

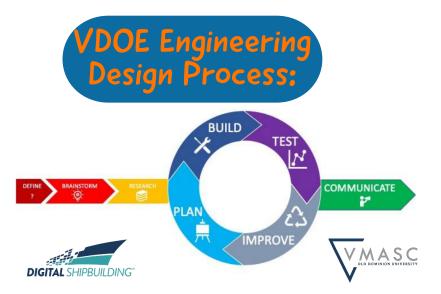
STEM Ahoy! Submarine Simple Machine Challenge Directions

Challenge:

Create a simple machine prototype to raise and lower a submarine for repairs!

Directions

- *In this challenge you are designing 2 things: Your submarine & simple machine device!!!*
- *To increase level of complexity- separate your family into 2 teams! (One team will design the submarine & the other team will design the simple machine device!)
- 1. Research and brainstorm the design of submarines!
- 2. Sketch your prototype/think about what the model will look like!
- 3. Create your submarine using materials supplied OR get creative an add other supplies found in your house!
- 4. Once submarine is created, your simple machine device needs to be capable of raising and lowering the designed submarine.
- 5. Research the design of cranes and hoists used in maritime and construction industries (what shapes are most often used?).
- 6. Create a model of your simple machine device using materials supplied.
- 7. For an additional challenge- the device cannot be taped to a counter or surface!
- 8. Test your machine device- connect it to your submarine and practice raising and lowering the vessel.
- 9. Doesn't work? Re-design!
- 10. Works? How can you improve the submarine and/or machine device to carry a heavier weight?
- 11. Share a picture of you completing your challenge on Twitter and tag @classr00mrescue to be entered into the Tech Prize drawing!



Materials:

Suggested Items
Popsicle Sticks
Bendable Straws
Cardstock Paper
Rubber Bands
Tape
String
Index Cards
Your Imagination!!!