**Design Thinking Process Simulation**

This page should be repeated for each individual lesson that makes up the unit.

**Problem statement:** How do we make our school and community safer by identifying and responding to potential human trafficking situations (for selves and others)? What is the definition of human trafficking and how does it connect to us?

**Learning objectives:**

**SWBAT:** Identify and explain each stage in the design-thinking process.

**Lesson standards (NGSS, CCSS, CTE):**

[CCSS.ELA-LITERACY.SL.9-10.1](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/)

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

[CCSS.ELA-LITERACY.SL.9-10.1.C](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/c/)

Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

[CCSS.ELA-LITERACY.SL.9-10.1.D](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/d/)

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

[CCSS.ELA-LITERACY.SL.9-10.4](http://www.corestandards.org/ELA-Literacy/SL/9-10/4/)

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

**Soft skills:**

Communication, Collaboration, Critical Thinking, and Creativity are the cornerstone of the design-thinking process.

**Locally and/or personally relevant for students:**

This lesson allows students to learn a new set of concepts and skills - the design-thinking process - using material from their own lives.

**Connections to career and educational pathways:**

Teacher explains how the design thinking process is used in industries from public sector to private sector to nonprofit sector.

**Materials:**

1. **A printed copy** of Stanford d.school’s Design Thinking Process simulation, entitled “Redesign the School Lunch Experience” **for each of your students**. A pdf is saved in the Student Handout folder for this PBL. You can also access it here: <https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/58ac88e65016e1b8ebf9636f/1487702250274/Redesign+the+School+Lunch+Experience+.pdf>
2. Inexpensive construction materials. Examples include: pipe-cleaners, cardboard, straws, stickers, markers, cotton balls, construction paper, paperclips.

**Lesson preparation:**

* Print copies of the Design Thinking Process simulation for all students.
* Put physical construction materials some place prominent and accessible in your classroom. This also helps to increase students’ interest and intrigue at the start of class.

**Time required:**

Either one 70-minute to 90-minute class period or two 45-minute to 60-minute class periods.

**Grouping of students for instruction:**

Students should be put into pairs for this project with ONE group of three if there’s an odd number. We recommend partnering students with people they do **not** know as well and do **not** typically work with. This lesson requires creativity and problem-solving but it is not language or reading intensive. Therefore, it is a particularly accessible lesson for ELL students and students with IEPs or 504 plans for reading and writing.

