



December Family STEM Project: Be an Engineer



Directions:

Look through the Holiday Challenges with your child. Have them choose the project that is the most interesting to them. **You only need to do one project.**

Gather your materials. Draw a plan and build your project. Be sure to have a parent help you record your information on your recording sheet.

Turn it in:

Please return your recording sheet completely filled out with your name on it. Send in a photograph of your project. (If you do not have a way to photograph your project you may send it in.)

Technology Option:

Take a picture of your project and e-mail it to your teacher. We will project it onto the SmartBoard for you to present.

Speaking Standards:

Engineers share what they have learned about their projects with other engineers. Please practice sharing your project at home. You should start with a topic sentence (This is my ____.) Tell the class what worked well and what was challenging. End with a concluding sentence that tells what you would try next time to make your project even better! (Your sharing will have 4 complete sentences.)

December is a short and busy school month. You may bring in/e-mail your project in as soon as it is finished. The Final due date is

_____.

slane@sesk12.org
Mrs. Lane

hbolter@sesk12.org
Mrs. Bolter

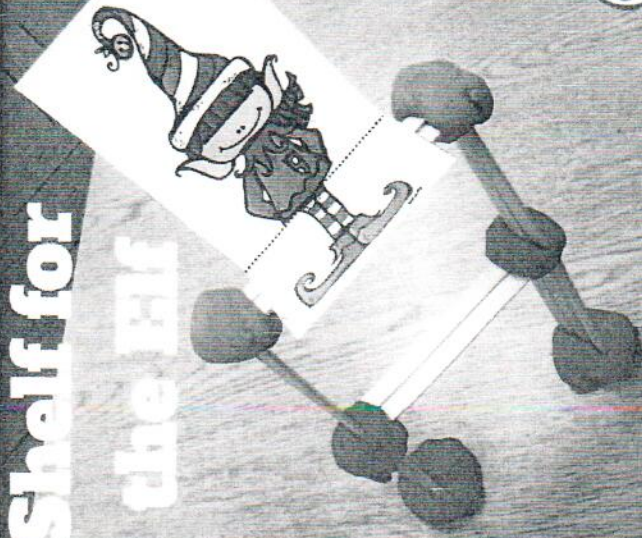
gmlnik@sesk12.org
Mrs. Milnik

possible finished projects



Tallest
Tree

teaching
ON THE
INSIDE
OF THE
BOX



Shelf for
the Elf

teaching
ON THE
INSIDE
OF THE
BOX



Santa's
Parachute

Created by Brooke Brown

Santa's Parachute

Santa's sleigh broke down!

Can you construct a parachute with basket that will help him land safely and gently on the ground?



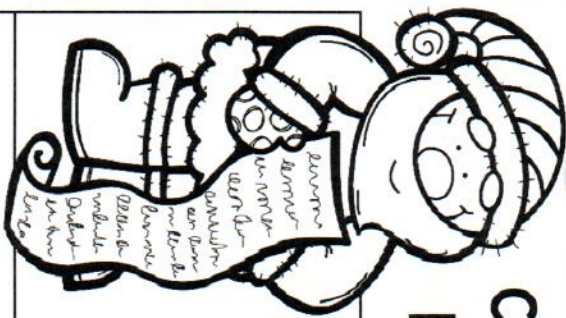
Materials:

- * Tissue paper, napkins, coffee filters (allows for different testing materials)
- * String
- * Single hole punchers (one per group)
- * Scotch tape
- * Dixie cups, index cards (choices for basket materials)
- * Santa cutouts printed on cardstock (p. 7-8)
- * Pennies (for adjusting weight/balance of basket)
- * Timers (optional for timing drops)

Name: _____

Santa's Parachute

Can you construct a parachute with basket that will help Santa land safely and gently on the ground?



