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Jewel Pastor of Jewel's School Gems

NOTES TO TEACHER

This Bird Feeder STEM Challenge is perfect for this season! It's a fun, creative, and engaging way to get your students designing and building during this time of year.

Challenge your students to design and build a bird feeder that can be refilled easily and can dispense bird seeds on its own. You can use plastic bottles, plastic plates, cardboard, wooden clothespins, and string to engineer this bird feeder. You can modify the task too and include any other materials you would like students to use. You can do this individually or in groups (I prefer groups of 3-4). Give students the materials mentioned, as well as some tape. For older students, they can use a glue gun if allowed in your school (for a more durable bird feeder). You can show the students the images of the possible finished product I included or make the task open ended and let them come up with their own designs.

Let students present and test their work. Check if the bird feeders meet the requirements by filling them with bird food. Have students give feedback to each other as well. Give them a chance to make improvements. Place the bird feeders in a spot in the school where they can attract birds. Have students share their reflections afterwards. Students can use the included vocabulary, and planning and reflection sheets to guide their learning. Please see Ideas for STE(A)M Links for discussion and extension activities that you can do.

Have fun! ☺

IDEAS FOR STE(A)M LINKS

Science: Discuss the life cycle of a bird (embryo > hatching > nesting > young bird > adult bird).

Technology: Use your iPad/tablet/computer to look at different designs of bird feeders for birds in your area.

Engineering: Build another bird feeder using different materials, such as a milk carton, craft sticks, and plastic spoons. Which bird feeder meets the requirements better?

Art: Paint your bird feeder. Use primary colors.

Mathematics: Visit your bird feeder at a specific time every day. Create a graph showing the different types and number of birds that come and visit your bird feeder. Collect data for a week. Present your graph to the rest of the class.

NEXT GENERATION SCIENCE STANDARDS

K-2-ETSI-1

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETSI-2

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

3-5-ETSI-1

Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

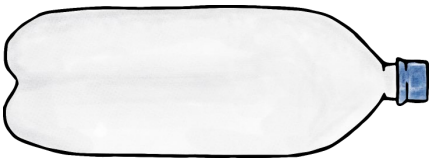
3-5-ETSI-2

Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.

