

## INSPIRE GK12 Lesson Plan



<b>Lesson Title:</b>	The Best Throw
<b>Length of Lesson</b>	1 Days
<b>Created By</b>	Michael Andre Hamilton
<b>Subject</b>	Geometry
<b>Grade Level</b>	10 <sup>th</sup> -12 <sup>th</sup> grade
<b>State Standards</b>	Geometry 2a
<b>DOK Level</b>	DOK 2
<b>DOK Application</b>	Graph, Compare, Estimate Infer, Predict, Interpret, Make Observation, Summarize
<b>National Standards</b>	Geometry for 9 – 12 <sup>th</sup> Math Standards
<b>Graduate Research Element</b>	Human Factors and Work Physiology

### **Student Learning Goal:**

#### National Standards for Geometry for 9-12<sup>th</sup>

- A: analyze properties and determine attributes of two- and three-dimensional objects;
- B: explore relationships (including congruence and similarity) among classes of two- and three-dimensional geometric objects, make and test conjectures about them, and solve problems involving them;
- C: establish the validity of geometric conjectures using deduction, prove theorems, and critique arguments made by others;
- D: use trigonometric relationships to determine lengths and angle measures.

#### State Standards for 9 – 12<sup>th</sup> Geometry

- A: Apply problem solving skills to solve and verify the solutions for unknown measures in similar polygons.

### **Materials Needed (supplies, hand-outs, resources):**

Rulers, rubber bands, protractors, measuring tape Inspiring Minds;

### **Lesson Performance Task/Assessment:**

The students will use angles and degree to launch rubber bands the farthest

### **Lesson Relevance to Performance Task and Students:**

The relevance of this lesson is to get the student to identify what angles and degree are the best to throw a rubber band

### **Anticipatory Set/Capture Interest:**

At the beginning of class, I will ask show the class different types of catapults and talk about the concept of how they work. I will ask them who think they can catapult an object the farthest and excite them about the activity



**Guided Practice:**

First, the student should be placed in groups of two. The steps are listed below

1. Stretch a rubber band from the end of a ruler to one of the marks on the ruler (your teacher will tell you how far to stretch it).
2. Set the ruler at an angle  $15^\circ$  off the ground, pointing the end with the rubber band into the air.
3. Let the rubber band go and measure how far it travels.
4. Do steps 1 – 3 for at least 10 more angles in the range of  $15^\circ$  to  $75^\circ$ . Record the data in a chart.
5. Make a graph showing your data

**Independent Practice:**

After the instructor show them how to do it the first time. The student will continue step 4 on their own until they find the best angle to launch the rubber band

**Remediation and/or Enrichment:**

Remediation

Individual IEP; partner help throughout lesson; shorten parts of assignment; focus on few process

Enrichment:

None

**Check(s) for Understanding:**

Day 1:

1. What was the best launch angle?
2. What was the worse launch angle?
3. How do you think you can improve your distance if you had a second chance to do the experiment?

**Closure:**

Have a end of the class discussion about how to improve the distance of the rubber band

**Possible Alternate Subject Integrations:**

\*None.

## INSPIRE GK12 Lesson Plan



### **Teacher Notes:**

Copyright © the FUTURES Channel, 2002.