Materials:

Blueprint:

Test Results:

Test 1:

Test 2:

Test 3:

Test 4:

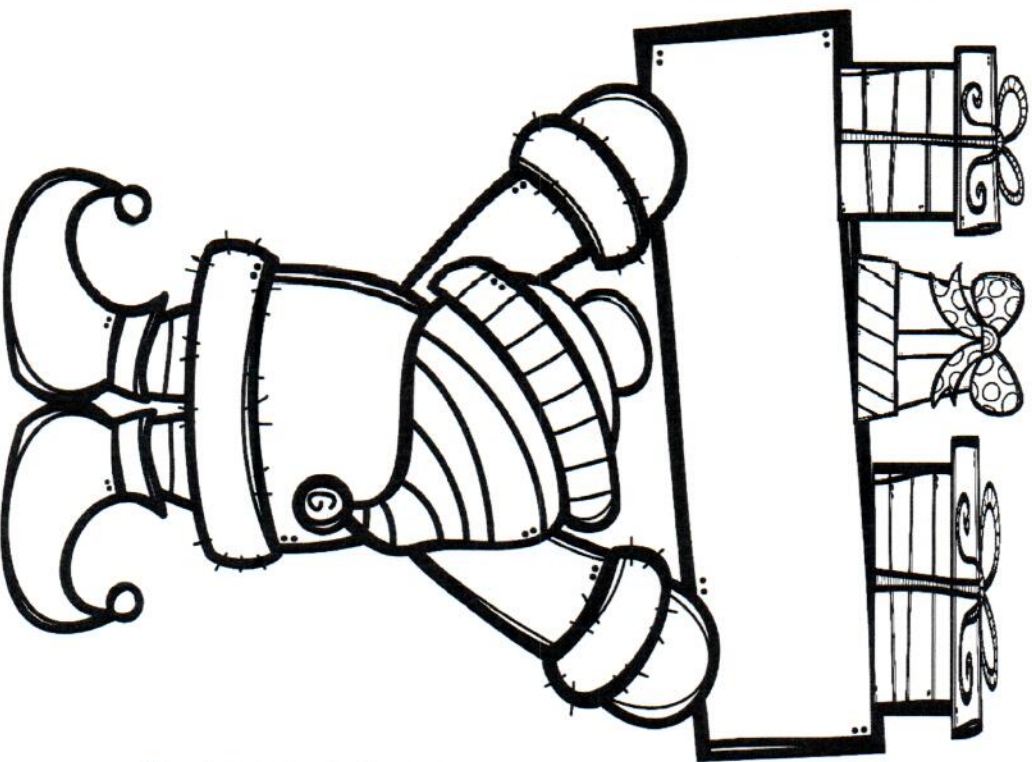
What worked well?

What was challenging?

How did I improve my design?

Shelf for the Elf

Construct the tallest shelf possible
that will hold the elf.



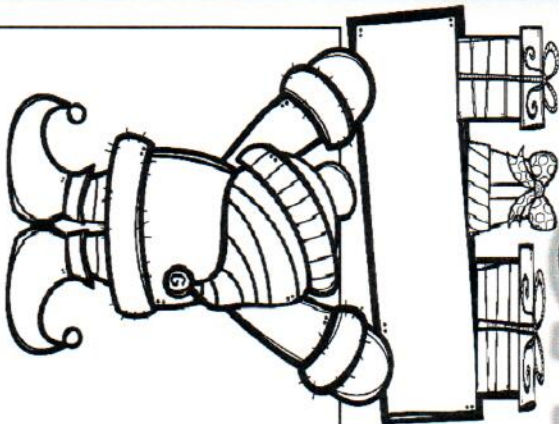
Materials:

- * Playdough (2 cans per group)
- * Small popsicle sticks
- * Elf cutouts on p. 11-12, printed on cardstock and each folded into a “sitting” position.
- * Measuring tape or yard sticks

Name: _____

Shelf for the Elf

Can you construct the tallest possible shelf that will hold the elf?