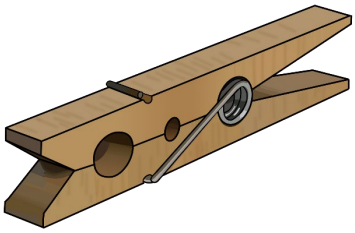
3-5-ETSI-3

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

SUGGESTED MATERIALS

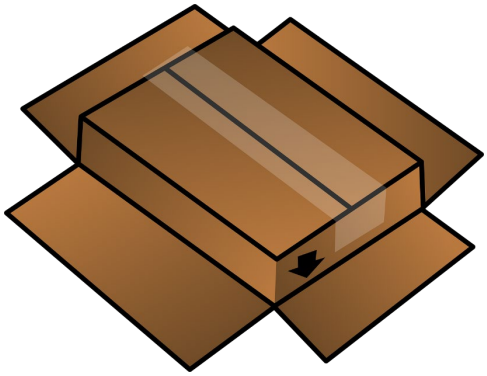


plastic bottle



wooden clothespins

plastic plate



cardboard

string

POSSIBLE FINISHED PRODUCT

POSSIBLE FINISHED PRODUCT

BIRD FEEDER STEM CHALLENGE

Design and build
a Bird Feeder
that can be refilled
easily and can dispense
bird seeds on its own.
You can use
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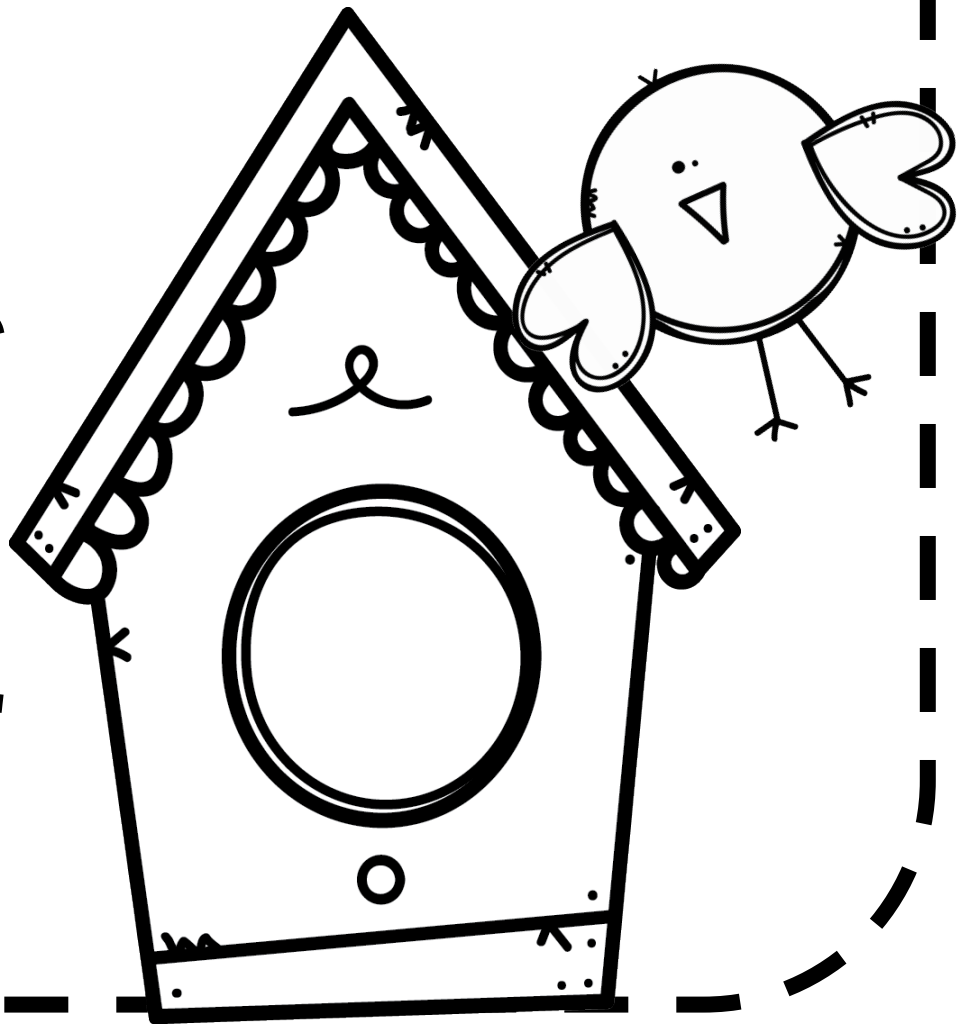

