

THE GREAT EGG DROP STEM CHALLENGE



Challenge:

Design and build a device that will hold an egg that when dropped from a height the egg in the device doesn't break.

Goals:



1. Use the STEM design process to design and build a device to protect an egg when dropped from a height.

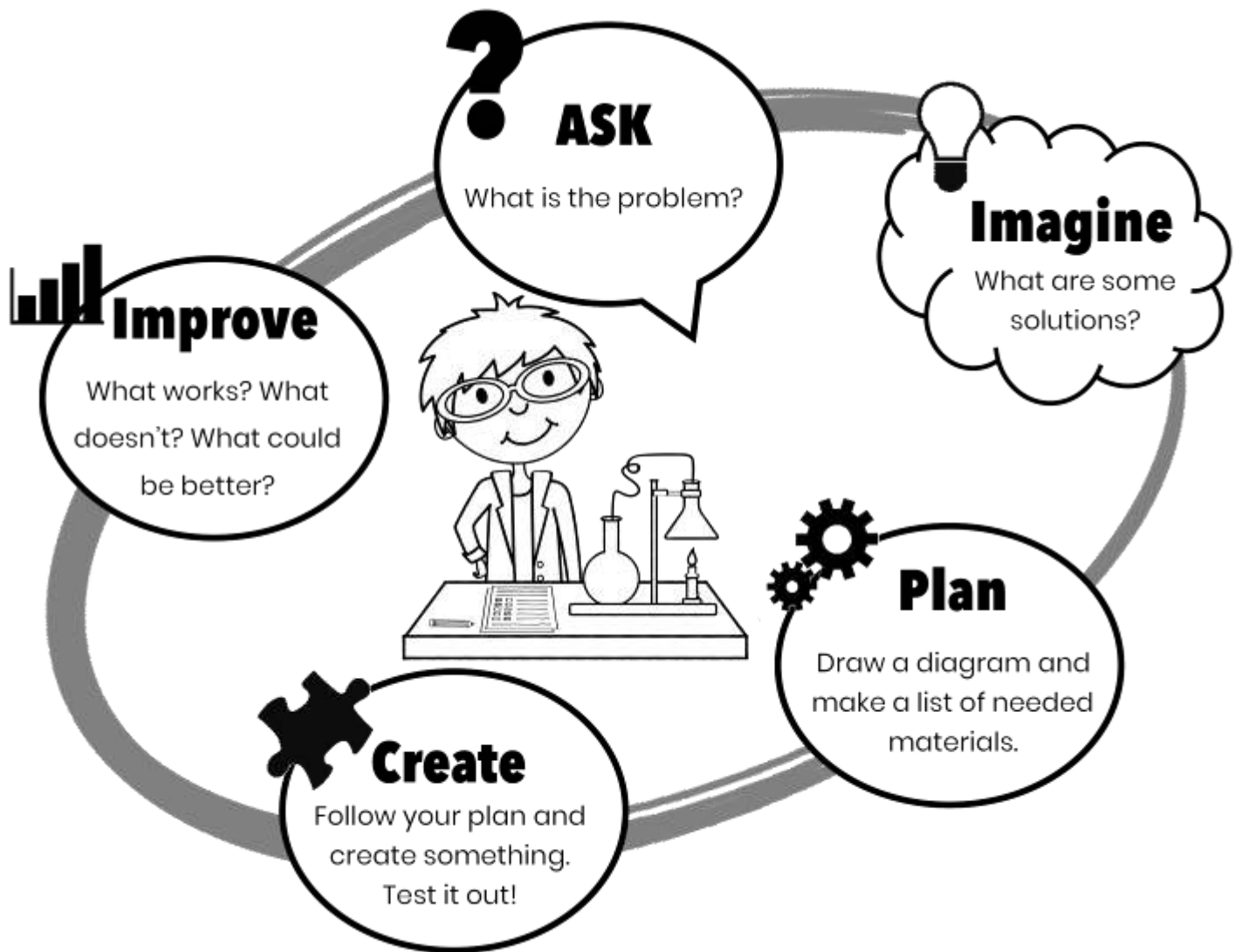
2. Make sure to design your device so that the egg will fit inside of it.

3. Fill in engineers notebook page with design details and sketches.

4. Be able to demonstrate how your device works and what the results were following

Test	Height	Device Type	Success (Y/N)
Drop #1			
Drop #2			
Drop #3			

ENGINEERING DESIGN PROCESS



ENGINEERING DESIGN PROCESS



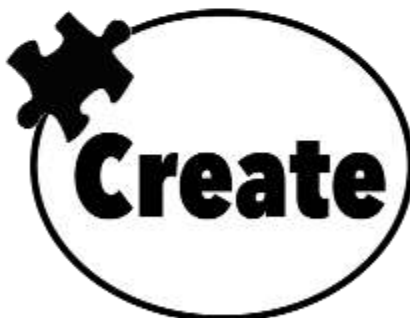
What is the problem?
What do I need to know?
How can I solve the problem?



What information will I need?
What are some solutions?
How can I solve the problem?



What things do I need to use?
Draw a diagram and make a list
of needed materials.



Follow your plan and create
something.
Test it out!



What changes can
I make to make it better?

QUESTIONS FOR REFLECTION

Use these questions for reflection with your kids after they have completed the STEM challenge to encourage discussion of results and critical thinking.

1. What were some of the challenges you discovered along the way?
2. What worked well and what did not work well?
3. What part of your model or prototype do you really like? Explain why.
4. What part of your model or prototype needs improvement? Explain why.
5. What other materials would you like to use if you could do this challenge again?
6. What would you do differently next time?
7. What parts of your model or prototype are similar to the real world version?

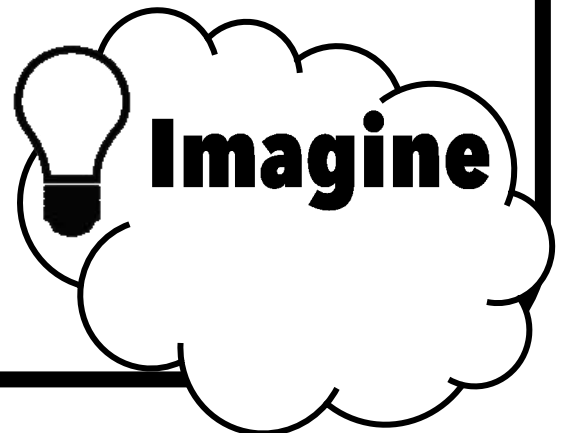
My STEM Challenge:



ASK

What's the problem?

BRAINSTORM AND RECORD possible solutions, as many as you can.



Imagine



Plan

Draw a diagram and make a list of needed materials.

Make a plan for solving your problem.



A series of ten horizontal lines providing space for writing a plan.

My STEM Challenge:



Create

Look at the materials provided for use in creating your models.

My STEM Challenge:



Improve

Create a new drawing incorporating your ideas as well as the feedback you received on your prototype. Create an improved version of your original model.