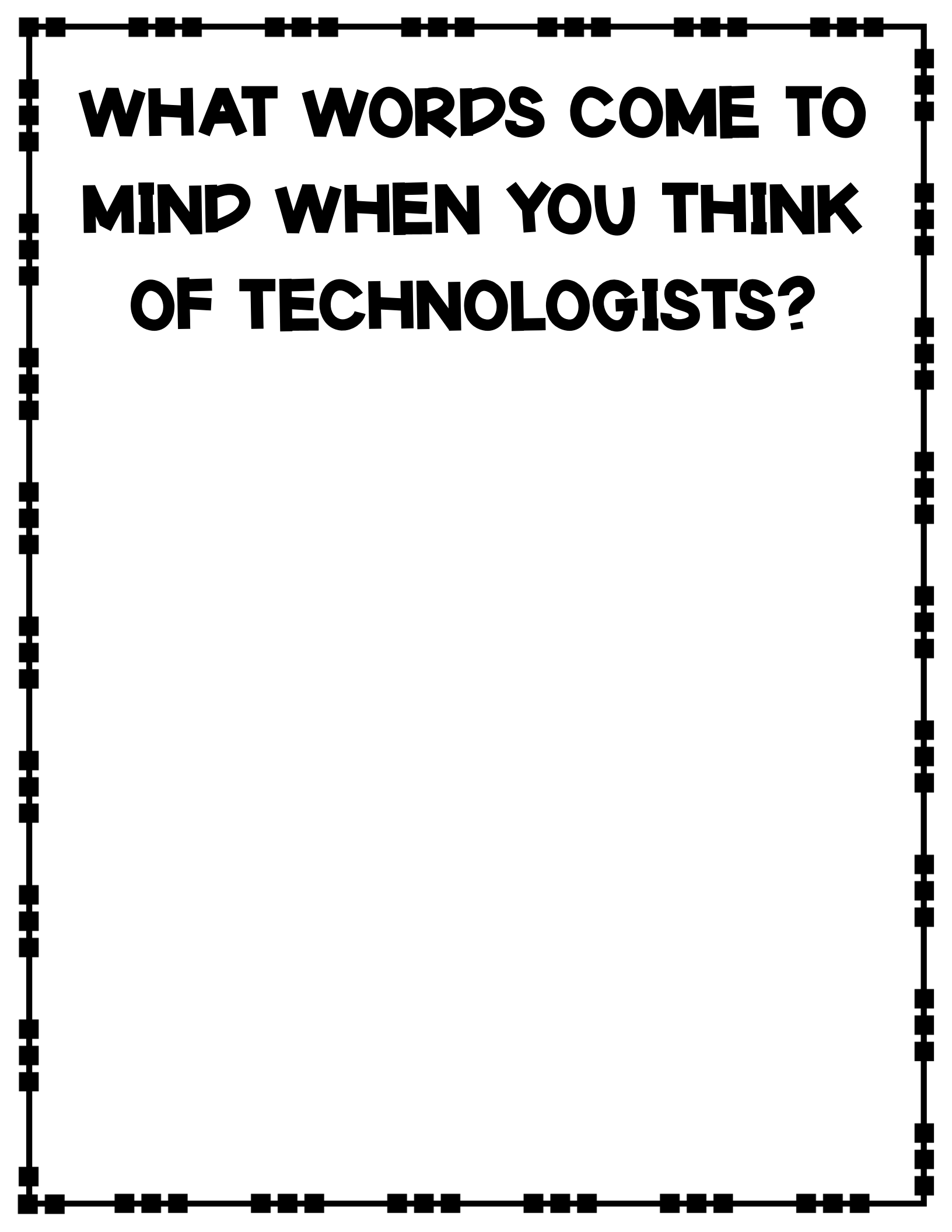
I AM A MATHEMATICIAN



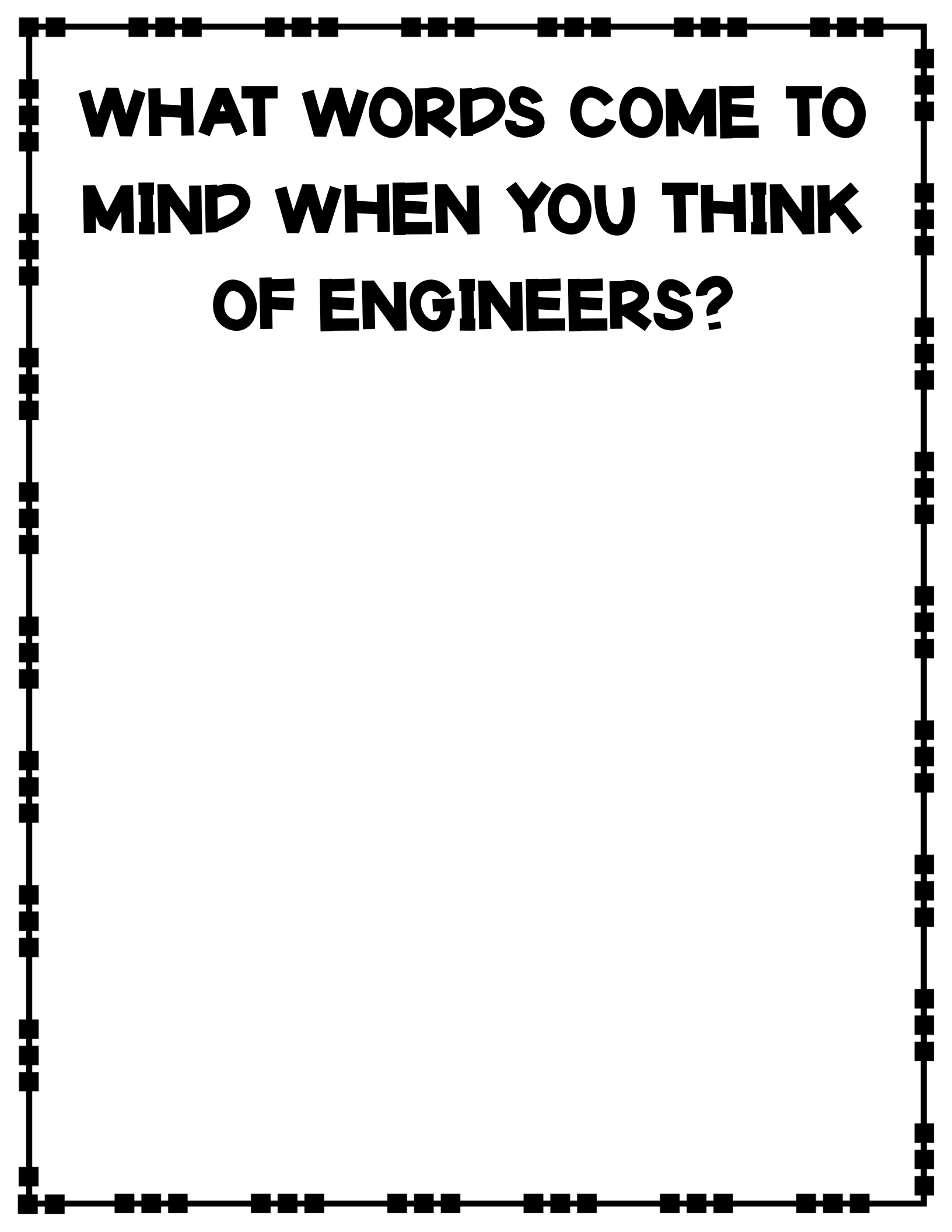
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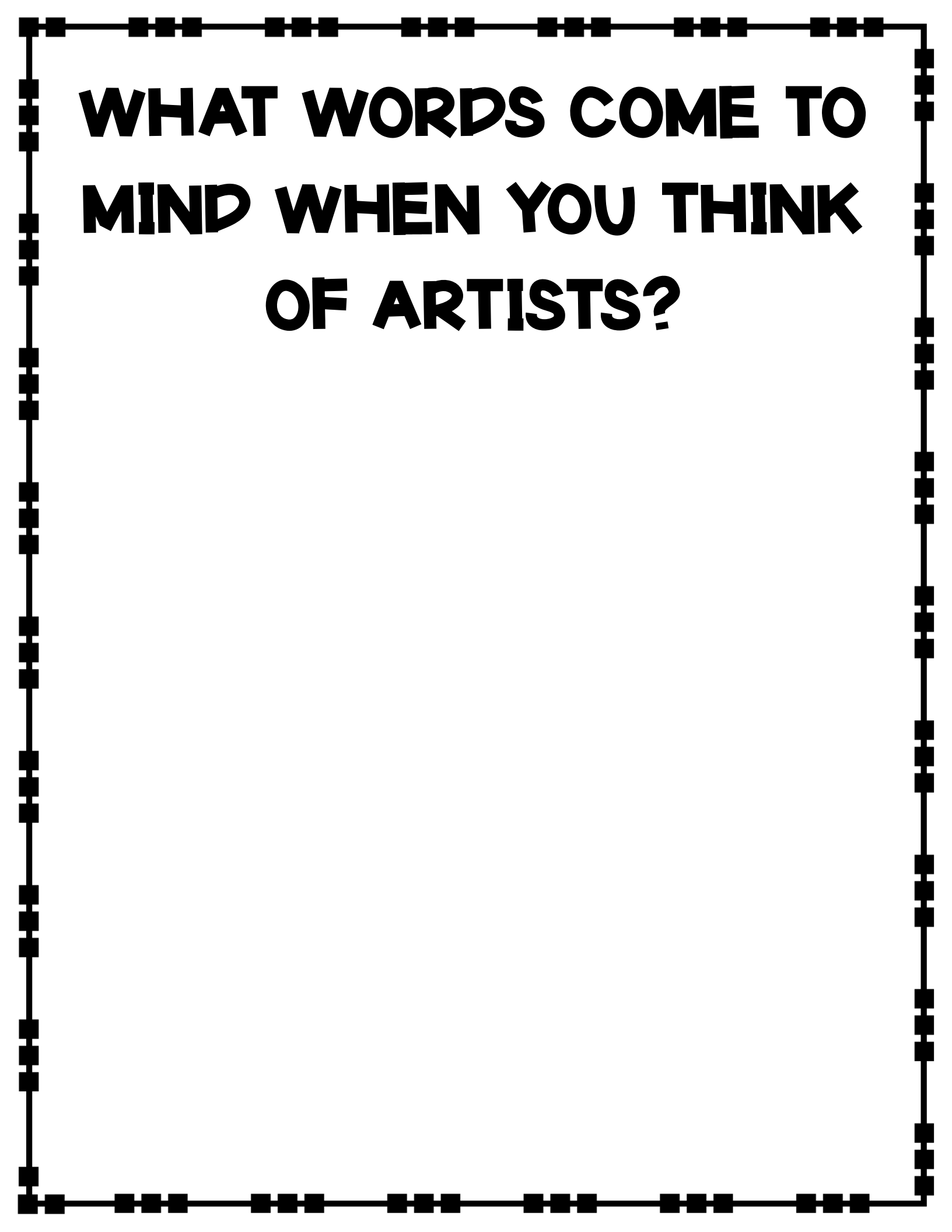
