

Middle School: Level 1

Themes, Updates, Clarification and General Notes

**KANSAS DIGITAL SUBMISSIONS ARE DUE:
BY 11:59 PM CST on March 14th, 2025**

ALL Digital Submissions, MUST be saved as a PDF document.
PDFs with URL links are acceptable **IF** they are directing to a site that is hosting a submission for an event such as the link for Webmaster, Video Game Design, Digital Video Production, etc.

DO NOT submit a PDF with a link to a google drive or other protected file format, it must be accessible and downloadable by professionals outside a school district or local group

Events with a digital submission:

<i>Biotechnology</i>	<i>Data Science and Analytics</i>	<i>Promotional Marketing</i>
<i>Career Prep</i>	<i>Digital Photography</i>	<i>STEM Animation</i>
<i>Children's Stories</i>	<i>Mass Production</i>	<i>Video Game Design</i>
<i>Community Service Video</i>	<i>Microcontroller Design</i>	<i>Vlogging</i>
<i>Construction Challenge</i>	<i>Off the Grid</i>	<i>Website Design</i>

Advisor Project Submission Link:

<http://judgespro.registermychapter.com/org/jpks-state/conf/jpks-state>

Student/Team Captain Project Submission Link:

<http://judgespro.registermychapter.com/org/jpks-state/conf/jpks-state/student>

*- Indicates the event has limited entries "per state" at the National Conference
!- Early Submission
%- State level alternation to the event

!Biotechnology*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio; Include Images of Display
(and Model/Prototype as applicable) in Portfolio

Theme: Biotechnology that supports sustainable cosmetics packaging to reduce waste to landfills

Items Judged

Tier 1- Display

Tier 2- Documentation

Semifinal Presentation/Interview

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!Career Prep

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Cover Letter and Job Specific Resume as per guidelines in Event Guide

12/6/24

Headshots are not permitted on the job-specific resumes submitted by students.

Theme: Select a career from one (1) of the following:

- Bioenergy Technicians
- Data Architect
- Machine Learning Engineer
- Nurse Practitioner

Items Judged

Cover Letter

Job Specific Resume

Semifinal Mock Interview

Challenging Technology Issues*

MUST place in the top 3 to be eligible to compete in this event at the National Level

Topics:

- *Genetic Testing and Counseling*
- *Animal Testing for Scientific Research*
- *The Use of Drones for Surveillance*
- *Privatization of Space Travel*
- *Nanotechnology in Consumer Goods*

Items Judged

Pro Side Presentation

Con Side Presentation

Participation

Chapter Team

The Navy-Blue Blazer with TSA patch is REQUIRED for this event.

Participants in this event will compete as the same team of six (6) in both the preliminary (written exam) and the semifinal (oral presentation) rounds.

%Kansas Quirk: The test is completed according to published schedule which may be prior to the start of the conference.

Items Judged

Written Test

Business Meeting Demonstration

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!Children's Stories*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio; Include Images of Physical Storybook in Portfolio

Theme:

An interactive or pop-up book that focuses on making friends in-person

Items Judged

Tier 1- Storybook

Tier 2- Documentation Portfolio

Semifinalist Reading and Interview

Coding

Teams will take a written test to determine semifinalist.

To prepare for MS Coding competition, teams should have knowledge of concepts (software development, computer science, and coding topics) that will be on the Coding written test. They also should be familiar and comfortable with using the Scratch programming language.

Scratch is a free visual programming language available from the MIT Media Lab (<https://scratch.mit.edu/download>). An offline version of the Scratch tool should be downloaded and available on each team's laptop.

Teams that advance to the semifinalist level, based on written test performance, will perform a challenge using the Scratch programming language. Semifinalist teams will receive the challenge on site and will have two hours to complete it. (PLEASE NOTE: Semifinalist teams MUST have a version of this program available for offline use, as there will be no Internet access available during the semifinalist level of the competition.)

