Security Gadget

Maker Connect

Over time, people have come up with many different ways to help protect their personal belongings from theft. These inventions include simple alarm systems and even traps!

Look at the photos below and answer the questions.

• What do you see?
• Can you see any new design opportunities?
• What problems can you see?
• How could you make use of the LEGO® bricks, Programmable Brick, motors, and sensors?
Student Worksheet - Security Gadget

Name(s): ____________________________ Date: ________________

Defining the Problem
What problems can you see in the pictures? Pick one problem and explain it below.

______________________________________________________________________________

______________________________________________________________________________

Brainstorm
Individual work: Now that you have defined a problem, take three minutes to generate ideas for solving it. Be prepared to share your ideas with your group.

Group work: Share and discuss your ideas for solving the problem.

Define the Design Criteria
You should have generated a number of ideas. Now select the best one to make.

Based upon your brainstorming discussion, write out two or three specific design criteria your design must meet:

1. __________________________________________________________________________

2. __________________________________________________________________________

3. __________________________________________________________________________
Go Make
It is time to start making. Use the components from the LEGO® set to make your chosen solution. Test and analyze your design as you go and record any improvements that you make.

Review and Revise Your Solution
Have you managed to solve the problem that you defined at the beginning of the lesson? Look back at your three design criteria.

How well does your solution work? Use the space below to suggest three improvements to your design.

1. 
2. 
3. 

Communicate Your Solution
Now that you have finished, make a sketch or take a photo of your model, label the three most important parts, and explain how they work. You are now ready to present your solution to the class.