BIRD FEEDER STEM CHALLENGE

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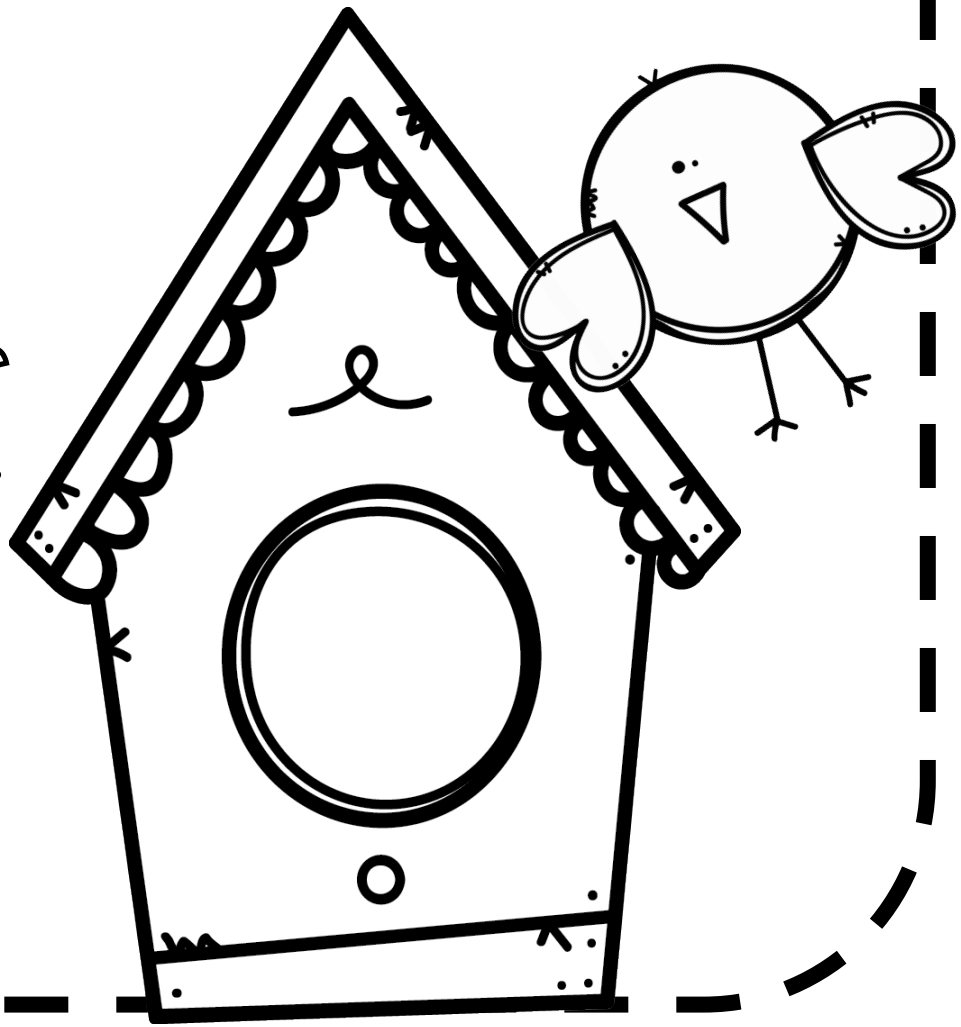
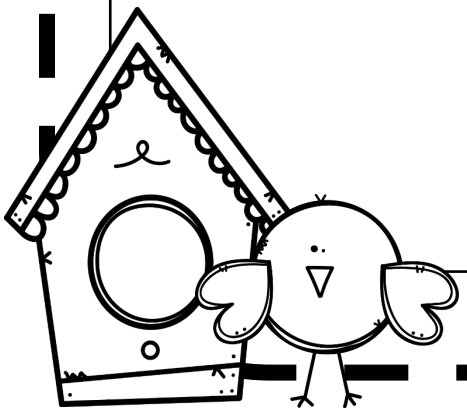


BIRD FEEDER STEM CHALLENGE

Design and build a Bird Feeder.

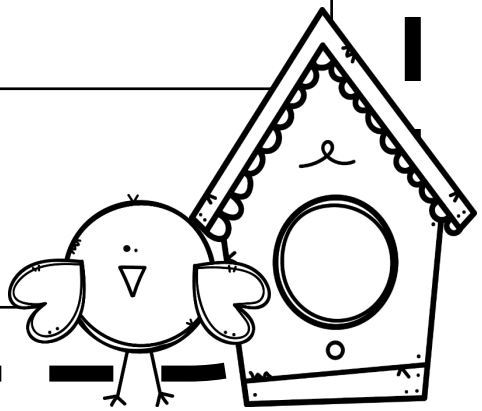
MATERIALS	WHAT WORKS?
DESIGN	WHAT DOESN'T?
	WHAT DO YOU THINK ABOUT THE DESIGN AND CHANGES YOU MADE IF THERE'S ANY?



BIRD FEEDER STEM VOCABULARY

Focus: _____

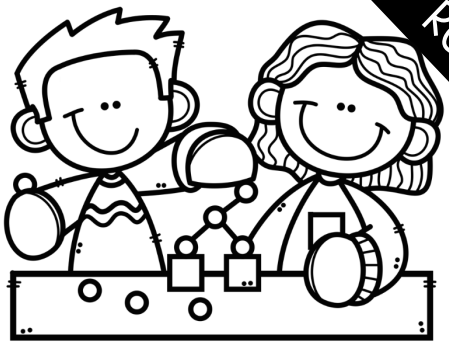
Word	Definition



Name: _____

Self-Assessment Rubric

STEM CHALLENGE



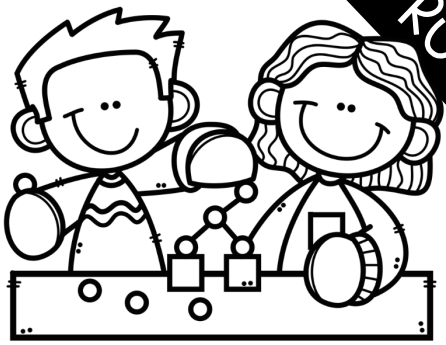
Task: _____

	WOW!	YES!	AHH	UH-OH
I followed all the instructions.				
I used my best effort and persevered throughout the challenge.				
I completed the planning and reflection sheet.				
I cooperated with my group mates and contributed fairly.				

