**Problem-Based Learning Lab on Sustainability**

I.  Formation of Groups: Human Graph-Knowledge of Conservation of Energy and Water

II. Role Assignments: Beginning with the Checker all roles are assigned to the right (clockwise)  
 Materials Manager/ Encourager:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Checker/Timekeeper: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

         Data Recorder:     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

         Observer/Reporter:    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

         Other: Traveler/Spy:     Can be the checker \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

III. Task (See element 1):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

IV. Time Limit: 60+ minutes

V. Social Skills and or Habits of Mind to Engage/Assess: Attentive Listening; Disagree with Idea Not the Person; Flexibility in Thinking; Perseverance; Team Work

VI  Level of Voice:  Classroom Level 2 – Normal Voice Table Talk

VII. Processing--Questions for team and individual reflection:

        Content  Standards:  NGSS; CCSS; Other?  Research the grade level science math, engineering,   
technology, standards that are met through this activity

VIII. Assessment of Cooperation/Collaboration:    
Self-Assessment of Collaborative Activity Performance

Rate Your Mates

VIII. Encouraging Energizer: Varied: Team selected

**Based on the book: *Blueprints for Achievement in the Cooperative Classroom*. Bellanca and Fogarty, 2001.**