**WHAT WORDS COME TO
MIND WHEN YOU THINK
OF SCIENTISTS?**



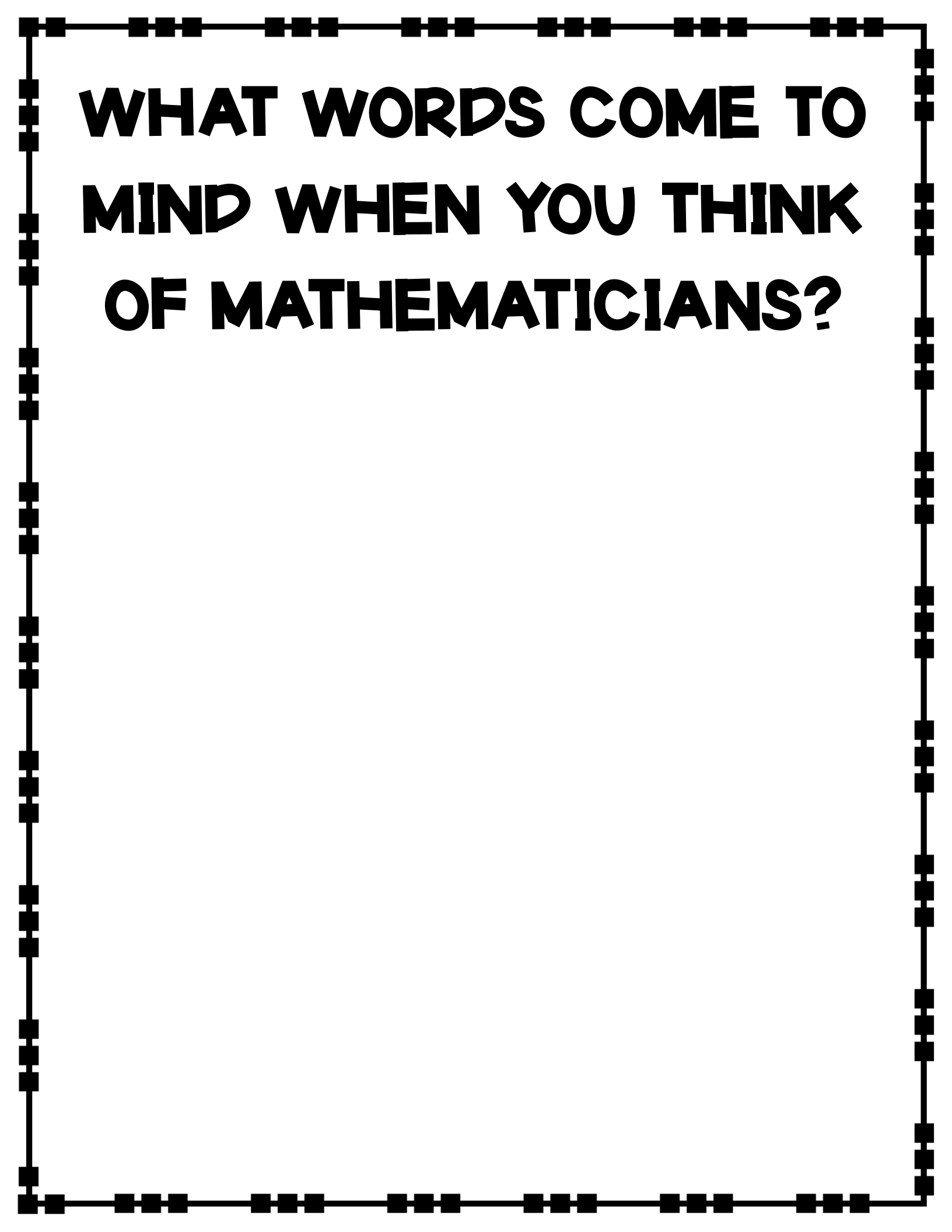
**WHAT WORDS COME TO
MIND WHEN YOU THINK
OF TECHNOLOGISTS?**



