



TeachEngineering

Fabricating a Focus Tool (Not a Fidget Spinner!)



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Raise your hand if...

...you have ever had trouble focusing during class.

...you have zoned out and realized you had not idea what the teacher was just saying about the lesson.

...you have ever been distracted in the classroom.

Phenomena Observation

Jordyn is sitting in class, doodling on the side of her notebook page. She realizes she has not been listening to what the teacher has been saying. She looks around the classroom. She sees Daniel, with his eyes on the teacher, only looking away to write down notes in his journal. She sees Izzy, bouncing his knee, flipping through his textbook. Durward is tapping his shoes with his pencil, like he is playing the drum. Kymani is picking at his fingernails, while looking at the teacher. Collette is twirling her ponytail around her fingers while looking out the window. After looking around the classroom, she finally looks back at her teacher and begins taking notes again.

How many of you have ever had trouble focusing during class?

What kind of tool can you create that would help you focus while at your seat?

Research Time!

What do these tools have in common?

What aspects of these tools do you WANT to incorporate?

What aspects of these tools do you want to make sure NOT to incorporate?

Turn and Talk

What did you notice while you were looking through these tools?

Did they have anything in common?

Were there any aspects you thought you did not want to include in your own design?

Constraints

It can't create noise!

It must be able to be used, without looking at it.

It must fit at your seat, no bigger than a pencil box.

It must be created with the provided materials the teacher will share.

Materials



You will get to work with a variety of materials today. Make sure to use them SAFELY!

Design, Design, Design

- 1. You will draw out a few different designs of possible focus tools.**
- 2. Choose the best one.**
- 3. Write out a list of materials you will need from the materials you were shown earlier.**
- 4. Show the teacher your design and material list before you can begin.**

Reflection (Make sure to answer all 3!)

What went well with your focus tool prototype design?

What would you do differently, if given more time and materials to make the adjustments?

What were the steps you took in designing your focus tool?

Presentation

- 1. Share! Prototype presentation with reflection**
- 2. Appropriate Feedback – Comments and Suggestions**
- 3. Repeat with the next person**

What steps did you take to create your design?



Engineers take many steps when designing and creating!

Civil Engineers

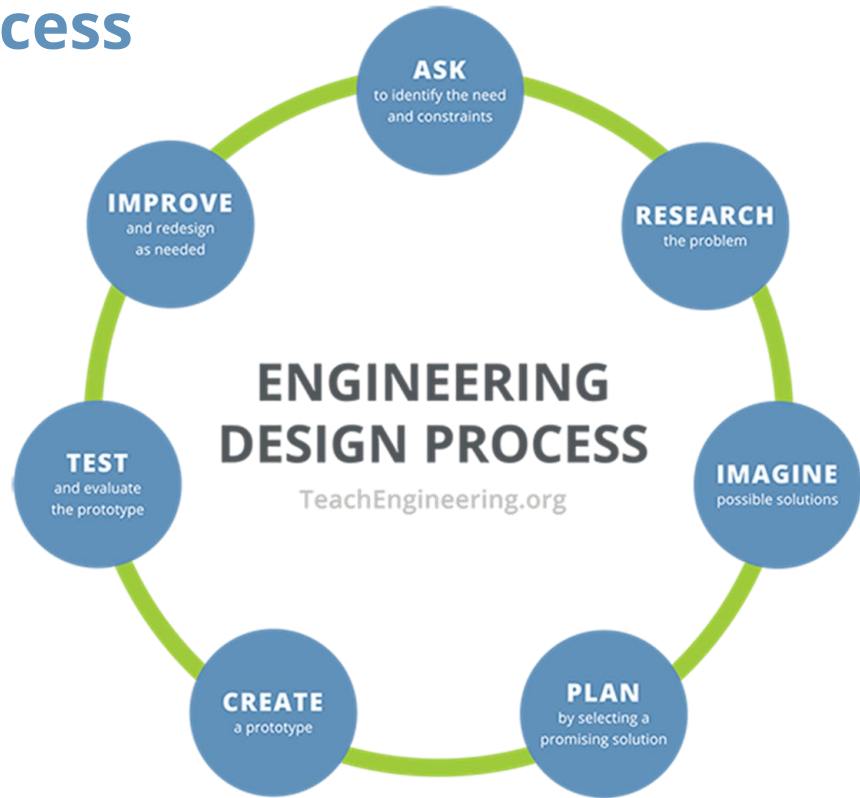


Would this be a good material to build a bridge?



Engineers need to come up with designs to help people travel over the water.

Engineering Design Process



The cycle of the Engineering Design Process