Examples of the types of challenges students may be asked to complete can be found at this link: <https://scratch.mit.edu/starter-projects>

%Kansas Quirk: The test is completed according to published schedule which may be prior to the start of the conference.

Items Judged

Written Test

On-Site Problem- Objective

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!Community Service Video

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio and URL link to Video

Items Judged

Video Production

Video Effectiveness

Semi-Finalist Presentation/Interview

Computer Aided Design (CAD) Foundations*

Items Judged

Layout

Software Utilization

!Construction Challenge

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio; Include Images of Display in Portfolio

Items Judged

Tier 1- Model/Prototype/Display

Tier 2- Documentation Portfolio

Semi-Finalist Presentation/Interview

Cybersecurity

Problem Statement:

Byte Inc.'s Internet of things and Bluetooth are acting strangely on devices in the company's network. Address the potential cause and propose a solution.

%Kansas Quirk: The test is completed according to published schedule which may be prior to the start of the conference.

Items Judged

Written Test

Semifinal Presentation/Interview

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!Data Science and Analytics*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio; Include Images of Display in Portfolio

Topic:

Determine the potential "movie success" of a fictitious feature film based on different public metrics, such as, but not limited to box office revenue, date of release, movie genre (selected by the team), movie production budget, and more.

Items Judged

Tier 1- Display

Tier 2- Documentation Portfolio

Semifinal Presentation

!Digital Photography*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Digital Portfolio as per guidelines in Event Guide

Theme:

Students will take four photographs that fit the theme "Through the Eye of an Animal."

Items Judged

Digital Photographic Portfolio Album

Semifinal Challenge

Semifinal Presentation/Interview

Dragster

Please read event guide carefully for onsite procedures.

Address weights and lengths only; there are no special design challenges.

Items Judged

Tier 1- Preliminary Dragster Qualifying Race/ Post Race Inspection

Tier 2- Dragster Construction (including drawing)

Semifinal Interview

Semifinal Race

Electrical Applications

Check event guide for required toolbox items

%Kansas Quirk: The test is completed according to published schedule which may be prior to the start of the conference.

Items Judged

Written Test

Semifinal Solution to On-site Problem

Essays on Technology*

Topic: Reducing our impact on the planet.

Subtopics:

- Reducing microplastics in our oceans
- Reducing forever chemicals in soil
- Reducing energy consumption for cooling in residential and commercial buildings as temperatures rise

%Kansas Quirk: Contestants should be prepared to upload or bring their completed outline to conference. Specific details will be communicated to the Chapters involved with the event.

Items Judged

Detailed Outline

Essay

Flight

Students are to bring a completed glider, portfolio, safety glasses, toolbox and building materials to competition. All contestants will fly the pre-built glider. The average of best 3 flight times (out of 4) will determine contestants moving on to the semifinalist portion.

Semifinalist will have 45 minutes to construct a new glider; and then will fly the new glider.

9/27/23: Page 172

Stabilizer - MAX 150mm or 5 7/8"

Fin - MAX 76mm or 3"

1/3/24: PRECONFERENCE

A. Documentation Portfolio

f. A detailed **illustration** demonstrating compliance with the rules and features, including design principles used in building and adjusting gliders, must be included on 11" x 17" paper (may be folded to fit in the sheet protector)

4/23/24

Semifinal Flight Times section of the rubric shows two columns for 5th place. "6th" place should be the heading in the column between 5th and 7th place.

Items Judged

Tier 1- Flight Times

Tier 2- Semifinal Documentation Portfolio

Semifinal Flight Times

Forensic Technology

Teams should have the necessary supplies to make a presentation on each of the three Forensic Science concepts.

Be familiar with, and be able to demonstrate, the following forensic concepts:

1. Tool mark identification
2. Hair and fiber analysis
3. Forensic biometrics

%Kansas Quirk: The test is completed according to published schedule which may be prior to the start of the conference.