**WHAT WORDS COME TO
MIND WHEN YOU THINK
OF ENGINEERS?**



**WHAT WORDS COME TO
MIND WHEN YOU THINK
OF ARTISTS?**



**WHAT WORDS COME TO
MIND WHEN YOU THINK
OF MATHEMATICIANS?**

Back to School STEM Challenges



How to Use these STEM Challenges

Each STEM challenge card has a fun task perfect for individuals, groups, or teams! Use these activities as group ice breakers or team building projects.

These activities are perfect for helping kids open up and get the creative juices flowing for future STEM projects.

Kids can only use the materials listed on the cards unless otherwise directed. The items listed are meant to be convenient, accessible, affordable, and easy for groups.

- First, set a time limit for coming up with a design plan based on the amount of time you have available.
- Next, set a time limit for the actual building or creating time. Make sure to allow time for measuring towers, testing boats, or firing the catapults.

Encourage kids to work through the questions provided to learn more about their STEM challenge and their results.

If time allows, have the kids present their results to the rest of the group. They can discuss their strategy and design plans, what happened during the building process, and what they could do differently next time!

Most of all, have fun!

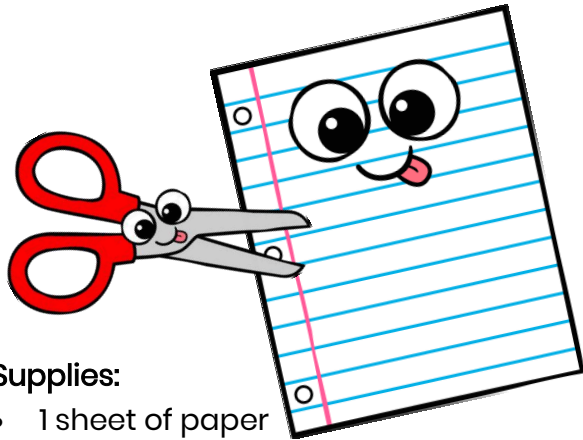


Graphics by: Little Red's Schoolhouse
Border graphics by: Rebecca B. Designs

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Strongest Paper Challenge

Make the strongest shape out of a single piece of paper possible to hold up a stack of books. Most number of books supported by the paper shape wins the challenge.



Supplies:

- 1 sheet of paper
- up to 2 feet of tape
- scissors

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Cup Tower Challenge

Build the tallest tower possible in the given amount of time.

Variation: Use 100 cups!

Supplies:

- Plastic cups
- Index cards, or jumbo craft



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Straw Tower Challenge

Build the tallest tower possible in the given amount of time.



Supplies:

- 20 plastic straws
- up to 2 feet of tape
- scissors

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Marshmallow Tower Challenge

Build the tallest tower possible in the given amount of time.

Variation: Use 100 marshmallows!

Supplies:

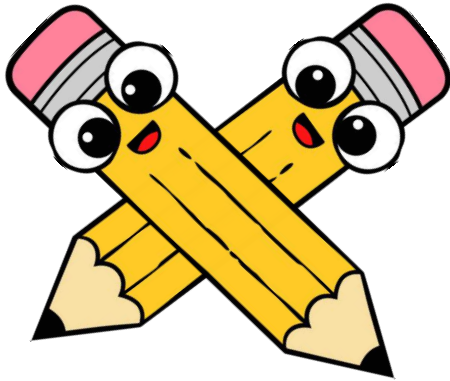
- marshmallows
- toothpicks



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2 Pencil Catapult Challenge

Build a working catapult to launch a small object with 2 unsharpened pencils and rubber bands.



Supplies:

- unsharpened pencils
- rubber bands
- small object

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Longest Paper Chain Challenge

Using a single piece of paper, make the longest chain possible in the given amount of time.

Supplies:

- 1 piece of paper
- scissors
- tape



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Tin Foil Boat Challenge

Using one square of tin foil create an unsinkable boat in the given amount of time. Your boat will be tested for strength and seaworthiness with pennies.

The boat that holds the most pennies wins!

Supplies:

- 8 inch square tin foil
- pennies



© LittleBinsforLittleHands.com

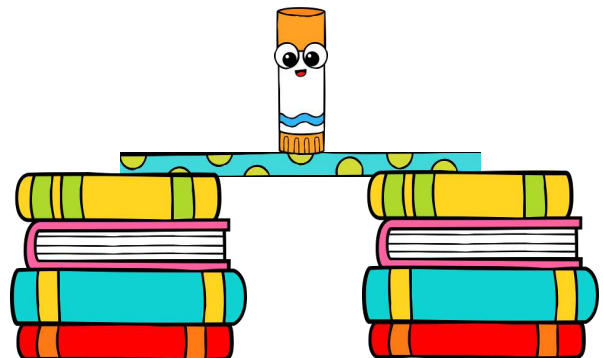
Paper Bridge Challenge

Using only sheets of paper, build a bridge that spans two small stacks of books and can hold a predetermined amount of weight such as a roll of pennies or glue sticks.

Variations: Explore different types of paper.

Supplies:

- Paper
- weighted item or items



© LittleBinsforLittleHands.com

My Plans

Name: _____

My STEM Challenge: _____

My Design Process

Name: _____

My STEM Challenge: _____

How do you plan to use the materials provided to take the challenge?

What problems do you think you will encounter during this challenge?

