

Lesson 1: School Survival Kit Design Challenge

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Grade Level(s)

Grade 8 English Language Arts

Lesson Overview

- Students will be introduced to Design Thinking. Design Thinking gives students hands on opportunities to develop 21st Century skills of collaboration, creativity, perspective taking, critical thinking, problem solving, and communication.
- The purpose of this lesson is to provide students with an overview of all phases of the design thinking process. They will work in pairs, interview each other, generate ideas, and design innovative user-centered solutions for a “school survival kit.”

Learning Objectives

- To engage in a design challenge
- To develop empathy, to brainstorm ideas, to synthesize information
- To conduct an interview and to share information
- To build and test prototypes

Standards

CCSS RI.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

CCSS RL.8.3: Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

CCSS RL.8.7: Evaluate the advantages and disadvantages of using different mediums to present a particular topic or idea.

CCSS W.8.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

CCSS SL.8.1: Engage effectively in a range of collaborative discussions with diverse partners on Grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

Preparation

- Make copies of the PDF handout: *“I Will Survive! Redesigning the School Survival Kit”* (1 Per Student)
- Gather prototyping materials: Creation Station materials list (1 per classroom). Note: The Creation Station (d.loft.stanford.edu) is an ideal set of prototyping supplies. Don't feel that you have to have all of these in order to complete this challenge—basic supplies of paper, glue, scissors, markers/colored pencils will work as well.

Materials, and Resources

- PDF handout: *“I Will Survive! Redesigning the School Survival Kit”* (1 Per Student)
- Prototyping materials: Creation Station Kit (available in Supplementary Materials) (1 per classroom)

Activity 1: Introduction to the Challenge (10 Minutes)

- Give each student one copy of the PDF handout *“I Will Survive! Redesigning the School Survival Kit”* (handout in Supplementary Materials).
- Tell the students to go to the first page of the handout and ask them to design the ideal school survival kit. Ask them to sketch their ideas in the indicated space. After 4 minutes, ask them to turn to the next page. Tell the students that what they just did was problem solving, and what they are going to do next is try a design thinking approach.

Activity 2: Interviewing (15 Minutes)

- Ask the students to find a partner. Tell them to turn to the next page. Explain that they are going to redesign the survivor kit, not for themselves, but for their partner, and that they will begin by interviewing their partners.
- Review the questions. Tell the students to begin with these questions first, and if they have time, they can ask additional questions based on their partners' responses.
- Tell the class that they should choose who will be the first interviewer and interviewee, and that you will prompt them to switch roles after 5 minutes.
- Tell the students to write brief notes and/or sketches as they conduct their interviews, and record this in the box marked “Notes/Sketches.”
- After both interviews are complete, ask each student to think about what his or her partner said, and capture some thoughts in the box marked “Insights.” Give the students 1 minute to capture insights

Activity 3: Defining Needs and Ideating (15 Minutes)

- Tell the students to turn to the next page in the handout. Explain that the goal of this part of the design thinking process is to build empathy for their partner's needs.
- Have the students write the name of the person they interviewed in the box on the left

hand side of the page. Ask the students to take 3 minutes to think about the interviews, and use the questions provided to help them reflect on what was important. Tell the students that they do not have to write answers to the questions, but use them as a thinking guide.

- Tell the class that their next task is to write a “Needs Statement.” Explain that a Needs Statement is a way to synthesize what they heard in their interviews, and that there are three main parts of a Needs Statement: user, need, and insight. Tell the students that the need must be a verb, and the insight is something that stood out to them as something that was important to their partners with respect to the school survival experience. Read the examples given aloud. (Note: This part of the process can be difficult. Encourage students to try to capture a need--it doesn't have to be complex.)
- Ask the students to turn to the next page in the handout. Tell the class that they are going to brainstorm possible solutions to meet their partners' needs. Explain that when you brainstorm you don't judge any ideas and you try to think of as many ideas as you can to meet your partners' needs. Tell the students that they have 5 minutes and should come up with 25 or more ideas! Ask the students to write or sketch their ideas in the space provided.

Activity 4: Prototyping, Testing, and Reflecting (25 Minutes)

- Tell the students to turn to the next page in the handout. Ask the students to choose one of their ideas that they are most excited about and explain that they are going to build prototypes for their partners. Show them the materials in the Creation Station (available in Supplementary Materials), and tell them that will use these materials to build their prototypes.
- Tell the class that a prototype is not a model, but is a way to make an experience tangible. Explain that if they were going to build a new seating arrangement, instead of drawing a sketch, they might use the desks in the room. Remind them to think about creating something their partners can interact with. Give the students 8 minutes to build their prototypes.
- After 8 minutes, tell the students that they are going to test their prototypes on their partners for 5 minutes each, and that you will tell them when it is time to switch. Review the right side of the handout so that the students are aware of how to capture feedback from their partners. Tell the students to fill in the four boxes provided to capture feedback.
- Tell the students to turn to the final page in the handout. Ask each student to answer the questions.

Troubleshooting

Depending on your class/students, you may wish to assign partners rather than letting students select for themselves. The times noted for each activity may be adjusted according to student need; however, time limits that are shorter rather than longer tend to work best.

Assessment

Adaptable Design Thinking Basic Rubric 1.0 with Journal Prompts for Reflection can be found at the following website:

https://dschool.stanford.edu/groups/k12/wiki/e04cb/HFLI_Rubric.html