

ACTIVITY 1: GO/NO GO

You are the Captain of the Aircraft Carrier Intrepid. Assume that the required airspeed for takeoff of an Avenger is 170 mph. Using the airspeed equation and information provided, complete the following table and answer the questions that follow. Assume that a positive wind velocity is in the direction of travel of the ship.

Reminder: **Airspeed = Ship Speed (V_s) + Catapult Speed (V_c) - Wind Speed (V_w)**

Catapult Speed (V_c) mph	Ship Speed (V_s) mph	Wind Speed (V_w) mph	Airspeed (mph)	Go/No Go (Go if ≥ 170 mph)
150	20	-10		
150	20	10		
150	30	-30		
150	0	20		

1. With no wind, how fast should the ship be moving to launch the Avenger?
2. To maximize airspeed, would you turn the ship into or away from the wind?

CATAPULT: VISUAL INSTRUCTIONS

Use the visual instructions to build your own catapult.

1. Stack 5 craft sticks together, and wrap a rubber band around both ends.



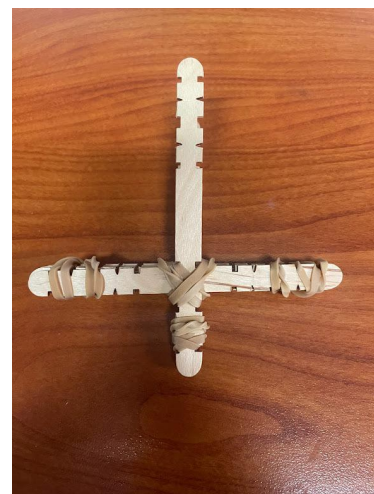
2. Stack 2 craft sticks together, and wrap a rubber band around the very end. Do this to only one end.



3. Separate the 2 craft sticks. Place the stack of 5 craft sticks between the 2 craft sticks, close to the end



4. Wrap a rubber band around all of the craft sticks to hold the catapult together.



5. Glue a cap to the one craft stick to serve as a launching platform.



6. Push down on the top craft stick and release to launch an object from the cap.



How far can you launch your projectile?

Can you hit a target?