How can you design a system to stop a thief?

In this Quest, you will study how light waves behave when they interact with different materials. You will then take an engineering approach and design a security system to protect a precious gem.

Quest Kick-Off *Design to Stop a Thief*
☐ Identify the criteria and constraints on building a light-based security system.

Check-In 1 *Light Behavior*
☐ Learn and identify the ways in which light behaves with a medium.
☐ Predict what will happen when you use mirrors in your security system.

Check-In 2 *Make Light Go Where You Want It*
☐ Observe the effect that types of mirrors and lenses have on light.
☐ Develop a design for an optical security system.

Check-In 3 *Optical Demonstration*
☐ Develop possible solutions for your security system to maximize protection.
☐ Determine the strengths and weaknesses of your and your classmates' designs.

Quest Findings *Reflect on Your Demonstration*
☐ Revise your design, as necessary.
☐ Reflect on the design and engineering process.

Timeline

Over the next few weeks, you will work on this **Quest** while studying the way that light behaves. You will spend class periods, or portions of class periods, completing the **Quest Check-Ins** with your group**.** You will choose an optimum design to protect a precious gem.

Your design is due on:

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