My Design Process

Name: _____

My STEM Challenge: _____

Where do you think you could improve the design?

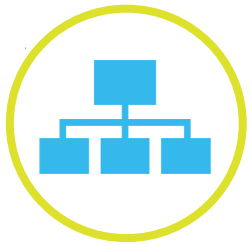
If you could do this challenge differently next time, what would you try?

STEM Steps to Success



ASK

What is the problem?



Collect

What information will I need?



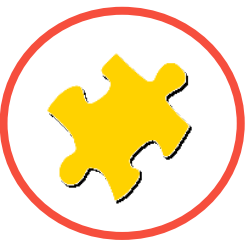
Imagine

How can I solve the problem?



Plan

What things do I need to use?



Create

I will test my plan.



Improve

What changes can I make to make it better?

Back to School Scavenger Hunt

Let's make observations! Can you find items, materials, or objects that are unique! Search for things out of the ordinary. 1 point for each item that no one else has on their list. The winner is the person with the most points for unique finds!

something that is living 	something that is non-living 
something that is a gas 	something that is a solid 
something that gives off light 	something that is a liquid 
something that makes a sound 	something that spins 
something that helps you move an object 	something that pulls 
something that rolls 	something that pushes 

total points: _____

All About Me



My favorite things to see are:



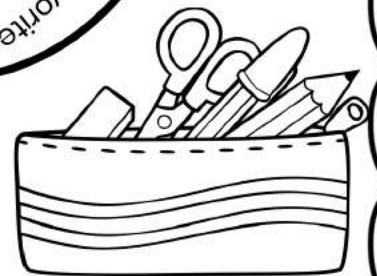
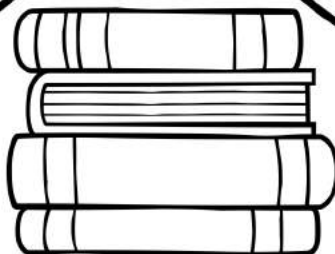
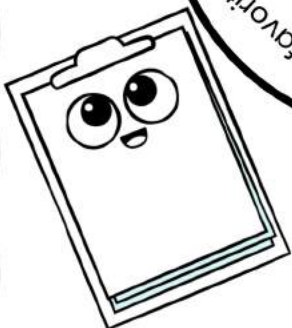
How I look:

My favorite sounds are:

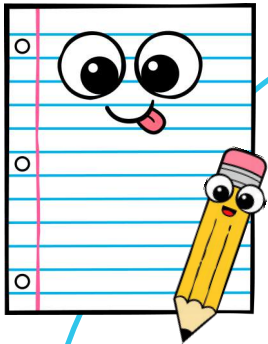
My favorite smells are:

My favorite things to touch are:

My favorite things to taste are:



Back to School Venn Diagram



me

my friend



us



"	
---	--



--	--	--



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				"
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- Dolly Parton

What does this quote mean to you?

"		
---	--	--



--	--	--



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--	--	--



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		"?"
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- Dr. Seuss

What does this quote mean to you?

"	
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--	--



--	--	--	--



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	"
--	---



- Booker T. Washington

What does this quote mean to you?

--	--	--	--	--	--



--	--	--



--	--	--



--	--	--	--	--



--	--	--	--



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--	--	--	--	--	--	--



--	--	--



--	--	--	--	--



--	--	--	--	--



--	--	--	--	--	--	--	--



--	--	--



- Albert Einstein

What does this quote mean to you?

"I F



Y O U



S E E



S O M E O N E



W I T H O U T



A



S M I L E,



G I V E



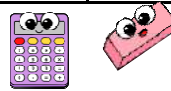
T H E M



O N E



O F



Y O U R S."



- Dolly Parton

"W H Y



F I T



I N



W H E N



Y O U



W E R E



B O R N



T O



S T A N D



O U T?"



- Dr. Seuss

I F



Y O U



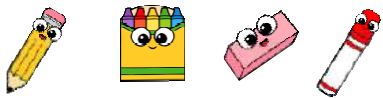
W A N T



T O



L I F T



Y O U R S E L F



U P,



L I F T



S O M E O N E



E L S E



U P."



- Booker T. Washington

A N Y O N E



W H O



H A S



N E V E R



M A D E



A



M I S T A K E



H A S



N E V E R



T R I E D



A N Y T H I N G


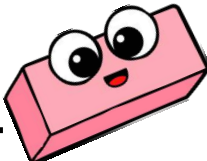



N E W."

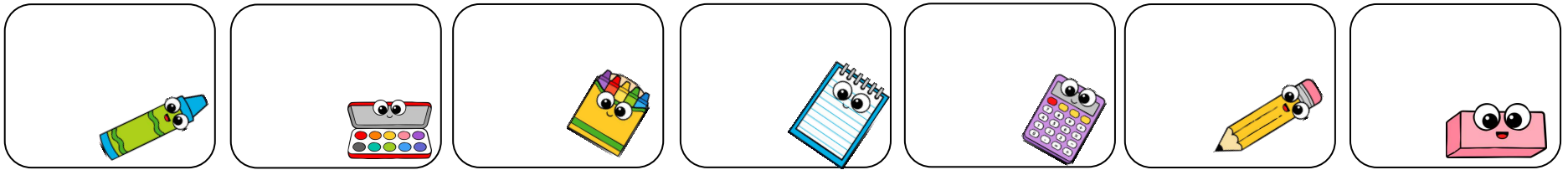


- Albert Einstein

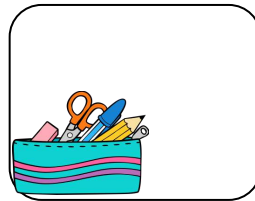
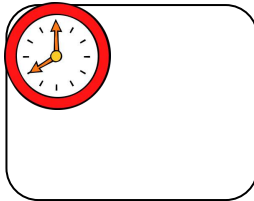
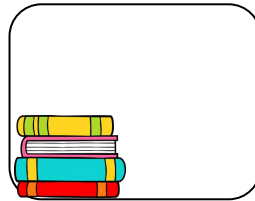
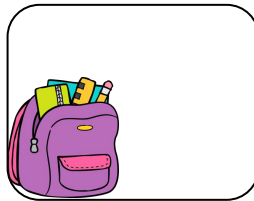
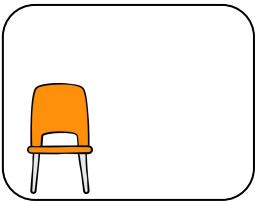
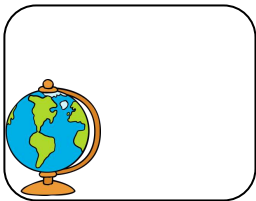
BACK TO SCHOOL WORD DECODER

