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# Implement Junior Solar Sprint (JSS) at your U.S. Army base

**Junior Solar Sprint**

# What is JSS?

- Junior Solar Sprint (JSS) is a program administered by the Technology Student Association (TSA) through a grant awarded by the Army Educational Outreach Program (AEOP).
- Within the JSS program, students develop teamwork and problem-solving abilities, investigate environmental issues, and gain hands-on STEM skills as they construct the fastest, most interesting, and best crafted solar vehicle.





# Who can participate in JSS?



## ■ Eligibility

- 5th-8th graders on teams of 2-4 students
- Students must actively be enrolled in K-12 public, private, or home-school.
- US Citizens or US Permanent Legal Residents.
  - *US Permanent Legal Residents may be required to show proof of eligibility.*
- Participants must be members of a TSA chapter or participate at an Army site hosting a JSS event

# How do I start a JSS program in my Army Base?

- What are the requirements to launch a JSS program?
  - The sponsoring Army research organization must formally appoint a JSS POC who will facilitate successful program planning, execution and reporting of JSS at the respective Army laboratory.
  - Registration process for JSS participants must be conducted through a centralized AEOP application. In addition, all POC's will be responsible for tracking number of teams, participants and volunteers participating in the JSS event. This information will be submitted to the JSS Program Manager.
  - JSS Army-hosted Regional competitions should take place between March and May and participation should take place on-site at the designated Army research laboratory or engineering center.

# How do I start a JSS program in my Army Base?

- What are the requirements to launch a JSS program?
  - JSS sites should submit pictures, press releases, “stories” of those participants involved in the JSS event.
  - JSS participants or their parents/legal guardians (if under 18 years old) must be informed that participants will be asked to participate in an evaluations/research process, that responses are voluntary and that assessment tools are not anonymous but that all results will be kept strictly confidential. This statement will also be clearly stated in the registration process.
  - JSS POC will be responsible for having all mentors and volunteers complete the post event evaluation (evaluation will be distributed from EDC).



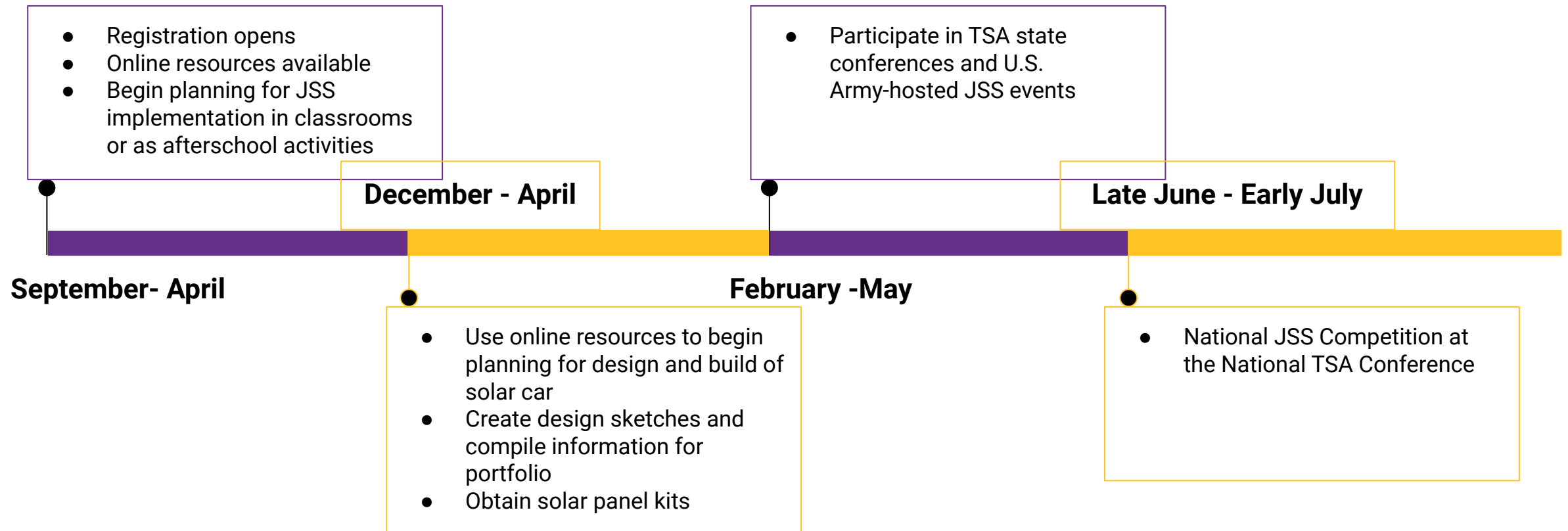
# How do I start a JSS program in my Army Base?

- What does the process entail?
  - Outreach to schools (target population of underserved, underrepresented and military connected is preferred)
  - Provide required Cvent registration links to teachers, and volunteers leading the effort in schools
  - Host a JSS event with participating teams
  - Winning team of the event is provided funding to attend the national JSS event held at the national TSA conference in late June each year



# How do I start a JSS program in my Army Base?

## Timeline

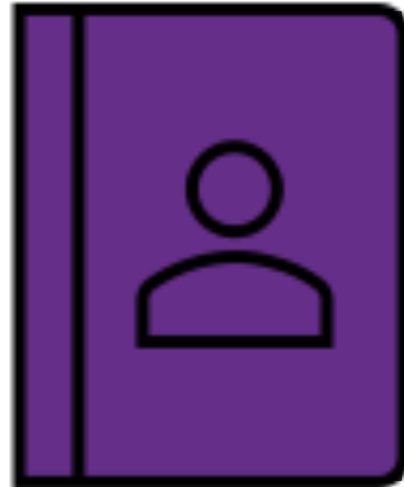


\*The timeline can be modified to fit your schedule

- What can I expect?
  - Online resources and materials for implementation of JSS are available online and include the national JSS event guidelines
  - Online resources and materials for how to host an event are available online
  - Event registration is **REQUIRED** of all participants, volunteers and teachers (link will be provided)
  - Participating JSS sites receive ongoing support from the JSS program IPA (Sue King)
  - Basic solar kits (motors, wires and panel) are provided to participating teams



# Who should I contact for more information or support throughout the process?



Sue King

[sking@tsaweb.org](mailto:sking@tsaweb.org)

# Benefits of JSS



- Not only is it FUN but JSS will have your students actively engaged in STEM learning!
- The program offers resources that empower teachers, mentors, and other community members to engage middle school students in designing, building, and racing model solar cars.

# Benefits of JSS



- Students develop teamwork and problem-solving abilities, investigate environmental issues, and gain hands-on STEM skills as they construct the fastest, most interesting, and best crafted vehicle possible.
- As you teach them about solar-powered cars, you can discuss emerging environmental challenges.



- Aligned to curriculum
  - NGSS
  - STEM standards
- Lesson plans, videos and webinars are available online to registered participants

## Junior Solar Sprint and Next Generation Science Standards



### ENGINEERING DESIGN PERFORMANCE EXPECTATIONS

Students who demonstrate understanding can:

#### GRADE 5

##### 3-5-ETS1-1

Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

##### 3-5-ETS1-2

Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

##### 3-5-ETS1-3

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

#### GRADES 6-8

##### MS-ETS1-1

Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

##### MS-ETS1-2

Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

##### MS-ETS1-3

Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

##### MS-ETS1-4

Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

Next Generation Science Standards: [www.nextgenscience.org](http://www.nextgenscience.org)

# Program Locations

