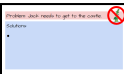
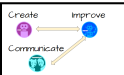


UTK Unit 4 We Are Engineers!

Lesson 13

 Phenomenon: Engineers use a Design Thinking Process to solve problems.	 Question to Investigate: How do engineers solve problems?	 Lesson Objective: Students work in small groups and use a Design Thinking Process to engineer a solution to a problem.
 Success Criteria: I can work as a team. 		

Launch	
	Our question to investigate is: How do engineers solve problems?
	In our last lesson, we read the story Jack and the Beanstalk and acted out the movements of the characters. What is the problem in the story?
	In the story Jack and the Beanstalk, Jack and his mom are hungry and poor. He needs to get to the castle. If Jack didn't have a beanstalk, what solutions can you imagine for Jack to reach the castle? Document students' ideas for solutions on the slide or chart paper.
Explore	
	It's time for an Engineering Challenge! You thought of a lot of solutions for Jack to reach the castle. Today we are going to focus on one of those ways to solve Jack's problem. We are going to build a tower. How can we make a sturdy tower?
	Let's remind ourselves how we work together as a team. We listen to each other and we stay together. We can also give and receive feedback from our teammates. Reference other times students work in partnerships throughout the day to generate a list of teamwork norms or refer to teamwork norms your class has already created. Which teams can model great teamwork and what our challenge will look like? Highlight how the teams discusses and shares, how they stay together to work as a team, and how they continue to stay on task.
	Now it is time to plan with your team, How can you build a sturdy tower? Your materials today will be some plastic cups and index cards. Get together with your team and talk about what you might do to build a sturdy tower.
	OK, Engineers! Let's CREATE, IMPROVE, and COMMUNICATE your ideas. Give each group of students plastic cups and index cards to use for building a single sturdy tower. When most of the groups have had time to build a tower, stop students and GALLERY WALK around the room to look at each of the towers.
	After the Gallery Walk: Now that you have had a chance to Gallery Walk and see the other towers, Do you have any feedback? What did you like about a tower? What could you improve on? Do you have any feedback for someone on your team?

Reflect



How was your team able to build a sturdy tower? Will Jack be able to reach the giant's castle?