Materials:

Tests:

Height 1: _____

Height 2: _____

Height 3: _____

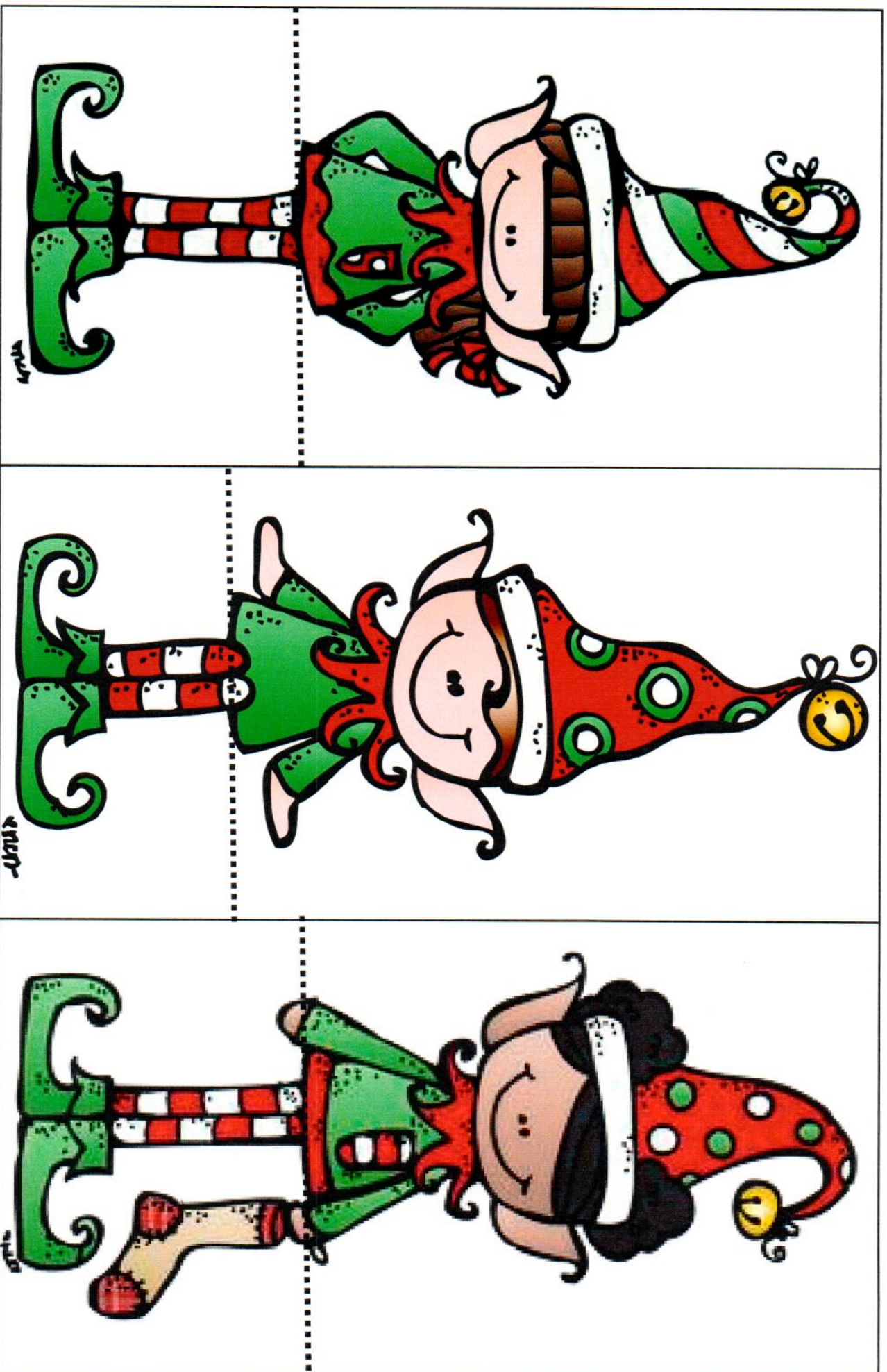
Blueprint:

What worked well?