A 	B 	C 	D 	E 
F 	G 	H 	I 	J 
K 	L 	M 	N 	O 
P 	Q 	R 	S 	T 
U 	V 	W 		
X 	Y 	Z 		

Back to School I Spy



Back to School I Spy



Back to School Word Search

W L E A R N I N G O M A T H Y D W L
S C P S C U T B H B S L V G D E R U
C C O E V H L F S D A C N D J S I N
I C L W N J A E S I P C H E T K T C
E R N O W C L I R S A L K O I R I H
N A I O C I I A R C P L E P O W N B
C Y U B O K J L W O E T R Y A L G O
E O B O O K S P S V R E S Y W C L X
M N J K C C N O T E B O O K S C K Z
V S R E A D I N G R G S F J Y P Q H
X I R E C E S S X Y S B J F B T R B
K E R A S E R S S P F C U G K Y C I

BACKPACK

BOOKS

CHAIR

CLOCK

CRAYONS

DESK

DISCOVERY

ERASERS

LEARNING

LUNCHBOX

MATH

NOTEBOOKS

PAPER

PENCILS

READING

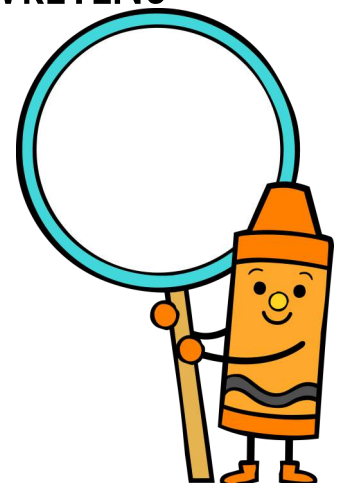
RECESS

RULER

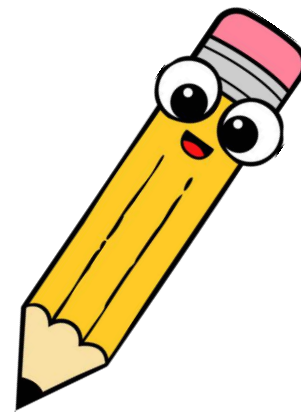
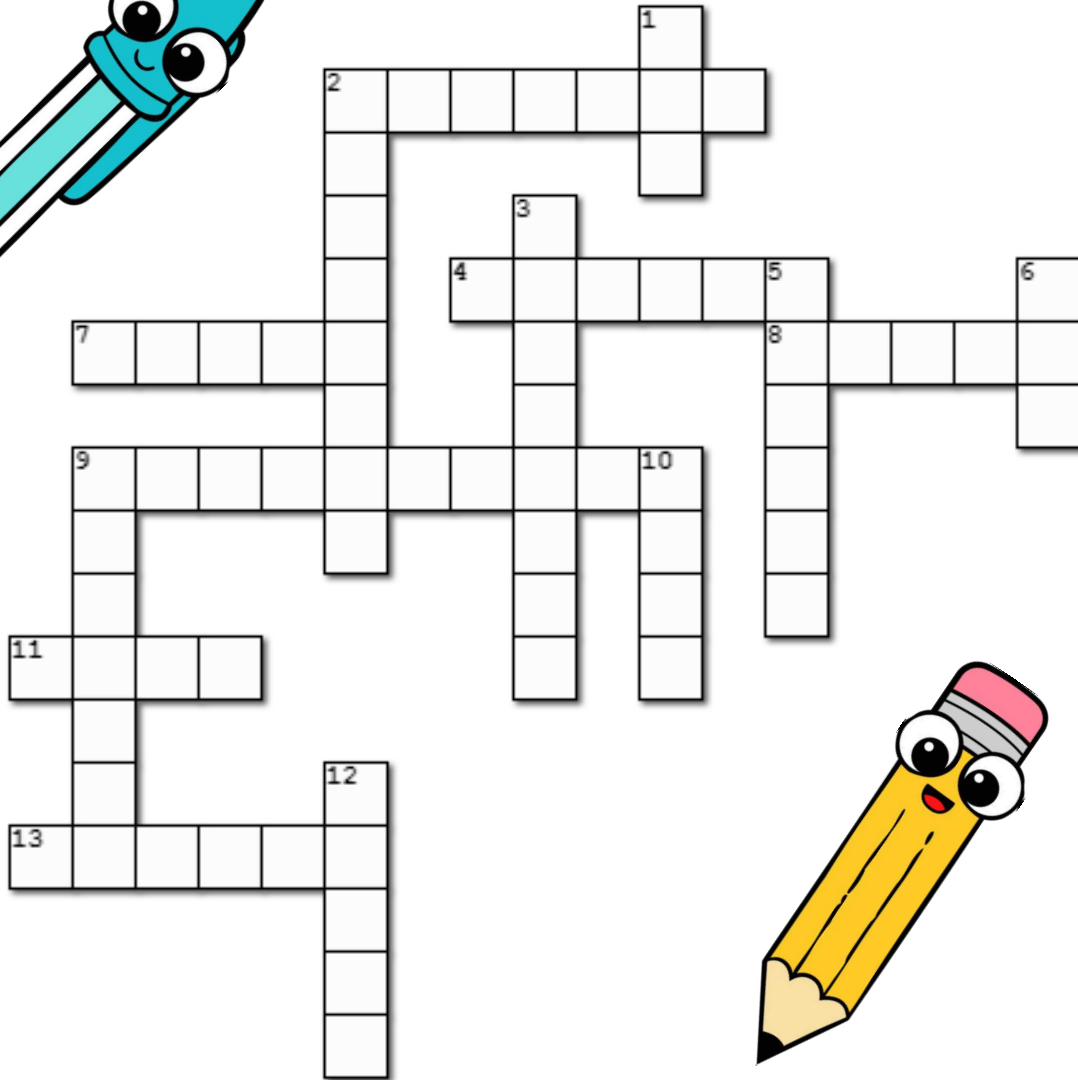
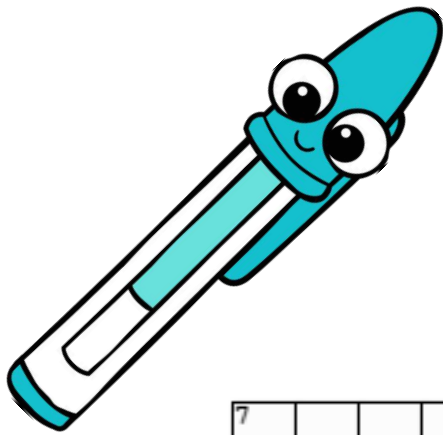
SCHOOL