Name: _____

Assessment Rubric

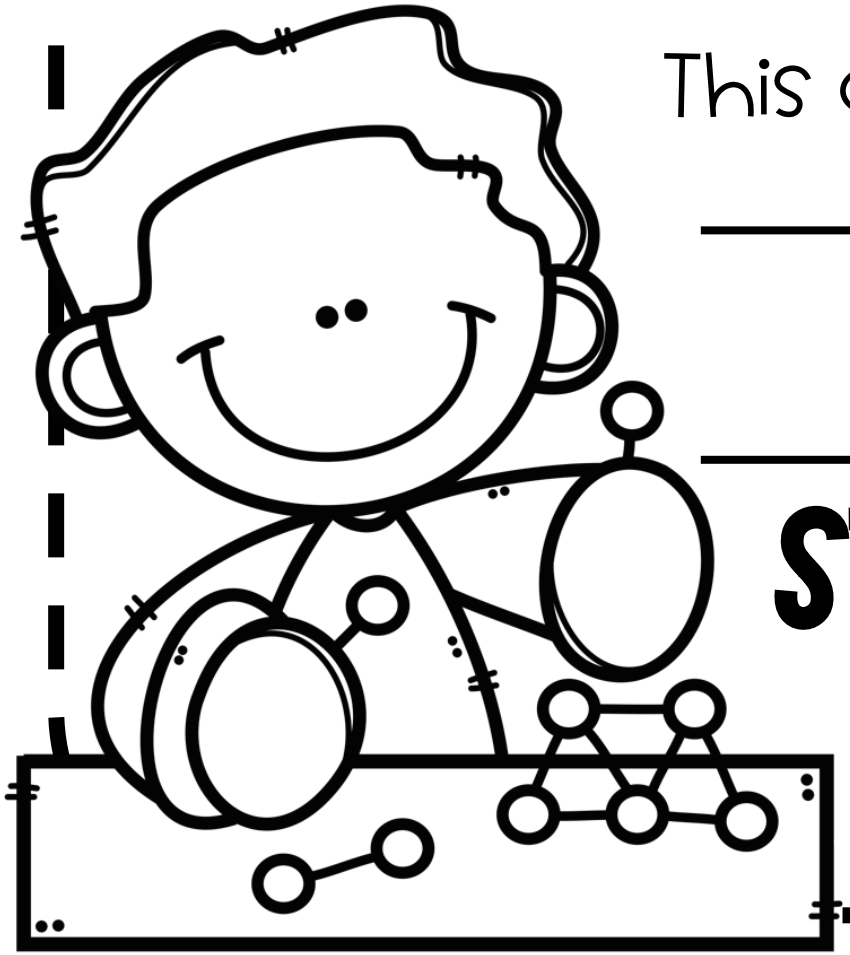
STEM CHALLENGE



Task: _____

	WOW!	YES!	AHH	UH-OH
I followed all the instructions.	4	3	2	1
I used my best effort and persevered throughout the challenge.	4	3	2	1
I completed the planning and reflection sheet.	4	3	2	1
I cooperated with my group mates and contributed fairly.	4	3	2	1
STUDENT: Shade in the face for each section for the score that you feel you have earned.	**TOTAL POINTS:**	**COMMENTS:**		
TEACHER: Circle the number in each section for the score that the student earned.	**TOTAL POINTS:**	**COMMENTS:**		