Items Judged

Written Test

Skill Demonstration

Invention Innovations

Theme: Create a product that enhances the daily productivity of a middle school student.

9/5/23

PRELIMINARY ROUND

B. Entries are evaluated by the judges with neither students nor advisors present based on the following criteria:

1. Judges score the static display criteria to determine the top twenty-four (24) preliminary contestants, which will not be posted.
2. Judges score the model/prototype criteria of those top twenty-four (24) contestants to determine the top twelve (12) semifinalists.

10/10/24

Only the information provided on the display board will be judged during the preliminary round.

Items Judged

Tier 1- Static Display

Tier 2- Model/Prototype

Semifinal Sales Pitch Presentation/Interview

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!Junior Solar Sprint

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio; Include Images of Display in Portfolio

[AEOP JSS Website Link](#)

2/20/24

Pre-Conference

D. Solar Paneling

13. Each vehicle must include a mounted battery holder that is capable of holding two AA batteries. This system needs a switch and button as illustrated. This is to be used at the starting line as follows.

a. on the "READY" command the button is depressed and held, this opens the circuit.

b. on the "SET" command the switch is flipped, to connect the batteries to the motor.

c. on the "GO" command the button is released, thereby closing the circuit, sending power to the motor, causing the vehicle to move.

Items Judged

Documentation Portfolio

Display and Model

Preliminary Junior Solar Sprint Time Trial/ Post Race Inspection

Semifinal Car Builder Interview

Semifinal Race

Leadership Strategies*

%Kansas Quirk: The use of preliminary rounds depends on the number of entries in the event. Specific details will be communicated to the Chapters involved with the event.

UPDATE: 9/27/23

Teams will supply their own pens/pencils for the preparation room.

Items Judged

Presentation

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!Mass Production

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Portfolio as a Multi-Page PDF include Images of the Prototype Product

Theme: Pet supply storage tower

UPDATE: 11/13/23

A. Documentation Portfolio:

1.k. Photographic Verification - photographic or digital images that verify the mass production of three (3) identical copies of the product including the prototype and photographic or digital images that document the team project with a photo timeline; maximum five (5) pages.

Items Judged

Tier 1- Prototype

Tier 2- Documentation Portfolio

Semifinal Presentation/Interview

Mechanical Engineering

Problem Statement: A vehicle must go forward at least ten (10) feet, then reverse to a full stop at seven (7) feet from the original starting line.

The floor surface for the 2025 Kansas State Conference is wood Gymnasium floor covered with a vinyl cover.

The 2025 National TSA Conference will be convention center concrete. The floor surfaces for state conferences may vary.

Items Judged

Entry Performance

Placement from Best of Two Runs

Interview

Portfolio Contents

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Medical Technology*

Theme – Medical Drugs and Genetics: Why do some people respond to medicines differently than others?

UPDATE: 9/5/23: PRELIMINARY ROUND

B. Entries are evaluated by the judges with neither students nor advisors present based on the following criteria:

1. Judges score the static display criteria to determine the top twenty-four (24) preliminary contestants, which will not be posted.
2. Judges score the model/prototype criteria of those top twenty-four (24) contestants to determine the top twelve (12) semifinalists.

Items Judged

Tier 1- Display

Tier 2- Model/Prototype

Semifinal Presentation/Interview

!Microcontroller Design

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Portfolio as a Multi-Page PDF include Images the Product

Problem: Interactive gift box

Items Judged

Documentation Portfolio

Device

Presentation

!Off the Grid*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Portfolio as a Multi-Page PDF include Model and Display

Design Brief: Design a home for a family of four (4) in a country (of your choice) in which a boreal forest (taiga) biome is found. The house must be designed for an area that does not have access to a power grid. In addition, the house must include a renewable energy source, one (1) agricultural system, and must solve one (1) problem that is specific to the area.