SCIENCE

WRITING



Back to School Crossword



Across

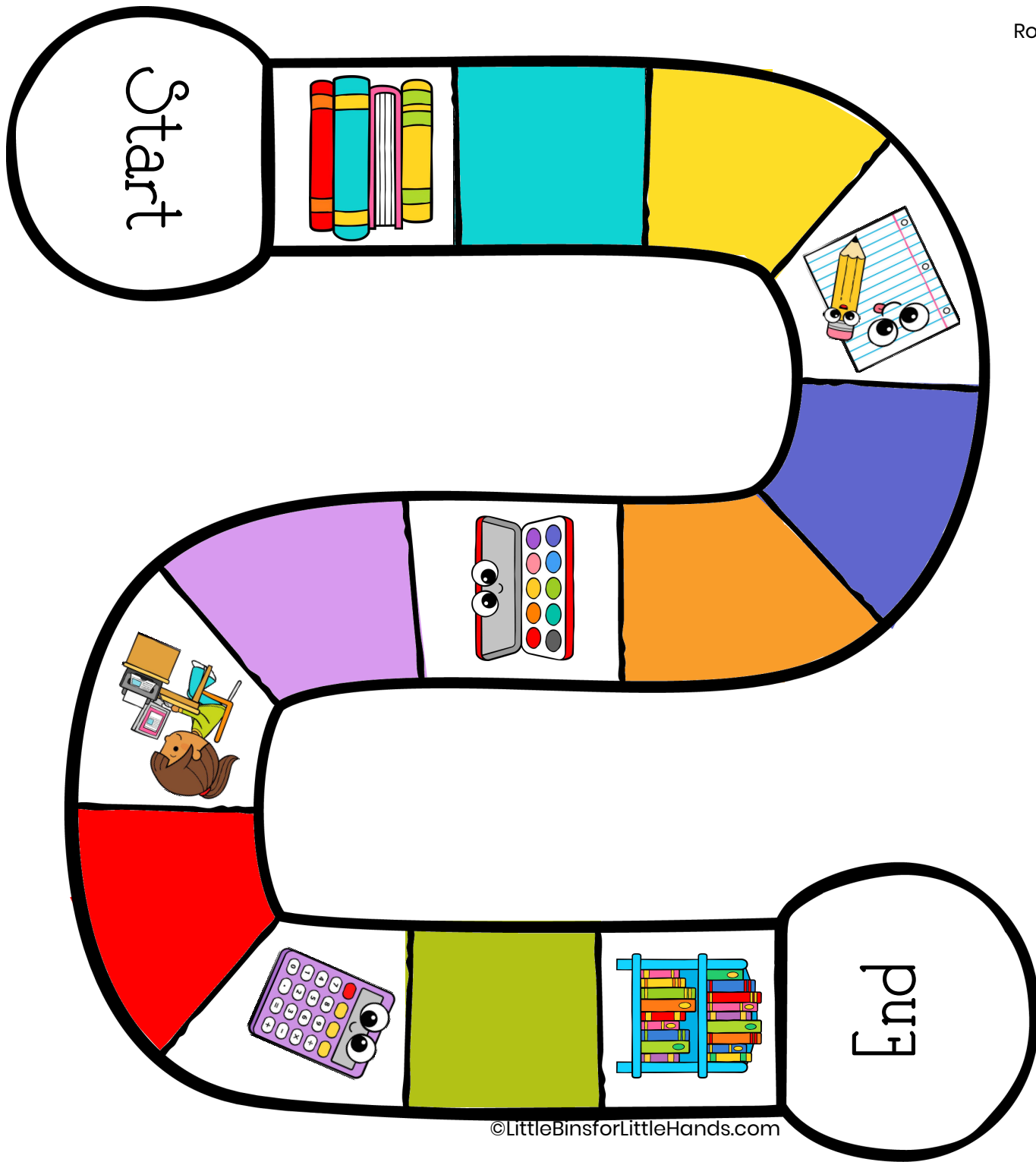
2. Where all the books are kept.
4. A place to organize all your papers.
7. A meal you eat while at school.
8. If you have to write about what you read you might write one of these.
9. A vehicle that takes kids to school.
11. The place where you do your school work.
13. The thing you use most often to write things down.

Down

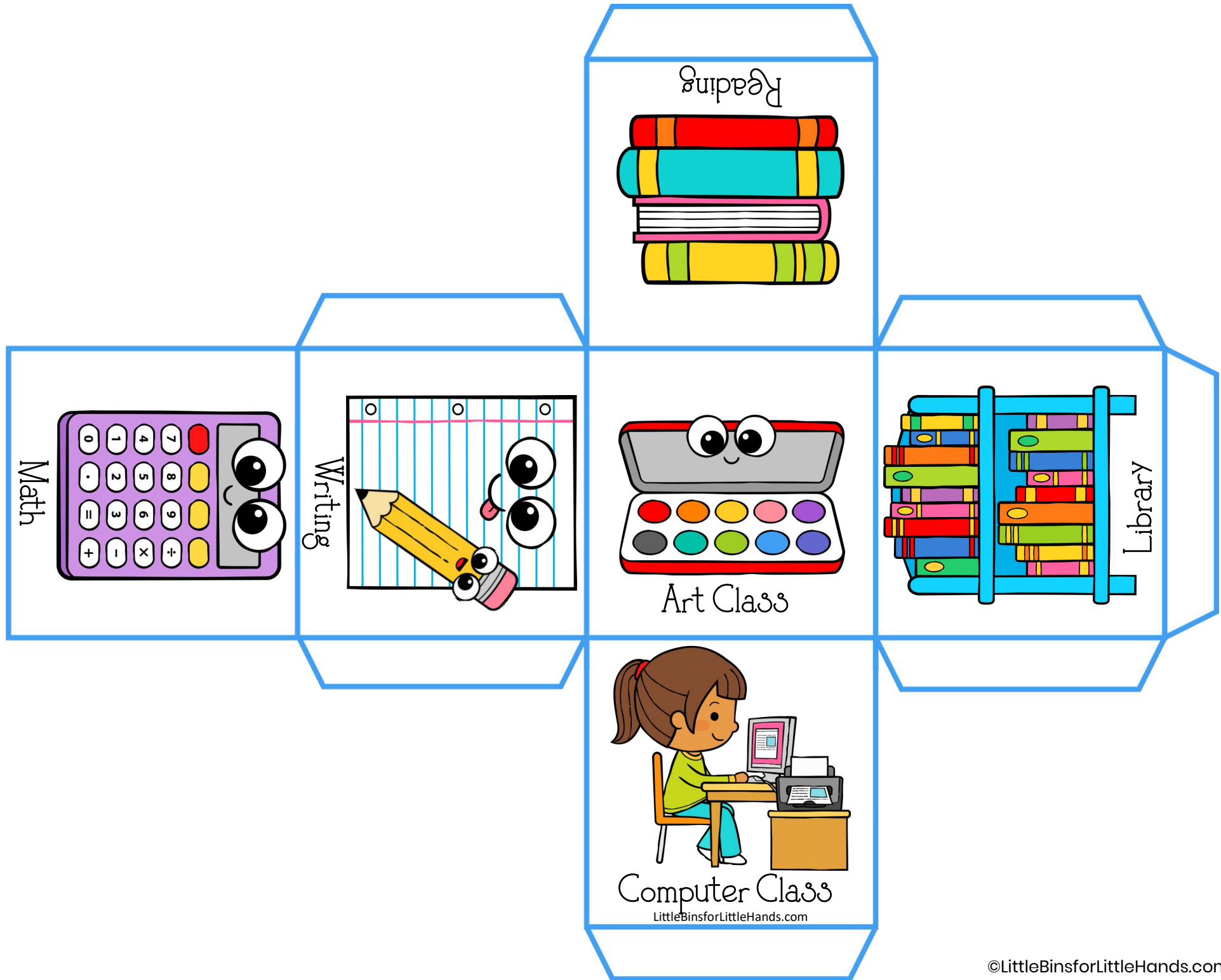
1. A class where you create things.
2. The box where your mid-day treats are kept.
3. The place where you write your notes.
5. A favorite time of the school day.
6. A class where you might sweat.
9. These lessons might help you to understand the universe.
10. When you combine Science, Technology, Engineering and Math.
12. Your whole group in one room is called your _____.