**Procedure:**

**Understanding the Problem**

|  |  |
| --- | --- |
| **Teacher** | **Student** |
| Introduce the lesson by telling students that they will be doing a Design Thinking Process simulation.  Tell students that the Design Thinking Process is used across all industries to solve all types of problems from inventing the computer mouse to designing shoes to tackling complex social challenges like human trafficking.  Tell students that they will be using the Design Thinking Process for their anti-human trafficking project.  Because this is a different kind of group project process than students may be used to, we are going to start out by using the Design Thinking Process to improve an experience that we are all familiar with: The daily lunchtime experience.  Instruct students to start on page 1 of their Design Thinking Process handout and spend 1-2 minutes charting out their typical experience during lunch at school. Ex: How do they feel once the start of lunch begins? How do they feel 10 minutes in to lunch? Etc. | Students chart their typical experience during lunch time at school. |
| Facilitates a short discussion where students share out what they typically experience during lunch. | Students share out what they typically experience during lunch. |
| Put students into pairs.  Instruct students to interview their partner for 4 minutes about their lunchtime experience. If needed, prompt students with starter questions like, “Where do you go during lunch?” “How long does it take you to get from your class to the lunch room?”  Set a timer for 4 minutes. Then have students switch. | Students interview their partner about their lunchtime experience for four minutes.  For the next four minutes, students are interviewed by their partner about their own lunchtime experience.  Students write down notes about their partner’s lunchtime experience on their handout. |
| Instruct students to **dig deeper** into their partner’s lunchtime experience for the next four minutes. If needed, prompt students with questions like, “How do you feel during the last five minutes of lunch?” “What’s your objective during lunch?” “What’s the most stressful part about lunchtime?”  Set a timer for 4 minutes. Then have students switch.  Encourage students to use all four minutes of their interview time. | Students dig deeper into their partner’s lunchtime experience by asking follow up questions for four full minutes.  Students write down notes on their handout.  After four minutes, students switch. |
| Instruct students to think about what they just heard and organize their thoughts into two parts:   1. **What does their partner need to accomplish during lunch**? Prompt students to think about their partners’ physical and emotional or social needs. For example, does their partner need to feel connected to friends during lunch? Do they need to feel chill during lunch? 2. **What insights do they have about their partner’s lunchtime experience** that even their partner may not have? Define **insight** as something new or surprising or unexpected.   Give students 3-5 minutes to think silently and write down their thoughts on the handout. | Students reflect on their partner’s lunchtime experience silently for 3-5 minutes and write down thoughts on their handout. |
| Prompt students to take their thoughts about their partner’s lunchtime experience and create a **problem statement** for their partner:  \_\_\_\_ needs a way to \_\_\_\_ because \_\_\_\_\_.  If needed, give students an example.  [Teacher] needs a way to [show students how the design thinking process works] because [it is complicated and difficult to explain with words alone].  Teacher sets timer for three minutes. | Students have three minutes to write out a problem statement for their partner. |
| Give students five minutes to come up with at least five radical (different, surprising, outside-the-box) ways to solve the problem statement.  Tell students that some of their ideas might not work and that’s okay. The goal is **quantity** of ideas.  Encourage students to use visuals and symbols rather than just words. | Students spend five minutes brainstorming five ways to solve their partners’ lunchtime problem statement. Students write or draw these ideas on their handout. |
| NOTE: If teaching this lesson over two class periods, this is a good place to end the first day’s lesson or begin the second day, depending on exact timing. |  |
|  |  |
| Teacher sets a timer for five minutes and has students share their ideas with their peer for feedback.  Tell students to resist **defending** their ideas. The goal is to get feedback, not to convince their peer that their idea is the right one.  After 5 minutes, switch. | Students have five minutes to share their ideas with their peer.  Students solicit feedback and write down their peer’s suggestions and reactions on their student handout.  After five minutes, students switch. |
| Give students three minutes to revise their thinking and come up with one idea or a hybrid of ideas to solve their peer’s lunchtime problem.  Encourage students to continue using visuals and symbols, but that they can add more words and descriptions during this stage if needed. | Students have three minutes to revise their ideas and draw/write their ideas on the workbook. |
| Tell students they have 7-9 minutes (teacher decides based on dynamics of their particular class) to build a physical representation of their solution - a **prototype** - that their peer can interact with.  Encourage students to be creative and silly and a little bit messy using the materials provided. | Students use physical materials to construct a **prototype** of a solution to their peer’s lunchtime problem statement. Students have 7-9 minutes. |
| Give students four minutes to show their peer their prototype and get feedback.  Encourage students to **resist defending** their prototype. Remind them that they only spent 7-9 minutes on it so it’s good but it’s not *that* good! Instead, encourage students to use the prototype to get lots of feedback from their peer in the interest of creating an even better solution to their problem in the future.  After four minutes, switch. | Students spend four minutes share their prototype with their partner. Students write down their partner’s feedback.  After four minutes, students switch. |
| Tell students to spend 2-4 minutes silently reflect on what they heard from their partner.  After reflection, instruct students to come up with two additional aspects to prototype or new ideas. | Students spend 2-4 minutes silently reflecting on the feedback they received on their prototype.  Students write down additional aspects of their prototype to test. |
| Instruct students to look back at their original Problem Statement for their partner and revise it based on what they learned during the prototype and feedback sessions. | Students look back at their original Problem Statement for their partner and revise it based on what they learned during the prototype and feedback sessions. |
| Teacher facilitates class discussion/debrief:   1. Which steps were easiest for you? 2. Which steps of the design thinking process were most difficult?   NOTE: encourage students to really think about the interview and problem-statement creation stages. These are often the most difficult for students AND grownups in the real world. Moreover, as some of your students probably discovered, if you don’t have a good problem statement, it’s very difficult to do any of the other work.   1. How did it feel to be asked follow up questions about your daily lunchtime experience? 2. How did you build **rapport** with your partner during this process? 3. How did it feel to get feedback on your ideas? Were you successful at resisting the temptation to **defend** your ideas, rather than use them to solicit feedback? | Students discuss the design thinking experience. |
| Exit Task:  Have students brainstorm ways in which the design-thinking process can be used to address their project’s topic: Human Trafficking in King County.  Examples:  How might you gain empathy for human trafficking victims?  How might you get feedback on your solutions? | Students complete exit task. |

**Accommodations:**

Define key vocabulary words and concepts, especially for ELL students: Insight, Prototype, Redesign, Rapport.

Volume control: This is a lesson that can get loud quickly. For students with sound sensitivity or hearing impairments, consider placement within the classroom and/or implement a volume guide for students (ex: “For this part, keep the volume to level 2 out of 4”).

**Extensions:** Describe possible ways to extend the lessons, if time allows:

* After any stage, the teacher may facilitate a full class discussion/share-out.
* Have students do a longer gallery walk to look at their classmates’ prototypes.
* Give students a timed opportunity to redesign one or two aspects of their prototype based on the feedback they received from their peer.

**Assessment:**

Students’ individual work packets will help the teacher identify students’ understanding at each stage of the design-thinking process.

Final class discussion assesses class’s understanding of the challenges and sticking points in the design thinking process.

Final exit task assesses students’ understanding of the connection between the design thinking process and their anti-human trafficking project.