Items Judged

Tier 1- Display

Tier 1- Model Design

Tier 2- Documentation Portfolio

Semi-Finalist Presentation/Interview

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Prepared Speech*

Theme: 2025 National Conference Theme: Tune In To Technology

11/5/24: 2025 National Conference Theme: Tune In To Technology
Use of the themes “Tune Into Technology” and “Tune In To Technology” are acceptable.

%Kansas Quirk: The use of preliminary rounds depends on the number of entries in the event. Specific details will be communicated to the Chapters involved with the event.

Items Judged

Content
Stage Presence
Organization

Problem Solving

%Kansas Quirk: Kansas TSA commonly provides the materials to be used for the solution of the problem. Notice will be sent out detailing what supplies are needed.

Items Judged

Testing of Solution

!Promotional Marketing

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Portfolio as a Multi-Page PDF as noted in the Event Guide

Theme: Charitable and service organizations are the backbone of our communities. A group called “Students Helping Grandparents” has contacted your chapter advisor about your chapter hosting an event at a public library, during which chapter members will lead focus group discussions with senior citizens. The topic for the focus groups will be helping senior citizens understand and avoid online cybercrime. The event is Tuesday May 27, 2025, from 4:00 PM – 6:00 PM.

Printable: Design a tri-fold brochure.

Wearable: Design a hat that can be given to participants.

Digital Signage: Create an auto-advancing slide presentation that is no longer than two (2) minutes in length.

Items Judged

Print Design
Wearable Design
Digital Signage
Semifinal Challenge

Middle School: Level 1

!STEM Animation*

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio and URL link to the Animation

Theme: Robotics in automobile manufacturing

Items Judged

Documentation Portfolio

Animation

Semifinal Presentation

Structural Engineering

Design Brief

The design brief for 2025 is to design a pair of two (2) balsa tower structures that will support the greatest load possible using the least materials. The solutions must transfer the load from the architrave to the base as efficiently as possible.

Verification Form

9/5/24

2024-2025 Design Brief

The two column towers will be placed on the bases 8" apart instead of 6" apart to accommodate the center plate on testers.

The test block can be a minimum of 12" instead of 10"

Items Judged

Pre-Built Structure

On-site Structure

Subjective Criteria

System Control Technology*

Items Judged

Inventor's Log

Solution to Problem

Programming Structure

Demonstration/ Interview

Middle School: Level 1

Tech Bowl

*%Kansas Quirks: Test is completed online Day 1 of the Kansas State Conference.
- Multiple teams per school at the Middle School level maybe allowed; Schools with multiple teams CANNOT interchange team members.*

Items Judged

Averaged Test Scores to determine semifinalist teams
Semifinal Round- Oral Competition

Technical Design

%Kansas Quirk: Confirm participation and pick up Problem at the registration desk begins Day 1 at 10:00am.

-Entries MUST be turned in by 12:00pm on Day 2 to the registration desk.

Items Judged

Solution

Video Game Design

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio and URL link to the Game

No theme – subject is participant's choice.

Items Judged

Video Game Design
Documentation Portfolio
Semifinal Presentation

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Vlogging

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload Documentation Portfolio with URL Link to Video Series

Topic: Setting and achieving goals; the minimum number of audio pieces is four (4).

11/29/23

EVALUATION

Tier 2

SEMIFINAL ROUND

A. The On-site Challenge

1/23/24

PRECONFERENCE

B.8.

Team's self-evaluation of the video series, using the criteria for TIER-1 VLOG SERIES on page 326 (can be in paragraph format or a copy of the rubric portion with data from the team); one (1) page.

Items Judged

Tier 1- Vlog Series

Tier 2- Documentation Portfolio

Semifinal On Site Challenge

Website Design

KANSAS Digital Submission Due Date: 11:59 PM CST on March 14th

Upload URL with Link to Website

Topic: Website for food preparation recipes

Challenge – Develop an original website with simple recipes for young cooks (MS and HS age). It should have an interactive element that will ask a few questions to direct the user to the desired ingredients and recipe.

Items Judged

Website

Semifinal Interview