3rd, 4th, & 5th GRADE

DUAL-USE DESIGN CHALLENGE

CAN SOLAR PANELS AND FARMING WORK TOGETHER?

The Challenge

Imagine you are an **engineer or farmer**. Farmers need land to grow food, and solar panels need land to make electricity. Some people think they **can't share the same space**, but others are finding creative ways to make it work.

Your challenge is to **come up with different ways that solar panels and farming can exist together** and compare which solution works best!

Grounding Phenomenon

Some farms are using solar panels **and** growing crops or raising animals at the same time! In some places, farmers **grow fruits and vegetables in the shade of solar panels**, and in others, **sheep or cattle graze under the panels** instead of using only lawnmowers. **But how do we decide which design is best?** That's where you come in!

Essential Questions

- What do **plants and animals** need to survive?
- How do **solar panels work**, and what do they need to make energy?
- How can we design a farm that **grows food or raises animals while still making electricity?**
- What are the **strengths and weaknesses** of different designs?

Your Task

- **Brainstorm at least two different ways** that farming and solar panels can share the same space.
- **Create a drawing or model** of your ideas to show how they work.
- **Compare your ideas!** Which one is better at helping farmers grow food and make electricity? What are the challenges?
- **Explain your decision**—which idea would you choose, and why?

Helpful Tips

- Research different ways farmers use **solar panels and farmland together**.
- Think about **how plants grow in shady places**—could this help some crops?
- Consider **how animals like sheep, chickens, or bees** might use the land under the solar panels.
- Engineers compare ideas all the time—**it's okay if no idea is perfect!**

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This challenge is open is open to all types of students—whether in classrooms, STEM clubs, FFA chapters, homeschool programs, or independent projects. With grade-specific categories and tailored guidance, students of all ages can participate at a level that fits their abilities as an individual or on a team.

Are you ready to take on the challenge? The future of farming needs your ideas!

Submit your project at https://solarfarmsummit.com/student-design-challenge

Competing entries due June 11
Showcase only entries due July 21

Showcase and Awards August 7 at the 2025 Solar Farm Summit

A Collaboration Between

SOLAR FARM SUMMIT

The Solar Farm Summit is America's agrivoltaics conference and farming + solar exhibition, bringing together experts, farmers, researchers, and innovators to explore the future of agriculture and energy. Finalists in the Dual-Use Design Challenge will have the opportunity to showcase their projects at the 2025 Solar Farm Summit, win cash prizes, and receive public recognition as well as direct introduction to industry leaders and professionals on the cutting edge of agrivoltaics during the industry's most collaborative and constructive event.

InSPIRE

The InSPIRE project (**In**novative **S**olar **P**ractices **I**ntegrated with **R**ural **E**conomies and **E**cosystems) is the nation's longest running and largest agrivoltaics research initiative. InSPIRE explores how solar energy can be co-developed with agriculture and native landscapes, conducting field research, providing data-driven insights, and convening experts across disciplines. By advancing our understanding of agrivoltaics and other dual-use solutions, InSPIRE supports the scaling of solar projects that benefit both landowners and ecosystems.

*If you would like to join us at the **2025 Solar Farm Summit in Chicago, IL August 4-7**, please visit https://solarfarmsummit.com or reach out to admin@solarfarmsummit.com.*