

Voorhees Middle School  
Mr. Alexander  
Technology Education

## WORKSHEET FOR TECHNOLOGY EDUCATION

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**Topic:** Trebuchet

**Problem Statement:** Construction of a device powered solely by the energy from a class one lever.

### Parameters:

#### Suggested Materials:

- wood slab (3/8"x6"x6)
- balsa or pine stick (1/4"x1"x12"),
- dowel (1/4"x 6"),
- large bead (or wood projectile),
- large paper clip,
- tongue depressor or popsicle stick,
- 4-6 AA batteries (dead/alive),
- 12" kite string,
- masking tape.

#### Procedures/Activities:

- Watch animated Trebuchet at url;  
[http://www.redstoneprojects.com/trebuchetstore/treb\\_animated.html](http://www.redstoneprojects.com/trebuchetstore/treb_animated.html)
- Students complete WebQuest handout "Levers Worksheet")
- Students build a fixed counterweight trebuchet using the tools and equipment authorized by the teacher.
- Test the device and determine the distance of travel.
- Make modifications to the device building a hinged counterweight and retest.
- Diversification - add wheels
- Prepare for the final competition
- Student will successfully use Nova Trebuchet Simulator to learn Trebuchet physics  
<http://www.pbs.org/wgbh/nova/lostempires/trebuchet/destroywave.html>
- Advanced Trebuchet physics website
- <http://www.globalspec.com/trebuchet/>

#### Equipment:

- Drill press (or portable drill),
- drill bit (1/4",
- hot-glue gun and glue slugs,
- Coping saw, Scoll saw
- pliers,
- other common hand tools