What was challenging?

How did I improve my design?

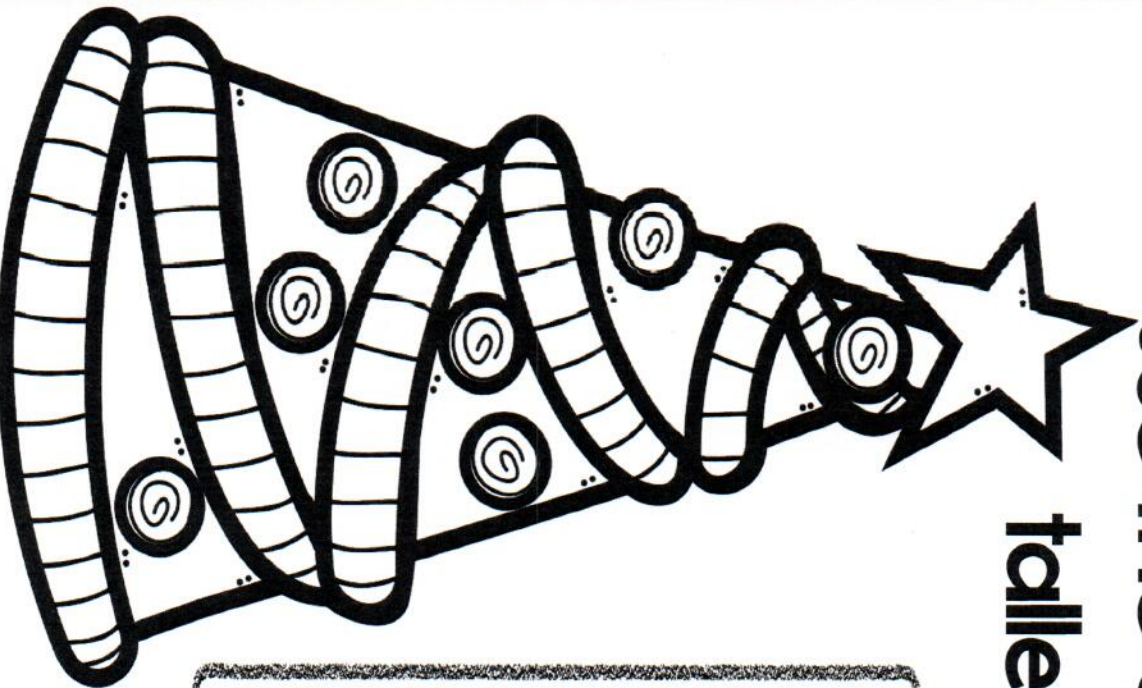
Shelf for the Elf Challenge



Cut out the elves and fold on dotted lines so that each elf is "sitting."

Tallest Tree

Use the cups to construct the tallest tree possible.



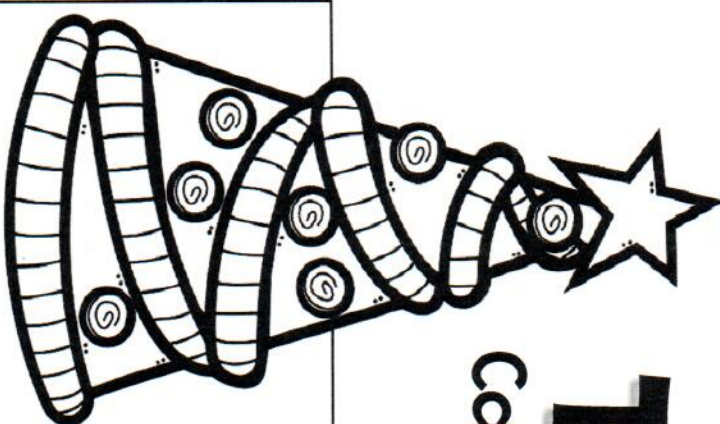
Materials:

- * Plastic cups (green found at party supply stores)
- * Printed ornaments on p. 14-15 and Scotch tape for students to decorate cups (OPTIONAL)
- * Measuring tape or yard sticks

Name: _____

TALLEST TREE

Can you use the cups to construct the tallest tree possible?