Back to School Roll-a-Cube Board Game





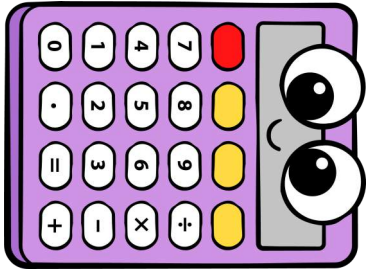
Roll the cube to see who gets to the end of the day the fastest.



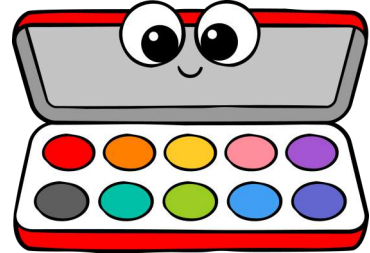
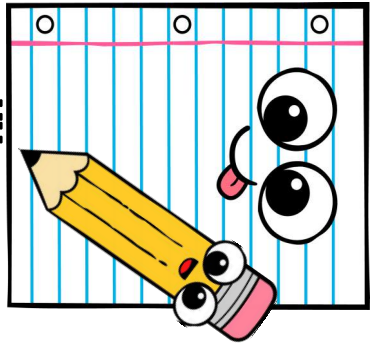
Reading



Math

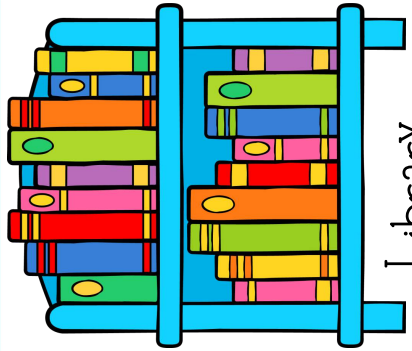


Writing



Art Class

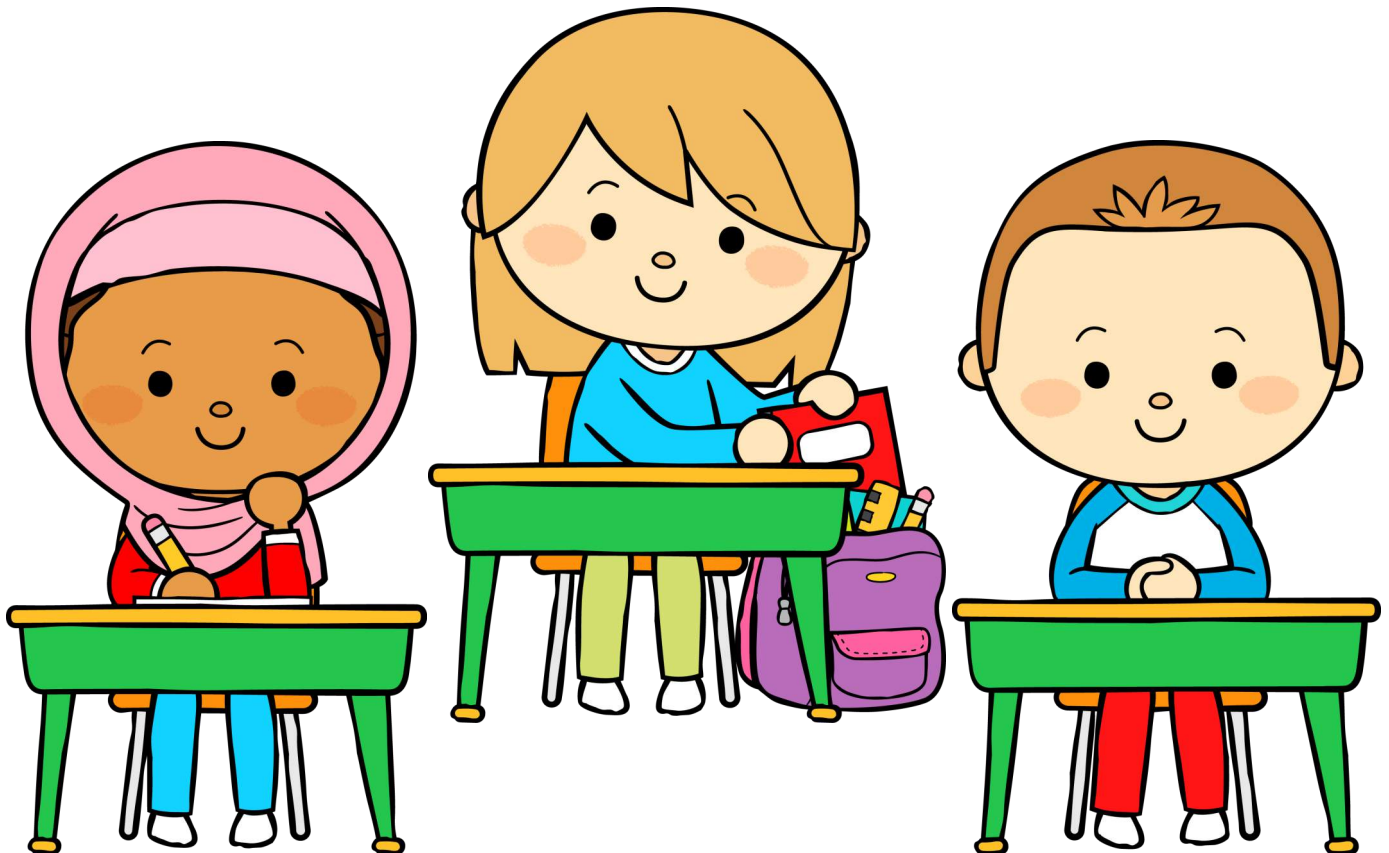
Library



Computer Class

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Back to School Would You Rather? Conversation Starters



Would You Rather?

