Avenues in Motion

Improving Community Transportation Options

Video Journal Rules

Spirit of the Sprint

Junior Solar Sprints (JSS) offers students the opportunity to learn by means of a friendly competition against their peers. Students design, construct and race a model solar powered vehicle. The role of the educator is to nurture the spirit of excitement and the joy of discovery and learning that awaits students. Educators should let students assume the responsibility for decisions, building and overall performance.

Materials and Vehicle Specifications

1. The Ray Catcher solar panel sold by Pitsco is the official solar panel to be used for this race. No homemade panels or other commercial panels can be used. Panels are loaned to schools and must be returned after competition. Solar panels are Avenues in Motion's (AIM) property. In the event you lose your panel, you must pay back AIM the retail value of the panel, $37. You are allowed to purchase your own panels, but they must be the Pitsco Ray Catcher, product ID W37942. Only 1 solar panel per vehicle is allowed. The solar panel can't be part of the structure of the vehicle. It must be easily disconnected from the vehicle as solar panels are shared.
2. The motor provided by AIM must be the only motor used in the vehicle design (Pitsco, motor 280, product ID 54428). Motors may not be rewound or disassembled. Only 1 motor per vehicle is allowed.
3. **No energy storage devices may be used in conjunction with the solar panel.** The vehicle should demonstrate its movement under battery power and solar power individually.
4. The vehicle must be a student team's own design and manufactured from the current school year. **No vehicle or major component from a previous year will be allowed to compete.** Solar panels, motors and other individual parts may be reused in a new design.
5. The name of the vehicle/team name must match registration paperwork submitted. The name on the paperwork is what we use to create the judging score sheet. If the name is changed, the vehicle will not be scored.

Video Submission

1. Teams can consist of 1 to 4 participants max. Participants must be middle school students (6^{th}-8^{th} grade) or children ages 11 – 13.
2. Videos must be shared using Google drive. If you have any issues with this sharing platform you must let AIM know well in advance to ensure your video is scored.
3. Videos must be 2 to 3 minutes in length. Points are associated with concise videos. Videos will score lower if they go under or over that length. Videos that are grossly over the time limit will be rejected for submission.
4. The Registration form must be completed by April 29^{th}. This information on this form and the information in the submitted team video must match (team name most importantly).
5. Videos must be submitted by May 6^{th} by sharing with ktomasicchio@avenuesinmotion.org using Google drive. If you have any issues, you must let AIM know in advance so we can resolve them in a timely manner. You should test your sharing settings in advance of the May 6^{h} date to avoid any delays in submissions.
6. Videos will be scored virtually in advance of your division race day. Winners will be announced at race day. This score will go towards your teams overall points. Without a video journal submission your team won't have enough points to potentially win the Grand Prize, The Junior Solar Sprints Cup!

See next page for video scoring rubric.

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Points	0 – 1	1 – 2	2 – 3	3 – 4	4 – 5
Solar Energy Explanation	Little to no explanation of solar power or importance of sustainable energy	Minimal explanation of solar energy and solar panel. Minimal mention of solar energy as future energy source	Decent explanation of solar energy and solar panel. Some experimentation with the solar panel. Decent explanation of importance of solar energy for low Carbon future	Clear understanding and explanation of solar energy, solar panel. Multiple experiments with the panel (like time of day or angle) and how those change speed or movement. Clear understanding of solar energy as sustainable energy source for low/no Carbon future	Superior understanding and explanation of solar energy, solar panel. Complete experiments (see 3-4 examples) with explanations and application to final car design. Superior explanation of solar energy/solar panels as sustainable energy source for low/no Carbon future
Engineering & Design Explanation	Little to no explanation or understanding of electrical connections, chassis design or chassis materials, or gear ratios. No footage of car moving with battery or solar power.	Minimal effort to explain: electrical connections from solar panel/battery pack to motor, chassis design or gear ratios as way to increase speed or distance. Some footage of car moving on battery, but doesn't move on solar	Decent effort to explain: electrical connections from solar panel/battery pack to motor, chassis design or gear ratios as way to increase speed or distance. Car moves with both battery and solar, but moves faster/easier with battery	Clear understanding and explanation of: electrical connections from solar panel/battery pack to motor, chassis design or gear ratios as way to increase speed or distance. Car moves with similar ease using both battery and solar	Superior understanding and explanation of: electrical connections from solar panel/battery pack to motor, chassis design or gear ratios as way to increase speed or distance. Car moves well under battery power but the design is optimized for solar
Material Choice Explanation	No mention of material choices.	Minimal effort to explain material choices, consideration of weight, re-use post-race or recyclability	Decent effort to explain material choices in consideration of weight, re-use post-race or recyclability. Material choices were somewhat resourceful	Clear understanding and explanation of material choices in consideration of weight, re-use post-race or recyclability. Material choices showed some ingenuity	Clear understanding and explanation of material choices in consideration of weight, re-use post-race or recyclability. Material choices were very resourceful and very skillfully used.
Overall Video Journal	No regard for 2-3 minute time limit Presented little to no research on above topics	Video was over/under 2-3 minute time limit Video was not at all concise with presenting research on above categories	Video was somewhat concise and met 2-3 minute time limit Video was able to somewhat present/explain research on above categories, video was somewhat clear on above topics, somewhat creative	Video was concise and within 2-3 minute time limit Above average effort to present research, experiments & trial & error, above average clarity on explanation of above topics, above average creativity in video creation	Video was concise and precise, within 2-3 minutes Superior effort to present research, experiments & trial & error on above topics, superior clarity on explanation of above topics, superior creativity in video creation