

Wildcat Tank Official Manual

Pillars of Tech and Altamont Creek Elementary present...

The Wildcat Tank!

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What Is the Wildcat Tank?

The Wildcat Tank is a fun showcase where students use **STEM** to invent a product that improves everyday life. Each student/group presents their idea through a presentation board with drawings (front, back, side, and isometric views), the product's purpose, and key features. Students/groups are not required to have a physical model of their product. The idea/pitch is what matters the most!

On the day of the competition, students will arrive with their presentation materials, and one by one, present their product idea to a panel of 3–5 different judges from professional STEM careers! The judges will rate their overall pitch through a rubric that looks at your pitch, product idea, overall presentation, and more!

Top 3 winners (Judge-selected) earn gift cards – over \$150 in total prizes!

1st Place: \$75 gift card

2nd Place: \$50 gift card

3rd Place: \$25 gift card

Our goal is to give students a hands-on STEM learning experience and bring the community together within the LVJUSD school district!

Who Can Participate and Why Should You?

All elementary students in the LVJUSD school district are invited to participate! All levels of students are welcome to participate and partake in the competition as it fuels STEM, brainstorming, organization, and many other skills that can be very useful to a student's future!

YOU should participate because it gives you an opportunity to win many prizes, as shown above!

Rules + Guidelines

When presenting and creating the product, you must follow this checklist at a **minimum**; you can add on to it if you want:

- Product name + slogan (optional)*
- Drawing: front, back, side view, and isometric*
- Product purpose (problem + who it helps)*
- Features (3–6 key features)*
- STEM connection (how it uses STEM)*
- Short pitch (memorized or note-card friendly)*

Optional: *prototype/model, poster board, cost estimate*

The pitch must be **2–4 minutes**, and once you are done pitching it to the judge, you must be prepared for a Q&A by the judges.

Mandatory:

- Must be school-appropriate and safe
- Original ideas encouraged (improvements to existing products are okay)
- No working electronics required (concepts are fine)
- Respectful behavior and sportsmanship

 **Keep Scrolling!**

Judging Rubric:

Your pitch/product will be judged based on the following factors on a scale from 1-10:

- Problem + usefulness
- Creativity/innovation
- STEM integration (realistic + thoughtful)
- Clarity of explanation
- Design quality (drawings + labels)
- Confidence and professionalism during a pitch
- Feasibility (could it realistically work?)

Below, we have listed a few tips and tricks to help you prepare for your presentation!

Brainstorming Tips

You don't need a "crazy" idea; the best inventions solve small, everyday problems.

Think about:

- Things that waste time at school or at home.
- Safety issues or things you lose a lot of.
- Messy/annoying problems you wish were easier.

Quick question: "What do I wish existed?"

 **Keep Scrolling!**

Quick Brainstorm Methods

- **Annoyance list:** Write 10 daily annoyances → pick 1 to solve.
 - **Combine two things:** Mix objects (ex, backpack + charger).
 - **SCAMPER:** Improve something that already exists (**S**ubstitute, **C**ombine, **A**dapt, **M**odify, **P**ut to another use, **R**everse/**R**earrange)
 - **5 Whys:** Keep asking “why?” until you find the real problem.
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STEM Connection Tips

STEM doesn't have to mean a robot — smart design counts.

STEM can be:

- Science/materials (waterproof, reusable)
- Technology (sensors, alarms, apps)
- Engineering (moving parts, structure)
- Math/data (measuring, tracking)

Sentence starter: “My product uses STEM because it uses ___ to ___.”

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Drawing Tips

Required: **front, back, side** views.

Make it stronger by adding:

- Labels on parts
 - Arrows for what moves/opens
 - Callout bubbles explaining features
- (Optional: dimensions, top view, "in use" drawing)
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Pitch Tips

Keep it simple: **problem → solution → why it matters.**

Easy structure:

1. Hook ("Have you ever...?")
2. Problem
3. Your product + what it does
4. How it works (1–2 steps)
5. Best features
6. Closing

 **Keep Scrolling!**

Public Speaking Tips

- Speak slower than you think
 - Eye contact + clear voice
 - Practice out loud 2–3 times
 - If you mess up: pause and keep going
 - Don't use filler terms like "Uhhh, "You know," "So basically." Silence is often the best solution when you get stuck.
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Judge Q&A Tips

Answer clearly, then add details.

Common questions judges may ask include:

- Who is it for?
- How does it work?
- What materials/cost?
- What makes it different?
- What challenge might come up?

 Keep Scrolling!

Presentation Display Tips

On the day of the event, you will be presenting your idea on stage. You can use a trifold or a slideshow (an email was sent with a form to provide details about your presentation). There, you can share a link to your presentation (Google Slides or Canva) and/or a website/app, and upload files up to 100MB if you are using Apple Keynote or Microsoft PowerPoint, and more! You can also upload other files, such as videos or your app or website, so that we can do a live demo on stage. In the form, we ask you to explain how to set up your app/website. Please be as detailed as possible so we can prepare beforehand. You can upload up to 5 files at a time. If you plan to upload more than that, please email us at pillarsoftech@gmail.com. If your presentation is incomplete, you can still provide the link. If you have an incomplete Apple Keynote or Microsoft PowerPoint presentation, please email it to us at pillarsoftech@gmail.com at least 2 days before the event. Remember, the possibilities to present are endless!

Include:

- Big product name
- 4-view drawing
- Design process
- Bullets: problem, features, STEM connection
- Expected cost to produce and cost to sell (If you are creating an app or website, include the cost to publish it to the app store, server costs, and domain names, and such). The more detailed the better; however, remember to keep it short.