Have taco day
or pizza day
for lunch?

Would You Rather?

Go to gym class
or music class?

Would You Rather?

Play a tuba in band
or do push-ups
in gym class?

Would You Rather?

Do school work by
yourself or in a group?

Would You Rather?

Walk to school
in the rain or
in the snow?

Would You Rather?

Take a field trip to
the zoo or to a
history museum?

Would You Rather?

Be invisible or be
able to read minds?

Would You Rather?

Take out all the trash
from all the bathrooms
or the lunch room?

Would You Rather?

Write with a pencil or pen?

Would You Rather?

Eat grasshoppers or earth worms for lunch?

Would You Rather?

Sit at a table made of play dough or LEGO Bricks?

Would You Rather?

Show up at school with shoes on the wrong feet or two different colors.

Would You Rather?

Jump in a pool full of JELLO or pudding?

Would You Rather?

Live on the moon or live on mars?

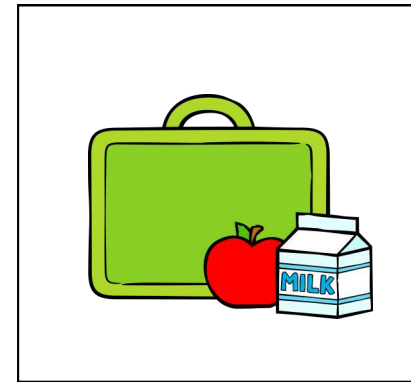
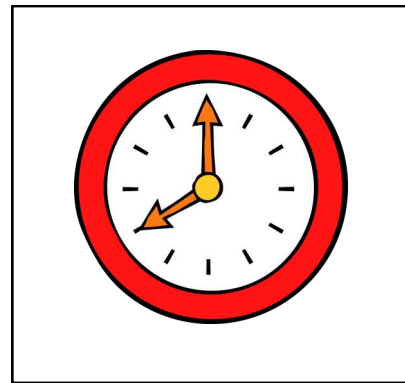
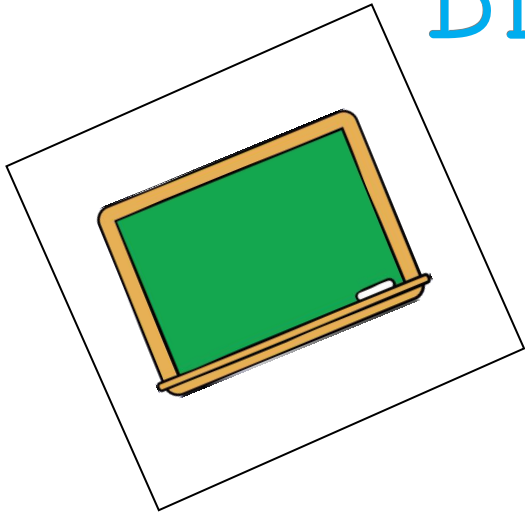
Would You Rather?

Have to wear a school uniform everyday or the same color everyday?

Would You Rather?

Learn to speak 3 languages or learn to play 3 musical instruments?

Back to School BINGO Game



Back to School BINGO



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Back to School BINGO



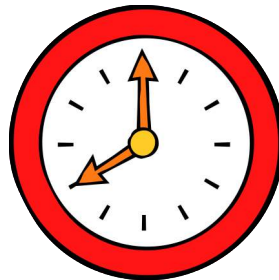
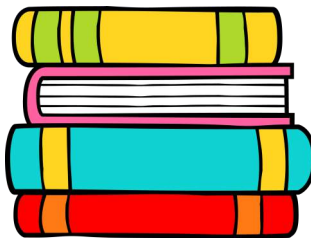
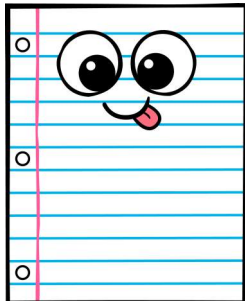
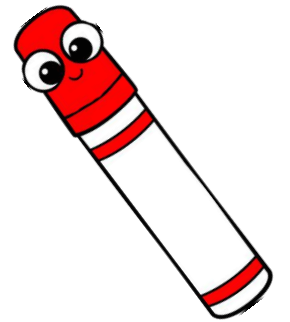
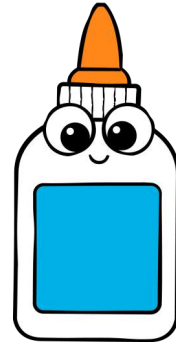
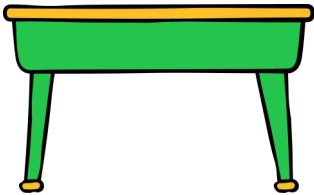
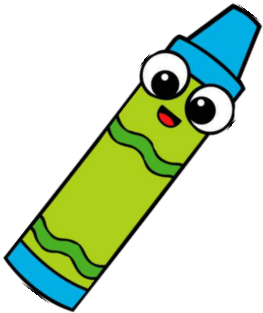
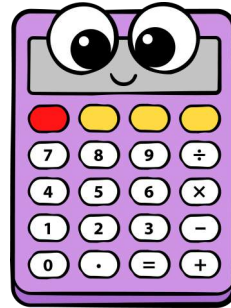
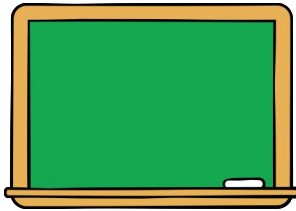
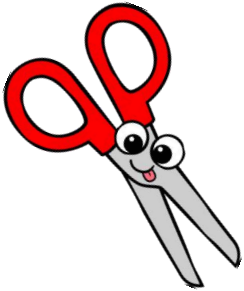
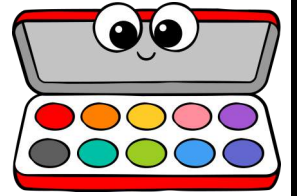
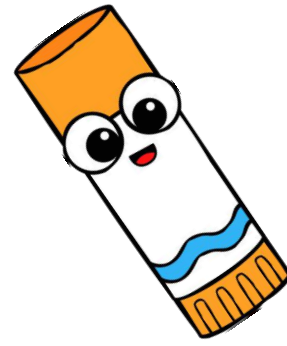
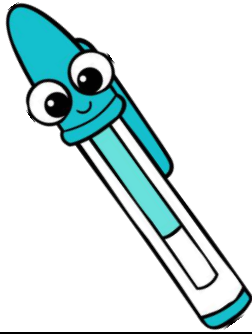
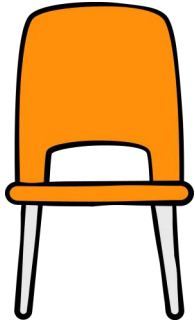
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Back to School BINGO



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and Rebecca B. Designs



graphics credit

