

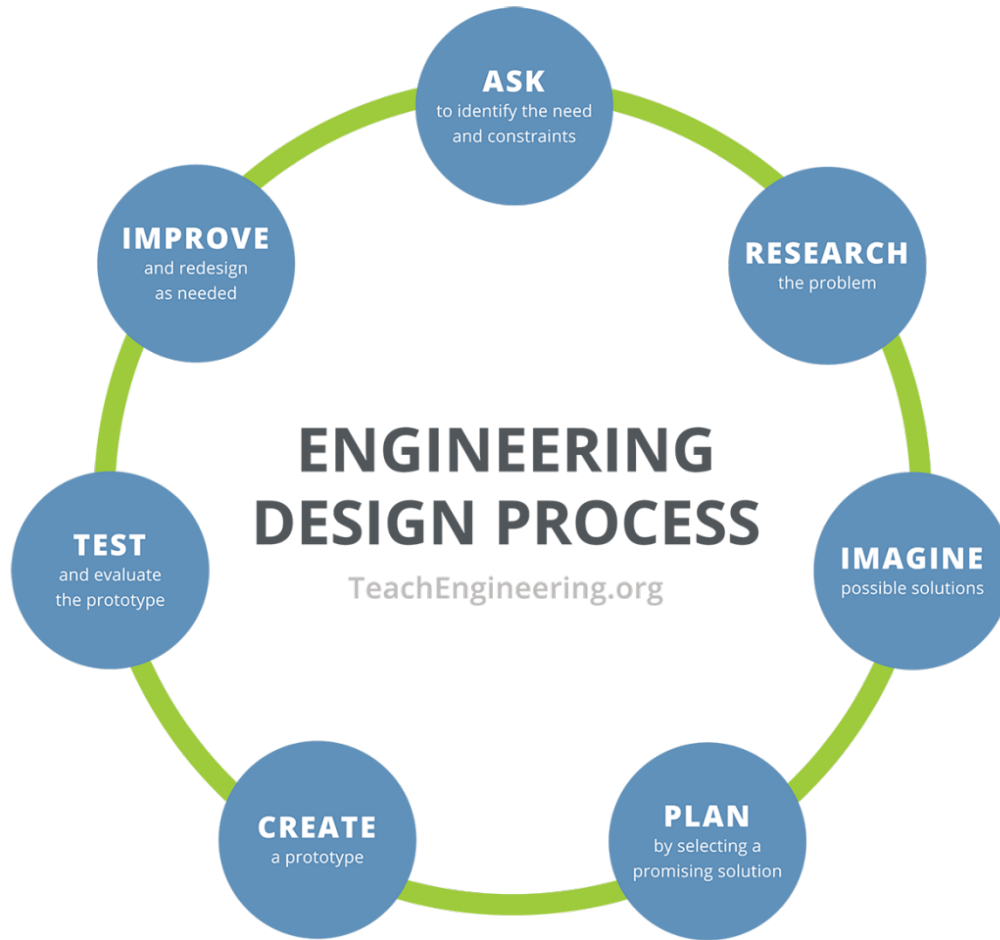
Name:

Date:

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Engineering Design Challenge Worksheet

Instructions: Using the engineering design process, you and your team will act as materials engineers who are tasked with designing a more energy-efficient cooking system to reduce energy waste when heating liquids.



1. **Ask** – Identify the need and constraints of your problem.

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2. **Research** – What do we know about specific heat capacity? What did we learn in the water versus oil specific heat capacity activity?

3. **Imagine** – Individually sketch out four possible solutions.

