Activities Days 6 – 13	
Activity #3	Water Turbine Challenge and Currents
Time	Two 45 min sessions anda one hour session for the design challenge
Materials	• wooden wheels (flat or like tinker toys), plastic spoons, dowel rods, straws, spools, motor, alligator clips, corks, digital multi meter, popsicle sticks, bottle caps, egg cartons, tongue depressors, any other items that could use for the paddles, sink or hose for running water current, plastic or glass box to hold water in the sink • rectangular aluminum pie pans, water, pepper shakers, straws, rocks, copies of the article, copy of blank world map, gluesticks

Guiding Questions

1. How do oceans move?
2. How could we get energy from the ocean?

Plan

Plans for part 1 of activity: Make water turbines- There are many video tutorials to watch on youtube for the instructor to watch to help with your comfort level. You may also want to show pictures of waterwheels above ground to give the students a direction.

- Guiding Questions to ask during this part of the activity: How could we use the motion of the ocean to get energy from the ocean? What could you do to the turbine to make the voltage higher? What happens if you change the turbine part?

Plans for part 2 of activity: Currents (AIMS activity and ducks in a flow)

Aims Activity in: Horizontal Ocean Currents.pdf

This may be a good spot to read in your science text about currents

Ducks in the Flow (read story druing reading or read short article): http://www.windows2universe.org/teacher_resources/ocean_education/currents_main.html
Students are to draw in warm and cold water currents onto the world map then glue into notes

- Guided questions to ask during this part of the activity: How are the currents effecting where the items travel to? How will this effect the harnassing of energy?

Plans for Part 3 of activity: Discourse of the water turbine design challenge and currents activities

If time: work on culminating activity

Differentiation	• Give students needing more guidance a way to participate in the discourse time, assign a buddy during the challenge if needed
ELL Modification	• Vocab cards with pictures to match
Check for Understanding	Read reflections in notebooks, listen to comments during challenge, Check world map