STAR BUILDER AWARD



This certificate is awarded to

_____

for completing the

_____

STEM CHALLENGE

FROM: _____

DATE: _____

STAR BUILDER AWARD

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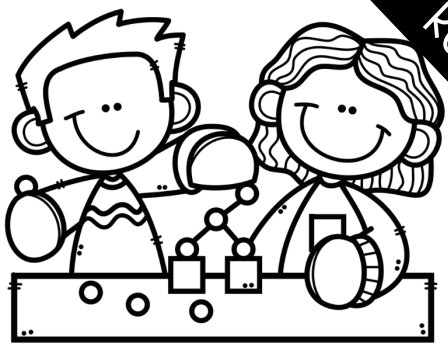

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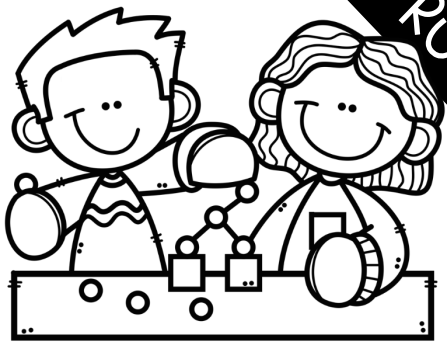

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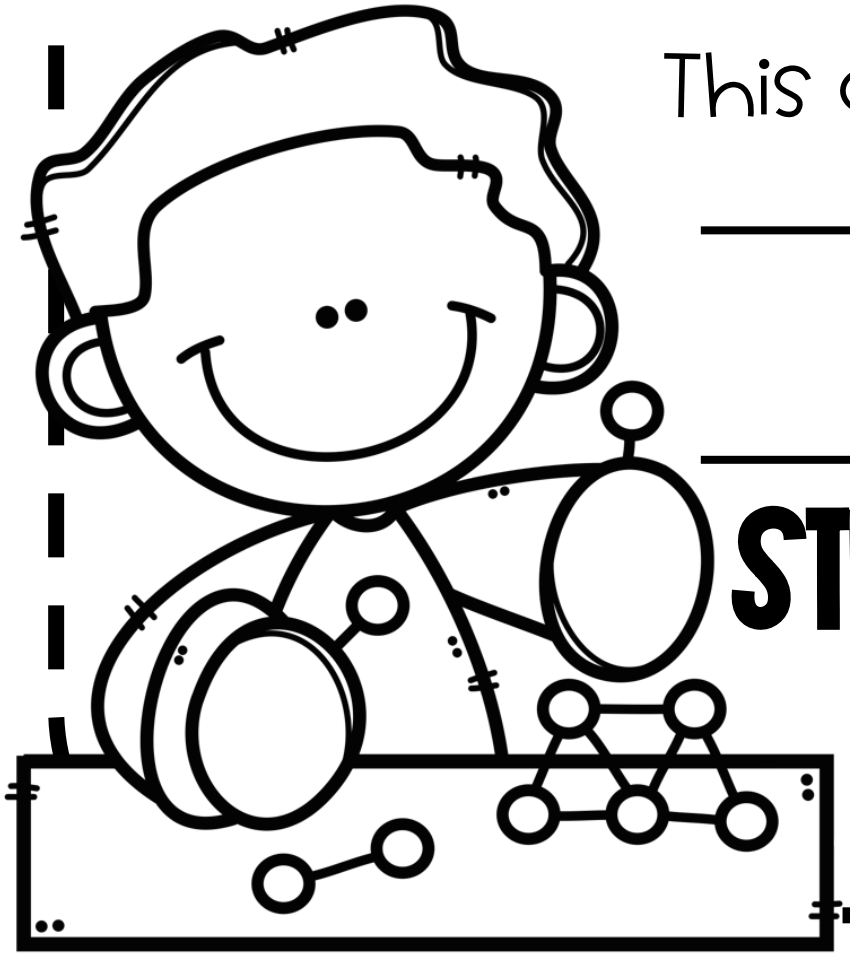

This certificate is awarded to

_____

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_____

STEAM CHALLENGE

FROM: _____

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STAR BUILDER AWARD

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STEAM CHALLENGE

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DATE: _____

WHAT YOU NEED TO GET STARTED:

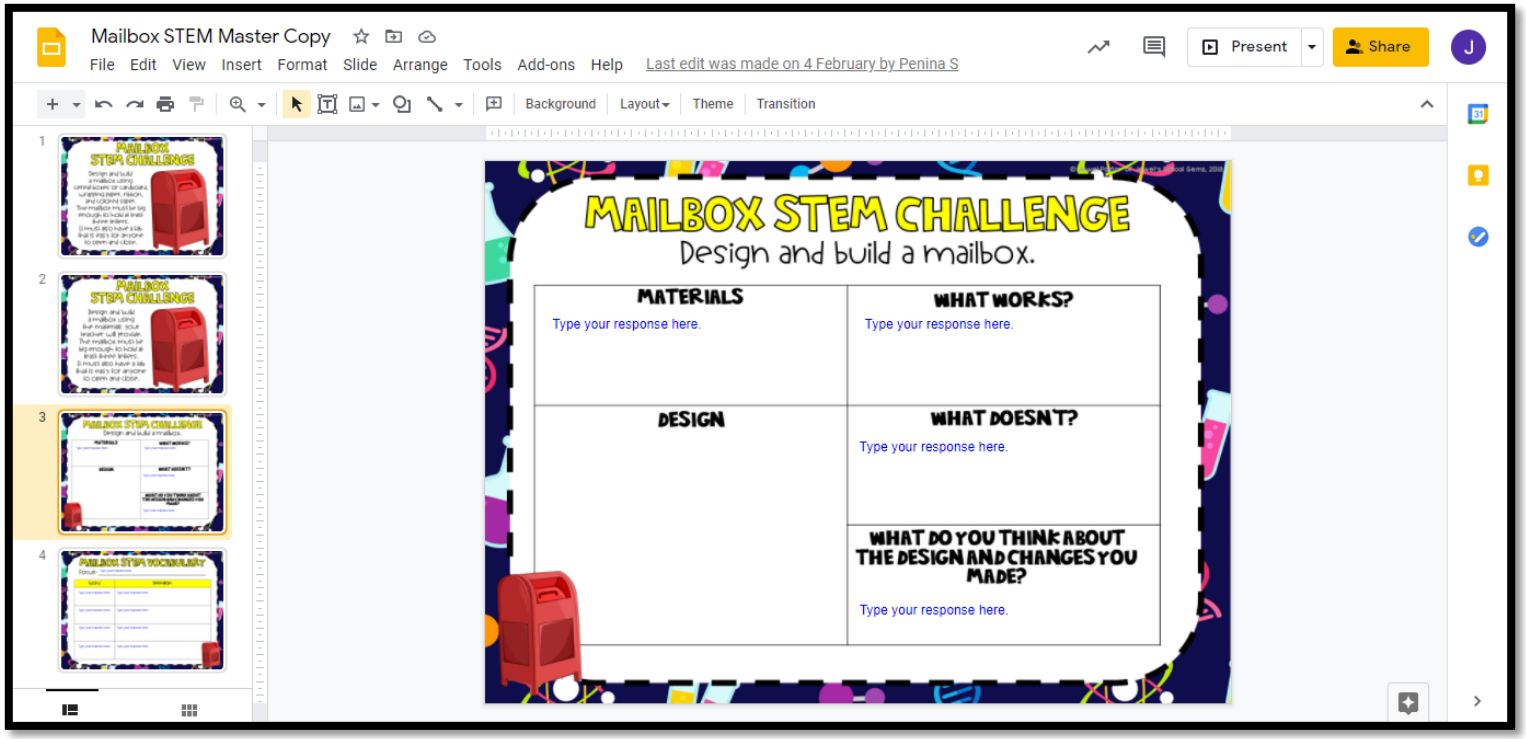
1. Download Link for this Google Slide Resource:

EARTH DAY BIRD FEEDER STEM CHALLENGE

2. Access to the Internet and a Google Account. (FREE)
3. Open the file on your own Google Drive and engage while in the edit mode.
4. Printer access to print out the finished product. (OPTIONAL)

BEGIN YOUR GOOGLE SLIDES PROJECT:

If your students haven't created a free Google account, they will need to do that before beginning the project. Each student will need their own account if they will be working on their own digital project using Google Slides. Before they begin editing/filling in the digital project, it is VERY important to first save a copy of the file on their own Google Drive, and then edit the copy. You do not want them to edit the original file.



The slides are 8.5"x11". You can delete slides that you deem unnecessary. The slides have a text box for students to highlight over and begin writing their text (See photo of an example from the resource line). Your students can add their own text boxes and insert images, too.