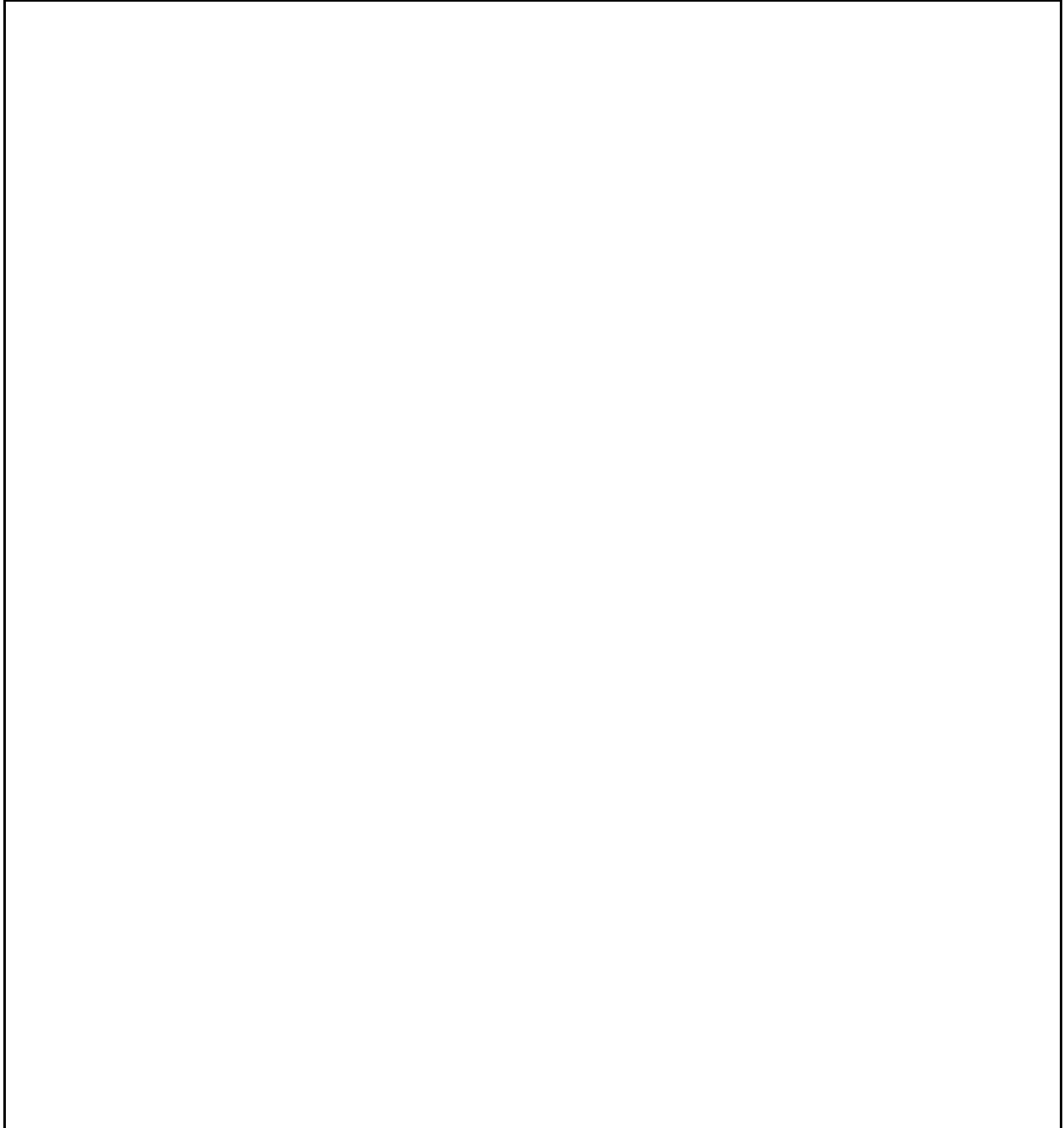
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| a. | b. |
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- 4. Plan** – Have each team member share their ideas. As a team, select ONE solution. This can be one specific solution or a mixture of ideas. Draw your team’s solution in the box below. Make sure to identify which materials you will be using.



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5. **Create** – Build your prototype as shown in your group’s drawings.

6. **Test** – Test your design and then answer the following questions.

What worked in your design, and why?

What did not work in your design, and why?

What features worked best in your classmates’ designs?

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7. **Improve** – Based on your testing and your classmates’ designs and results, how would you improve your design? Why?

8. **(optional) Iterate** – Make changes and retest your updated prototype. Did your changes improve your prototype? How?

What worked in your updated design, and why?

What did not work in your updated design, and why?
