Take-Home STEM Projects

Thank You

for downloading this STEM resource!!

This resource includes a LOT of content. Each task card has a QR code (and a link) that goes to a video that lays out a STEM challenge and then explains the science behind the activity. There is also an EDITABLE worksheet and STEM process poster!

These STEM task cards are perfect for emailing to parents so they can EASILY do STEM activities at home with their kiddos! They simply choose a challenge, watch the fun and educational video, sketch out their design, build, and answer the response questions on their worksheets. In addition, students can reference the included STEM process poster as they design and build. They could even take pictures of their creations and send them to you electronically!

The materials needed for these activities:
*Note, if you don't have all of the materials, get creative and substitute them with what you do have!

Pencils
Straws
Pipe Cleaners
Paper and/or Card-stock
Note Cards
Masking Tape / Scotch Tape
Play Dough
Marbles & Ping-Pong Ball (or similar)
Paper Clips
Popsicle Sticks
Paper Cups of some sort
Pennies
Dental Floss
Tree Twigs
Rubberbands

This resource is adapted from my STEM Stations Activities Resource. The videos reference a "STEM BOX", which is a box of supplies that a teacher would pre-stock and have ready for kids to work on in a student-lead group. The STEM Stations resource also comes with detailed worksheets, picture examples and STEM Box labels.

Please feel free to email me
at any time with any questions
or concerns regarding this
resource! -Josh
ScienceDemoGuy@gmail.com

NAME: STEM TASK:

ASK:

What task do you need to complete?

PLAN:

Create a plan to complete your task and sketch out your ideas.

CREATE:

Build your design.

TEST:

Test your design to see if it works!

IMPROVE:

What could you improve to make your design better?

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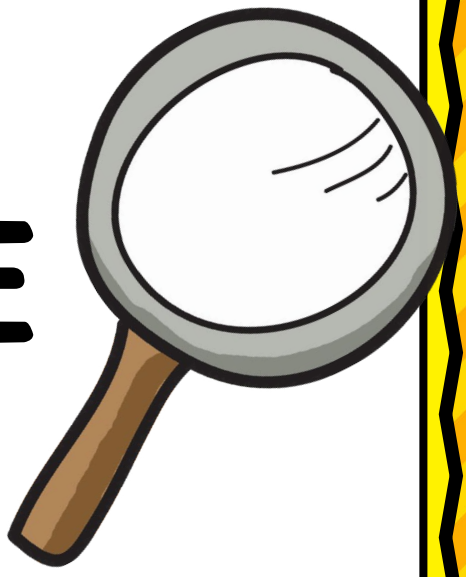
STEM Engineering Process

ASK

What is the challenge?

PLAN

How are you going to solve it?
Brainstorm ideas!



CREATE

Follow your plan.

TEST

Find out how well your plan worked!

IMPROVE

There is always room for improvement.
Revise your plan and try again!!

Air Show Competition

The upcoming "Air Show Extravaganza" needs airplanes!

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it!

You could type this url in instead of scanning the QR code: https://goo.gl/oSXitP

Materials:

- Straws (3)
- Paper Clips (5)
- Note Cards
- 5 Sheets Card stock
- 5 Sheets Printer Paper
- Scotch Tape (1 roll)

*Note, if you don't have all of the materials, get creative and substitute them with what you do have!

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High in the sky

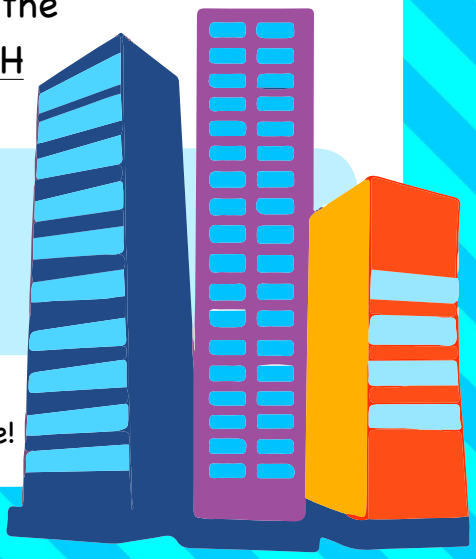
Help a young architect build a really high tower!!

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/YkPX2H

Materials:

Straws (20)
Pipe Cleaners (20)
Note Cards (10)
Masking Tape (1 roll)
Play Dough (1 container)
Paper (5 sheets)

*Note, if you don't have all of the materials, get creative and substitute them with what you do have!



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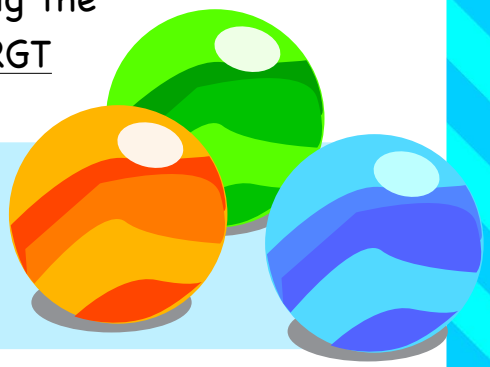
Lost Marble Lift

Professor Stemplestien has lost his marbles!

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/ccYRGT



Materials:

- Pencil (5)
- Straws (4)
- Pipe Cleaners (6)
- Note Cards (5)
- Masking Tape (1 roll)
- Play Dough (1 container)
- Marbles (25)

*Note, if you don't have all of the materials, get creative and substitute them with what you do have!

