

Tips for Teachers

Take the time to find a good fit

Locating six scientists with issues that could be solved with an innovation or invention was a challenge. Locating two great problems is better than finding six mediocre ones. Communicating clearly with scientists during the planning stages is critical to ensure that their problems fit well with educational goals.

Access the experts and share the benefits of collaboration

Scientist engagement and availability throughout the process was vital and mutually beneficial. In order to be useful to the scientist, designs need to be collaborative efforts between them and the students; in order to be the best educational experience possible, students need access to the experts' knowledge.

Share the benefits of collaboration

When approaching potential partner scientists, describe the many benefits of partnership outlined in this paper, and remember that educational outreach is an important aspect of science. Your knowledge of this aspect can be powerful leverage when used in authentic approach that is genuinely interested in partnership.

Group students based on their strengths

Use the Strengths Finder, or a similar skills assessment, to guide group formation and students' choices of roles within each group. Ask students to complete the assessment during the beginning of the year, or just prior to the project.

Allow students freedom within guidelines

Clear presentation of design guidelines and a timeline were essential frameworks that allowed students to explore the potential of their designs. Students gravitated towards projects

that provided the needed structure upon which to creatively build. Giving them supportive, encouraging freedom within these boundaries built students' confidence in their abilities and ideas.

Get supplies early

The supply request and delivery process can limit student progress and scientist benefits; we suggest requiring groups to place orders early, and giving them guidelines from which sites to order.

Plan the project within your class block

For classes that meet every day, dedicate one or two class periods per week to the project. For longer duration class blocks, a dedicated portion of each class would work well.

Review the schedule with students and have them report their progress often

Review the due dates and schedules frequently with student groups to keep them on track, and ask them to report their progress often, giving informal presentations to the group about their designs.

Have video review meetings

Meet with student groups when each segment of the video is due to watch the video and complete the video checklist. Highlight strengths of the video, and offer suggestions for improvement.

Invite scientists to the final presentations

Make an event out of the final presentations where students meet with the scientists, discuss and deliver important equipment and supplies, and present their final videos.

