YCMS Refugee Boat Float Off

**Key Dates: Ideate the week of November 7**

**All supplies at school by November 14**

**On November 15 – Wolf Pack Advisory cancelled to allow for in-class build time**

**On November 17 in H Block – School Wide Assembly and Float Off!**

Teacher Directions:

1. The Week of November 7: Form teams, preferably of three to four students. Collaborate design is key here!
2. Go over the package – emphasizing the design constraints – particularly the size and what they will be judged on.
3. Give the teams some class time to first discuss the design task and Ideate. Once the teams decide on one design, have them review their idea with you, looking at feasibility as well as that they have met the constraints of the project. (This should be completed the week of November 7)
4. Have the students create a list of materials they will need to bring in for the build day. Materials should be at the school by Monday November 14.

In Class Build Time (Tuesday November 15 Wolf Pack is Cancelled to Accommodate In class building)

1. Give the teams 15 to 30 minutes to build their prototypes. Walk around and observe each team. Offer only limited assistance; creativity and trial and error are what drive the design process. This is also a good time for a qualitative teamwork skills assessment.
2. Allow students to test their designs in the pool. Allow students three trials in the pool before the final trial so they have the opportunity to redesign and retest after each test trial. Testing encourages them to think critically about their redesign each time. (Note: students will have to be careful with designs made with paper; if it gets wet during their tests, it may compromise the design).
3. Rapid Prototyping and Iteration in the moment is a key skill when thinking about Design and the Collaborative Design Process.

Three Boats will be Chosen to Participate in the School Float Off on Thursday, November 17 during the school wide assembly.

* 1. Best Looking (Aesthetics)
  2. Most Stable
  3. Fastest

***Activity Scaling***  
Some groups may need more direction than others - Offer more help or examples or tell them to think about how real boats are designed using (rudders, pontoons, sails, shape) or to think about how to best capture wind using real-world examples (parachutes, windmills, sails, kites).

Remember all boats must carry the set amount of Mass.