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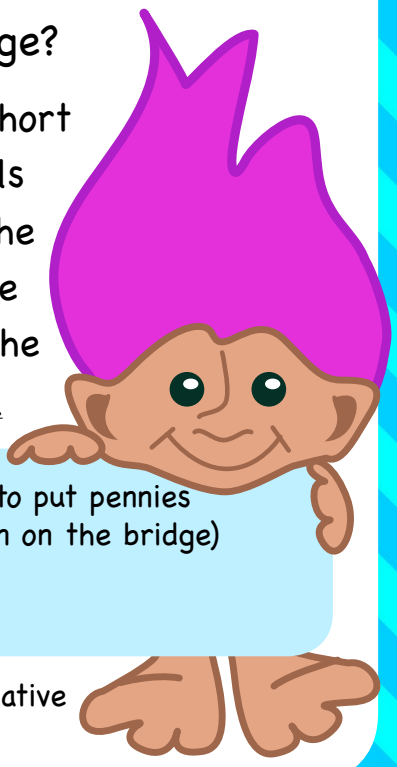
Troll Bridge

Are you able to help a troll build a bridge?

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/Afp4XQ



Materials:

- Popsicle Sticks (25)
- Straws (25)
- Pipe Cleaners (25)
- Pencils (10)
- Masking Tape (1 roll)
- Dental Floss (1 container)
- Pennies (50-100)
- Small Cup
- (to put pennies in on the bridge)

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Treasure Island Rescue

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/FnSGRa

Materials:

- Twigs (10)
- Popsicle Sticks (10)
- Straws (10)
- Pipe Cleaners (5)
- Pencils (5)
- Dental Floss (1 container)
- Rubber Bands (10)
- Pennies (100)
- Small Cup (to put pennies in on the raft)
- Water Tight Bin (ocean)
- Optional: Blue Food Coloring (for testing)

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Roller Coaster Birthday Party

This is going to be an epic party...but your help is needed!

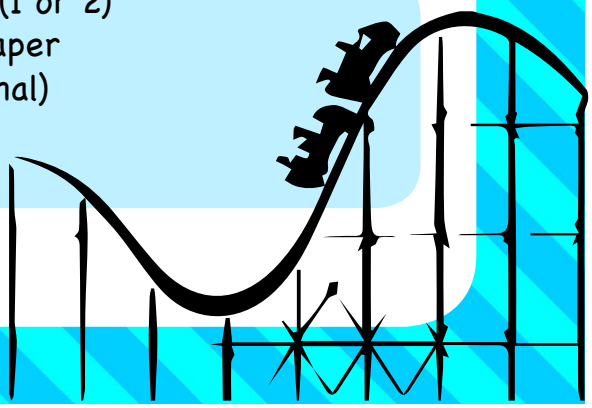
Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it!

You could type this url in instead of scanning the QR code: https://goo.gl/vDCTP5

Materials:

- Straws (25)
- Pipe Cleaners (25)
- Masking Tape (1 roll)
- Play Dough (1 container)
- Ping Pong Ball (1 or 2)
- Construction Paper for Base (optional)
- Note Cards (10)
- Rulers (2)

*Note, if you don't have all of the materials, get creative and substitute them with what you do have!



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Air Show Competition

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Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it!

You could type this url in instead of scanning the QR code: https://goo.gl/oSXitP

Materials:
Straws (3)
Paper Clips (5)
Note Cards (3)
2 Sheets Card stock
5 Sheets Printer Paper
Scotch Tape

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High in the sky

Help a young architect build a really high tower!!

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/YkPX2H

Materials:
Straws (20)
Pipe Cleaners (20)
Note Cards (10)
Masking Tape
Play Dough (1 container)
Paper (5 sheets)

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Lost Marble Lift

Professor Stemplestien has lost his marbles!

Scan this QR card to watch a short video. It will give you the details of your challenge and explain the science behind it! You could type this url in instead of scanning the QR code: https://goo.gl/ccYRGT

Materials:
Pencil (5)
Straws (4)
Pipe Cleaners (6)
Note Cards (5)
Masking Tape
Play Dough (1 container)
Marbles (25)

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Materials:
Popsicle Sticks (25)
Straws (25)
Pipe Cleaners (25)
Pencils (10)
Masking Tape
Dental Floss
Pennies (50-100)
Small Cup
(to put pennies in on the bridge)

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Materials:
- Twigs (10)
- Popsicle Sticks (10)
- Straws (10)
- Pipe Cleaners (5)
- Dental Floss
- Rubber Bands (10)
- Pennies (100)
- Small Cup (to put pennies in on the raft)
- Water Tight Bin (ocean)

**Test your boat by placing it in the bin with water.

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You could type this url in instead of scanning the QR code: https://goo.gl/vDCTP5

Materials:
- Straws (25)
- Pipe Cleaners (25)
- Masking Tape
- Play Dough (1 container)
- Ping Pong Ball (1 or 2)
- Thick Paper for Base (optional)
- Note Cards (10)
- Rulers (2)

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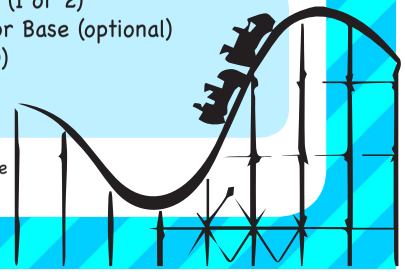

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Just in case

you're looking for more
fun STEM resources,
I have many more in my
TpT Store:

Science Demo Guy

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