

BRIDGE RESCUE MISSION

Official STEM Engineering Design Journal

MISSION OBJECTIVES

☐ Span gap $\geq$ 12 inches☐ Hold load of 5+ lbs☐ Use approved materials☐ Test, learn, redesign!

BLUEPRINT 1.0: INITIAL CONCEPT



PROFESSOR PIVOT'S TIP: Think about where your bridge might bend under stress! How can you use triangles (trusses) to distribute the weight evenly to both sides?

STEM.TECH
BLUEPRINT 1.0

SUPPORT A

12-INCH CANYON GAP TO SPAN

SUPPORT B

PRINT & SKETCH WITH PENCIL

STRONGEST PART OF MY DESIGN:

PART TO WATCH DURING TESTING:

PHASE 2: TEST, LEARN & REDESIGN

Engineering Rule #1: Failure is just data!

FIELD LOG

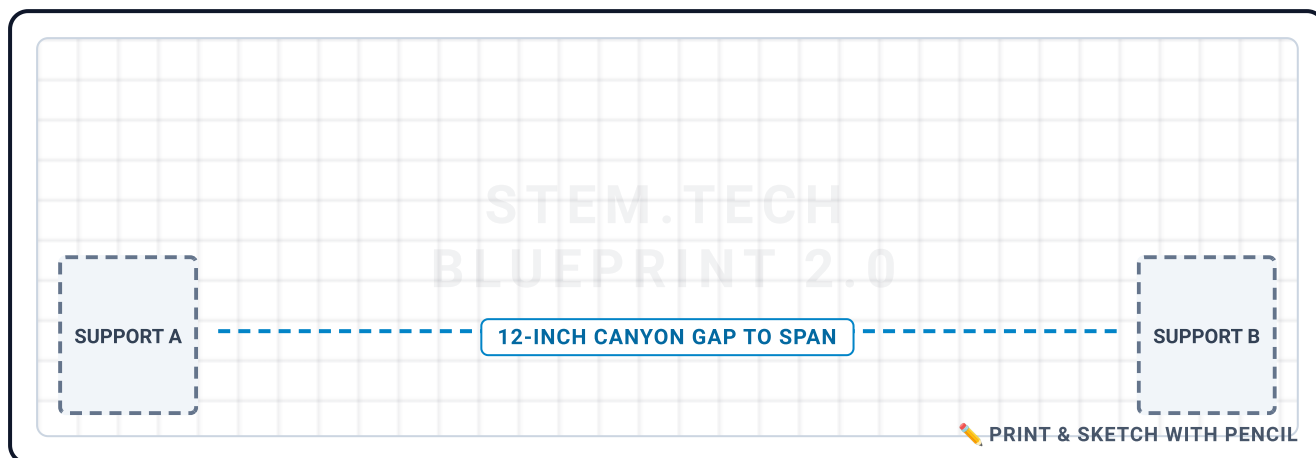
LOAD TEST DATA LOG

TEST #	WEIGHT HELD (LBS)	WHAT HAPPENED?	WHAT I LEARNED
Test 01			
Test 02			
Test 03			

 **FIELD BUILDER NOTE:** After your first load test, make **ONE** smart structural change (e.g., add diagonal cross-braces, reinforce weak joints) to make your bridge even stronger!

BLUEPRINT 2.0: UPGRADED REDESIGN

MY REDESIGN WILL FOCUS ON FIXING: _____



MISSION DEBRIEF

STEM.TECH CERTIFIED

FINAL MAXIMUM WEIGHT HELD

_____ **LBS**

WHAT I AM MOST PROUD OF:

