

Middle School Teaching Workshop

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Successful lessons are:

Approachable

Reasonable in length and content

Hands on, brains on

Predictable in how information is presented



Tips for instructors are indicated during the lesson with a blue star.

Cornell Notes

Research

Scientists and engineers testing ideas and measuring results.



Cornell notes are useful to teach study skills. The boxed definition helps students take notes.

What is an engineer?

By the end of the lesson, you should know:

- What scientist do
- What engineers do



Lesson objectives are the most important points. No more than 2-3.



Lesson objectives should help students study for quizzes.

What do you think a scientist does?



Open ended questions allow students to express themselves and give you an opportunity to teach them relevant information.

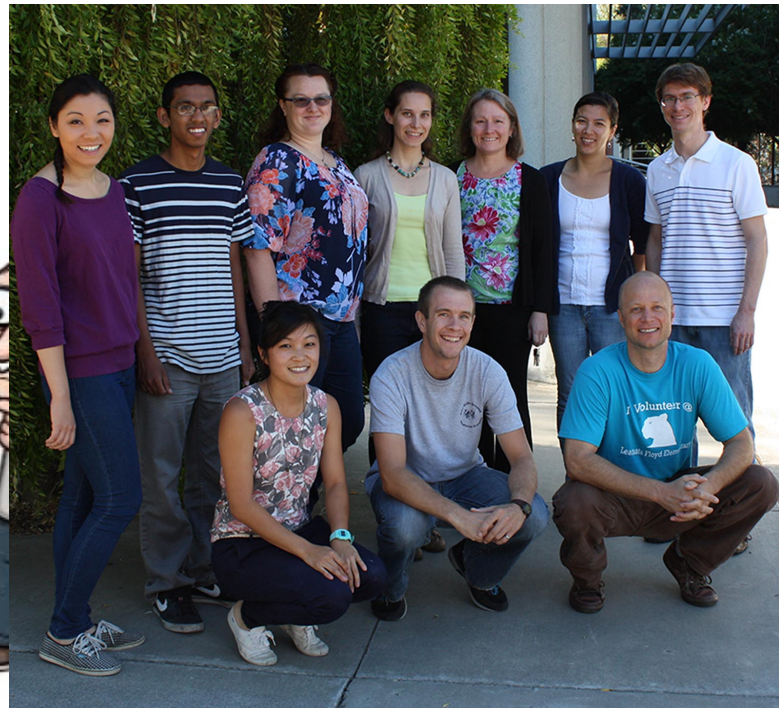


Call on shy students especially for opinion questions to encourage them to be comfortable in the classroom

Scientists

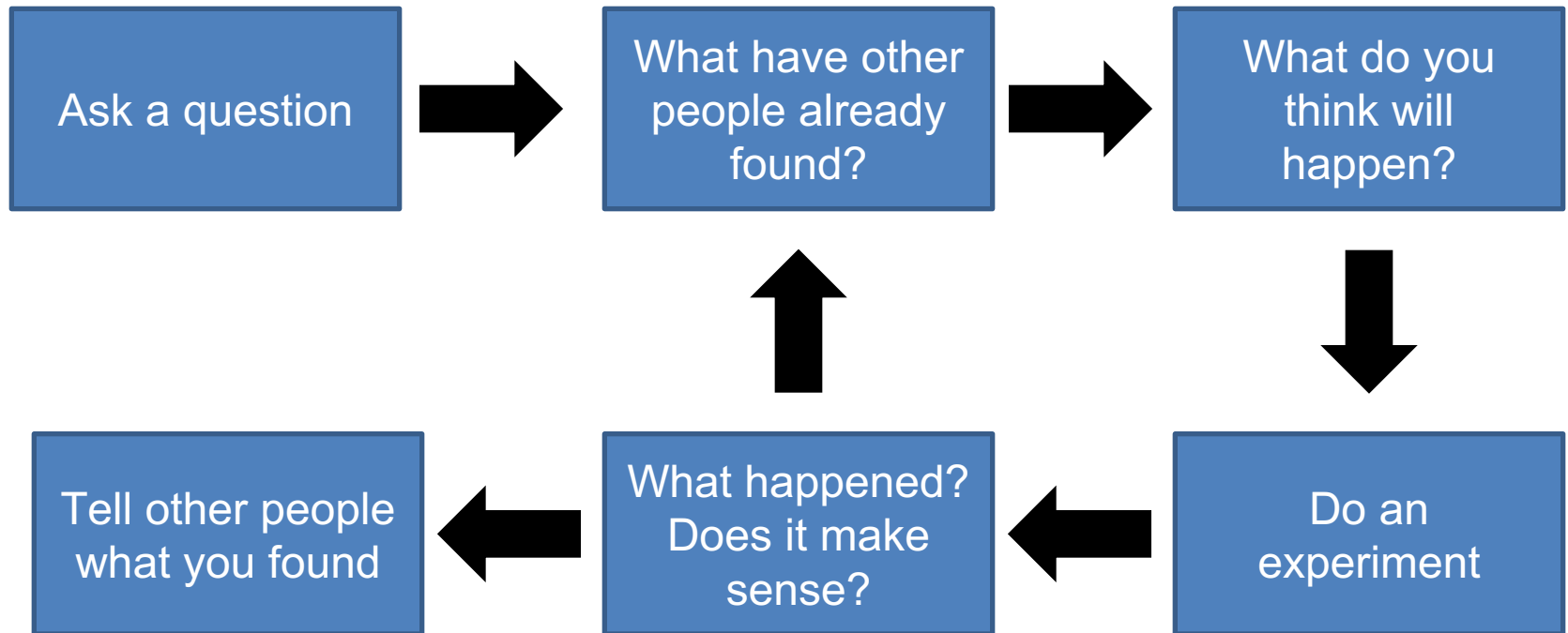
People who test ideas to learn more
about everything in the universe.

