MCAA Engineering Design Process

**RESEARCH**
- Ask what does innovation mean?
- Use a variety of sources to gather information.
- What have others done before?

**IMAGINE**
- Draw a design.
- Make a model of the design.
- Test the design.
- Draw and imagine for comparison.

**PLAN**
- Test against criteria.
- Communicate results.
- Plan, design.

**CREATE**
- Use observations to improve the design.
- Communicate results.

**IMPROVE**
- Follow the plan as you create.
- Communicate results.

**ASK**
- Can you state the problem?
- What does innovation mean?

*Ask “what if” questions to generate different possibilities. Review and analyze possibilities with fellow engineers. Choose the best idea.*
Lack of Water

Objective: Students will examine the drought conditions and rising temperatures of the American West and relate to the need for future water sources. Students will research water pipelines, desalination, and water recycling to determine the most viable solution. They will then discuss the most practical solution to preventing the West from running out of water. A persuasive poster or presentation will be created to promote their solution.

What is the best long-term solution for supplying the West with water?
How can studying food systems of indigenous peoples improve food sustainability?

What type of food do you eat and the benefits it has? Make a list of the benefits and drawbacks of your food choices.

What evidence of learning发生在 your family?

Based on your research, what is the main obstacle to combat the food crisis in your family? How can you overcome it?