Materials:

Blueprint:

Tests:

Height 1: _____

Height 2: _____

Height 3: _____

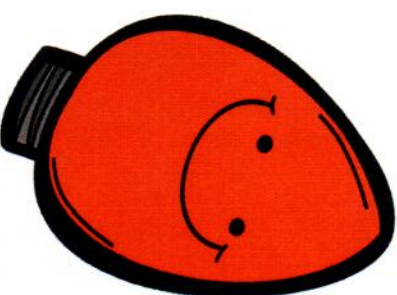
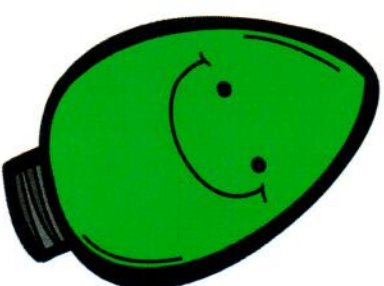
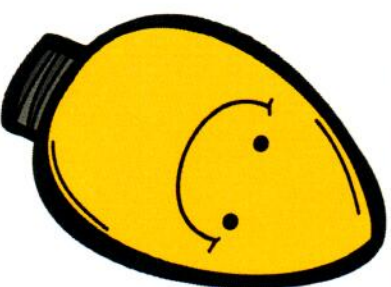
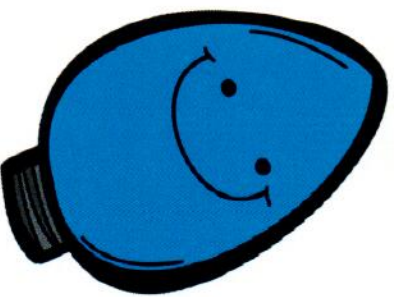
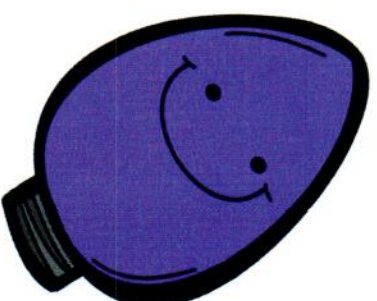
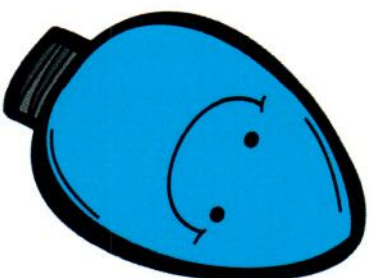
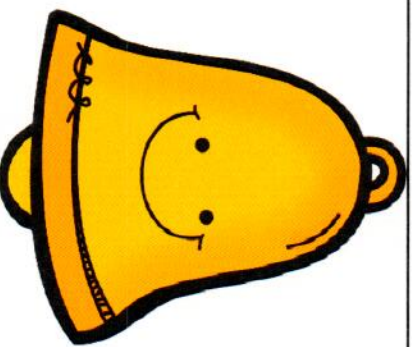
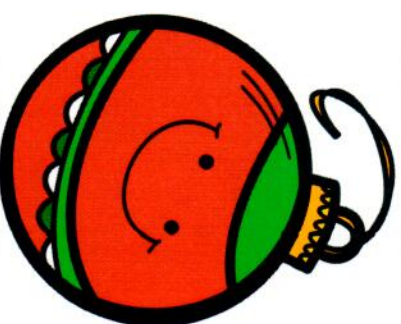
What worked well?

What was challenging?

How did I improve my design?

Tallest Tree Challenge

(Optional ornaments to tape onto cups)



Reading Log for December

Date	Title(s)	Minutes Read	Read by...	Student Initials	Parent Initials
25					
26					
27					
28					
29					
30					
31					