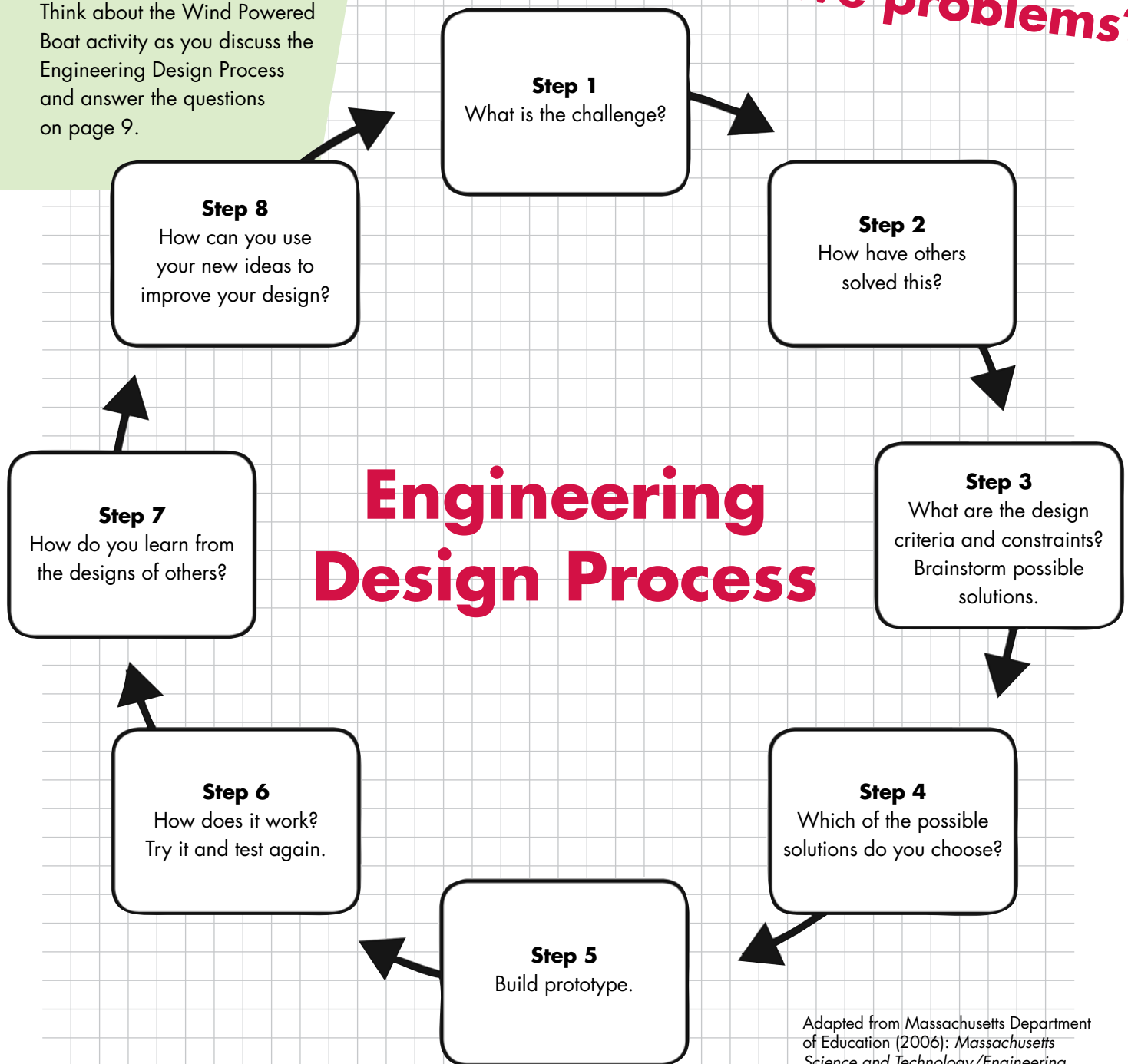


# Learn More About Engineering Design

How do engineers use design to solve problems?

## Think About It

Think about the Wind Powered Boat activity as you discuss the Engineering Design Process and answer the questions on page 9.



Adapted from Massachusetts Department of Education (2006): *Massachusetts Science and Technology/Engineering Curriculum Framework*.

# Talk About It

- What was the challenge?
- How did you get your first ideas?
- What were your constraints?
- Describe your first **prototype**.
- How did your prototype differ from your final result?

## Learning from Others

- How did you use the ideas of others?
- Why do you think the **engineering design process** on page 8 is circular?

**Restrictions** like “not too heavy” or “not too expensive” are called constraints on the design.

Anything an engineer designs will be the result of choices and trade-offs – balancing the options and the constraints.

Engineering design always contains some “do-overs” (they’re called **iterations**) where you learn something valuable from something that went wrong and you go back and fix it.

Part of design is testing what you’ve made to see how it works and being willing to adjust as necessary—even to the point of “going back to the drawing board.”

**It’s all part of getting something that works just like you want it to.**