

Name:

Date:

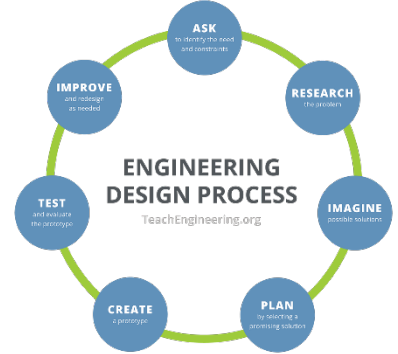
Class:

Sinkhole Emergency Workbook

Oh no! A sinkhole has opened up close to the school! Don't worry—everyone is safe, and nothing has been damaged. We will follow the engineering design process to repair the sinkhole effectively and efficiently.

A good design will prevent water from seeping into the beaker below and absorbs enough water to prevent puddling. It must:

- Use exactly 3 different materials
- Have a mass of 200 g



Ask

Problem-Solving Question:

Research

Use this space to record facts and ideas as you research sinkholes and how they are repaired.

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Class:

Research (continued)

Imagine

Use this space to brainstorm ideas for your team's design.

Name:

Date:

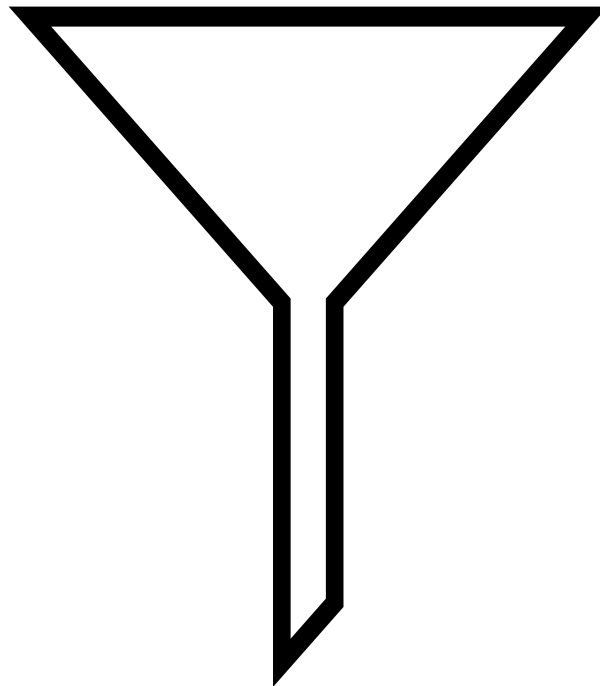
Class:

Plan

List each material that your team plans to use, the reason for using that material, and the mass of the material. Remember: the mass of all three materials should add up to 200 g!

Material	Reason	Mass (in grams)
		Total 200 g

Illustrate your team's design below. Make sure to label the three different materials and clearly show their location.



Name:

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Create

Weigh out your materials.

Material 1: _____ g

Material 2: _____ g

Material 3: _____ g

Funnel and beaker: _____ g

Create your design and record any changes to your plan below.

Additional observations:

Name:

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Test

Weigh your design. Subtract the mass of the empty funnel and beaker to get the mass of the design only.

Final design mass: _____ g

Pour 50mL of water on top of your design. Record the volume of liquid that seeps through to the beaker after 2 minutes.

_____ mL

Other observations:

What went well?

What needs to be improved?

Name:

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Improve

With your group, redesign your sinkhole repair to make improvements. Record any changes made from your team's first design below.

Change	Reason

Illustrate your team's design below. Make sure to label your three different materials and clearly show its locations.

