

T E X A S A D U L T E D U C A T I O N S T A N D A R D S
L E S S O N P L A N

Before you begin

Title: Building the Catapult and Collecting Data

Setting: ABE/ASE

NRS Level(s): Level 4: High Intermediate Basic Education
Level 5: Low Adult Secondary Education

Open entry/exit: Yes

Context: Workplace

Standard(s): Use Math to Solve Problems and Communicate

Benchmark(s): 10.4, 10.5

Objective: To utilize measuring instruments for simple tasks.

Materials: Measuring tape, ruler, paper, pencils, 2 x 2 box, plastic spoon, plastic mailing tape, *M&Ms*, *Skittles*, dried beans, or marshmallows

Estimated time needed to prepare for this lesson plan: 30 minutes

Estimated time needed to complete this lesson plan: 6 -9 hours (three-hour classes for 2 -3 days)

The Lesson Plan

Introduce the lesson:

This is the second part of a three part lesson beginning with the use of measuring instruments. As a class, review with students practical job skills that utilize rulers, yard sticks and measuring tapes. This provides them skills in collecting information and introduces them to graphs and charts that could be utilized in the workplace.

Teach the lesson:

Provide the class with the following instructions on how to build and use their individual catapults:

1. Construct catapult by placing the box flush with the top of the paint stick. Then lay the handle of the spoon on top of the box with the bowl of the spoon extended over the paint stick. Again, the spoon handle should be flush with the edge of the block. Lash the three pieces together with plastic mailing tape.
2. Place the free end of the paint stick next to the wall. Load the *M&M* or *Skittle* in the spoon, pull it down as close as possible to the paint stick and prepare for liftoff.

3. Release the spoon and watch the *M&M* or *Skittle* soar. Then measure the distance from the wall to where it lands.

Practice the lesson:

Students can individually test their catapults outside by firing several times while other members of the class measure the distance.

Assess the learning lesson:

This is a 3-part lesson that teaches the transfer of a skill. The final product is a catapult that evidences the transfer of the skill. Teacher observation and individual feedback during the process will allow opportunity for continuous assessment during the learning process.

Apply the lesson to the real world:

Students can apply learning to situations such as interpreting the average cost of electricity used in the home.

Submitted by: John Hodges