

1. Before viewing the BLOSSOMS video lesson, divide students into groups of 2-3 students, providing a set of materials per group.
2. Explain that students must work in teams of "engineers" who have been given the challenge of designing a sailboat that will catch wind from a fan, hold a set weight, and travel 4 feet without sinking.
3. Students will first meet, plan, and draw their boat design on paper.
4. Next, students construct their boats.
5. Students take turns testing their boats on a waterway created by the teacher. The teacher runs the fan to ensure testing consistency. Student must see if their sail design captures wind, and is able to travel one meter on the water without sinking.
6. Students complete evaluation and reflection sheets, and then present their reflections to the class.
7. **Students watch the BLOSSOMS video lesson.**
8. After watching the video lesson, students work together to redesign their sailboats.
9. Students again take turns testing their boats. Students complete evaluation and reflection sheets, and then present their reflections to the class.

Construction materials

One set of materials for each group of students: empty wax coated milk or juice carton, scissors, standard weight (several coins of same denomination or film canister filled with sand), paper, cardboard, glue, tape, string, sail materials (aluminum foil, plastic wrap, silk, fabrics, balloons), toothpicks, popsicle sticks, rubber bands, wire, tape. Be sure each team has identical materials.

Test waterway could be a shallow long container, a plastic planter, or child's pool.

This optional activity has been adapted from an activity described in: <http://tryengineering.org/lessons/sailaway.pdf>

Please refer to it for further information.