People who use the scientific method.



Pictures can be used to dispel misconceptions.

How do scientists do science?



Engineers

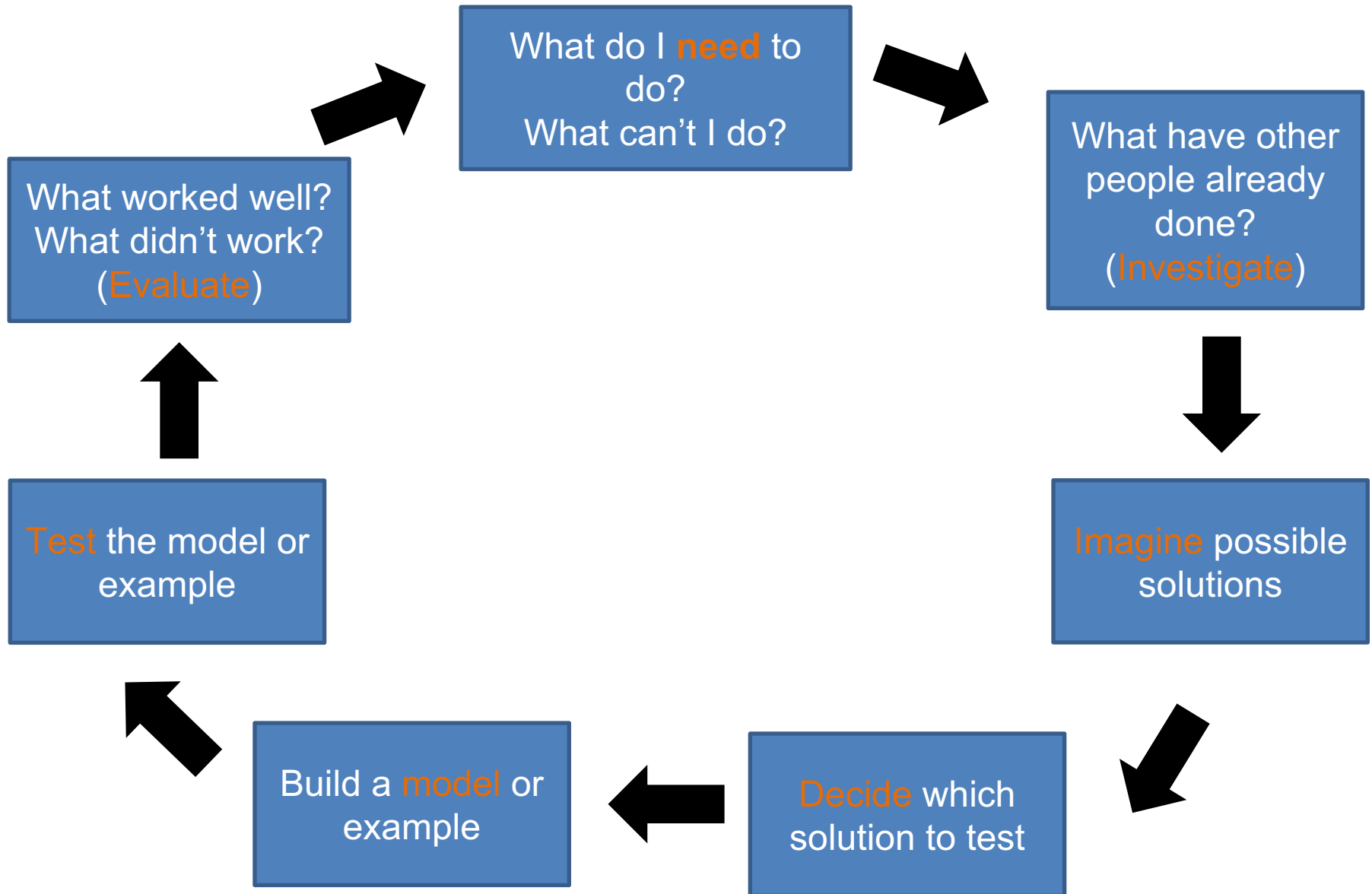
People who use science to solve problems.

Someone who is part scientist, part inventor



Use pictures that are inclusive and relatable.

How do engineers design?



Engineering challenge:

In pairs, design and build a boat to hold as much weight as possible before sinking.

Can only use tape and 1/2 sheet of paper

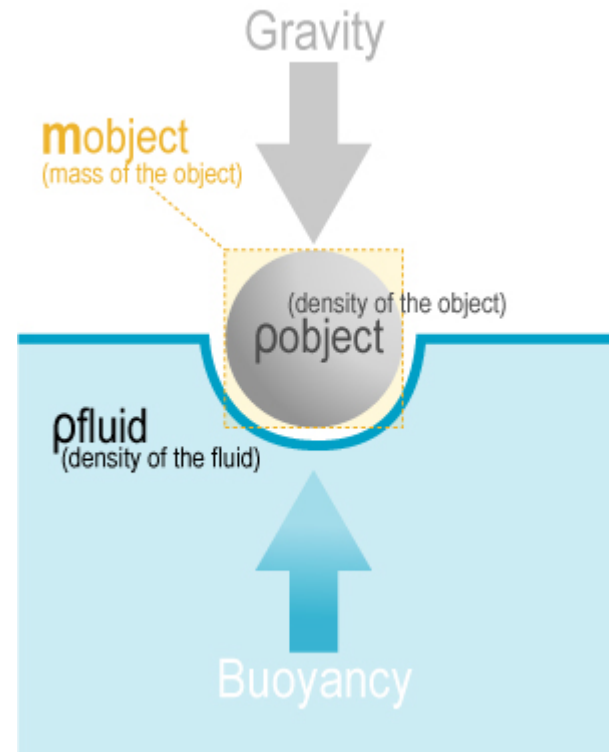
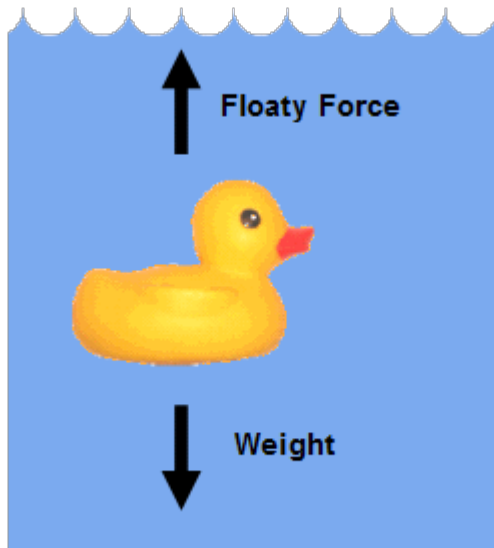


Let students know when the instructions have ended.



Have you tested this activity before?

What did you have to know about science to do the engineering challenge?



Talk about what is important information in a diagram.

Review

What is a scientist?

What is an engineer?



Exit quiz helps students review information learned. Begin the next class with review information.