The Tech Challenge

SURVIVE THE STORM!

2023

Presented by Amazon

RULES

Presented by amazon

Severe weather ahead! Storms are getting worse bringing strong winds that create danger and destruction. Can you use your engineering skills to defend against high wind conditions?

Revised 4.6.2023

THE CHALLENGE: Build a structure to protect vulnerable objects from extreme winds.

Performance

6 MIN

Performance period and setup, including can-stack placement and protective structure(s) assembly, is **six minutes**.

30 SEC

Each performance run time is **30 seconds** maximum from the time the fan is turned on.

3

Three performance runs total. (See table on the right for details, fan speed varies by grade level).

Other Specifications

PERFORMANCE RUNS

	Run 1		Run 2		Run 3	
	Fan	Speed	Fan	Speed	Fan	Speed
ALL GRADES	1	Low	2	Medium	1 & 2	High

WEIGHT LIMIT BY GRADE LEVEL

Grade(s)	Maximum protective structure(s) weight	Maximum weight for structure(s) & backpack
4–5	20 oz (567 g)	31 oz (879 g)
6	18 oz (510 g)	29 oz (822 g)
7–8	16 oz (454 g)	27 oz (765 g)
9–12	16 oz (454 g)	27 oz (765 g)

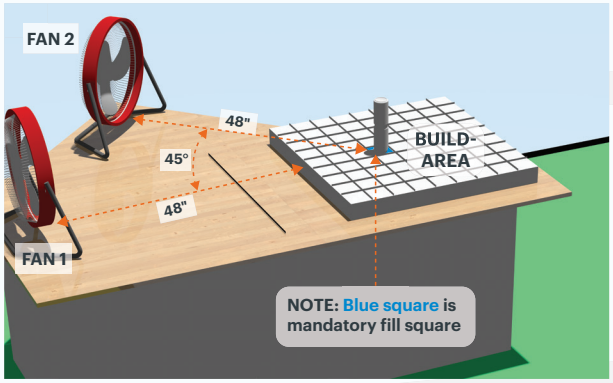
NUMBER OF CANS BY GRADE LEVEL

Grade(s)	# of cans
4–5	14
6	21
7–8	27
9–12	27

CAN-STACKS: 2 CAN MINIMUM

EVERYTHING FITS IN YOUR TECH-PROVIDED BACKPACK

Rig Diagram



Build-area shown in Grades 4–8 position. For Grades 9–12, the raised build-area is moved 12 inches closer to Fan 1.

Success Criteria

1. All can-stacks remain standing.
2. No can-stacks are touching each other or the team's protective structure(s).
3. Protective structure(s) footprint stays entirely on the raised build-area.

Don't forget to read the full rules at ***thetech.org/thetechchallenge/rules***

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2023 Tech Challenge Safety Guidelines

STAY SAFE

DO

Wear protection

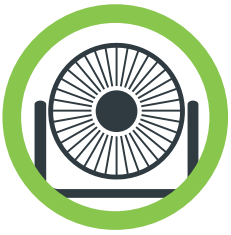
Wear appropriate safety gear for the task. ANSI-approved eye protection is required.

Listen and be alert

Pay attention and follow the judges' directions.

Have a Safety Officer

Identify one student to oversee safe design and implementation.



Fan safety

Be cautious while operating fans. Do not remove fan finger guards or grill.

DON'T

No flammable liquids or gases

No pressurized gases > 5 psi

No animals

No horseplay

Don't ignore safety labels

No climbing

Spirit of the Challenge

The Tech Challenge emphasizes the importance of engineering solutions that would be practical in real life. Test rigs involve small-scale representations of real-world conditions. Teams should develop designs that represent real-life solutions.

The Spirit of the Challenge is an important factor in scoring. The best engineering journals document an understanding of real-world factors and contain a detailed explanation of how your design might have practical, real-life applications. Teams should expect judges to press them on this issue and will be asked questions such as "How would your design work in real life?" A good explanation of how their design approach is compatible with the Spirit of the Challenge will have a positive influence on the team's score.

While store-bought solutions are not prohibited, they are not in the Spirit of the Challenge.

Engineering Journal

- Submit one journal as a PDF
- Handwritten or typed/must be legible
- Keep a detailed record of all your teams' activities

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