

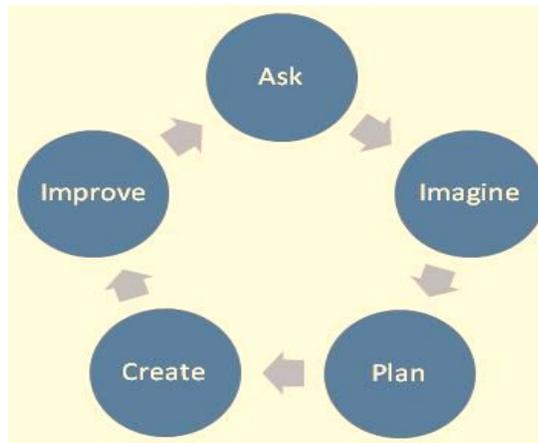
Volcano Rising: Engineering Design Process

Your team of engineers will design a structure that will change the flow of lava (foam) so that the flow does not touch the buildings and put civilians in danger.

				
Craft Sticks	Masking Tape	Straws	Foam Plate	Cardboard
				
Crayola Modeling Clay	Foil	Tooth Picks	Duct Tape	Cups

- 1) Notice that the word Ask is in one of the circles in Figure 1. Ask yourself: What materials would I like to use to design a structure that will change the flow of lava (foam) so that the flow does not touch the buildings? Write these materials on your STEM Challenge handout.
- 2) Notice that the word Imagine is in one of the circles in Figure 1. Imagine what your structure will look like. Draw a picture of your structure on your STEM Challenge handout.

Figure 1: Engineering Design Process



- 3) It is time to share your ideas with your team! Put on your listening ears and, one at a time, share your ideas!
- 4) Notice that the word Plan is in one of the circles in Figure 1. Plan what your structure will look like. You can use one of your teammates' ideas or a combination of the team's ideas. But remember, you must create your structure together as a team!
- 5) Draw a picture of your structure on your STEM Challenge handout.

Volcano Rising: Buying Time!

You will buy items to design a structure that will change the flow of lava (foam) so that the flow does not touch the buildings and put civilians in danger. You have \$4.00 to spend. The items and their prices are shown below.

Material	Cost per one item	Number of items your team would like to purchase	Total cost of the items your team would like to purchase
Craft stick	\$0.25		
One foot of masking tape	\$0.50		
Straw	\$0.15		
Foam plate	\$0.25		
Cardboard	\$0.25		
Crayola Modeling Clay	\$0.25		
Foil	\$0.25		
Toothpick	\$0.01		
One foot of duct tape	\$0.50		
Cup	\$0.25		
Total Cost:			

Show your work here or on the back of this handout:

Volcano Rising: Test and Improve Your Structure

It is finally time to test your structure.

- 1) Did your structure change the flow of lava (foam) so that the flow did not touch the buildings and put civilians in danger? Write a sentence or two about why your structure did or did not change the flow of lava.

- 2) Write a sentence or two about how you will improve your structure.
