



# MAKER JOURNAL

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Project/Unit: Early Warning Systems

Lesson: 5

*Conduct a brainstorm for the design problem below. Record all ideas in the space provided.*

**Ideate: How can we build a device with an adjustable beam out of various materials that uses reflection, absorption, and transmission of light to convey an early warning message?**

*Draw labeled pictures of your prototype. Be sure to draw different perspectives (front, side, etc.)*

**Prototype:**



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*Conduct fair tests on your prototype and record your observations below. Use the checklist for each test.*

## Test – Criteria and Constraints

Attributes of model	Yes	No
Device uses specific colors of light?		
Device includes components for transmitting light?		
Device includes components for absorbing light?		
Device includes components for reflecting light?		
Device includes an adjustable light beam?		
Device can convey warning message from at least 100 ft. away?		
Final iteration completed on time?		
Final iteration built only using the provided materials?		
Includes 8-12 different materials (not counting adhesives or fasteners)?		
Device is battery powered?		

Describe changes made based on Test #1:

Describe changes made based on Test #2:

Describe changes made based on additional tests below (attach sheets as necessary)