



## Rhode Island Technology Student Association

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RI TSA 2020 State Conference: **March 12** at URI Fascitelli Center for Advanced Engineering

### Middle School Events

**CAD Foundations (on task)** - Participants have the opportunity to demonstrate their understanding of CAD fundamentals as they create a two-dimensional (2D) graphic representation of an engineering part or object.

**Children's Stories (plan ahead)** - Participants create an illustrated children's story that will incorporate educational and social values. The story may be written in a genre of choice. Examples are fables, adventures, non-fiction, fiction, and fairy tales. The story must revolve around the theme chosen for the given year.

**Coding (On task)** - Participants will demonstrate their knowledge of computer science and coding by taking a written test. Semifinalists will further demonstrate their programming knowledge by participating in an onsite programming challenge using Scratch as the programming language.

**Digital Photography (Plan Ahead)** - Participants produce a digital portfolio addressing the theme of Nature.

**Dragster (Plan ahead)** - Participants design and produce a race-worthy CO2-powered dragster according to stated specifications, using only specified materials.

**Flight (Plan Ahead)** - Participants study the principles of flight and design in order to fabricate a glider that stays in flight for the greatest elapsed time. The glider must be designed to be launched from a catapult that is provided onsite. The design process is documented in a portfolio that is submitted for evaluation.

**Mass Production (plan ahead)** - Participants manufacture a marketable product for a teacher's desk.

**Off The Grid (plan ahead)** - Participants conduct research on a sustainable architectural design for a home in a country of the team's choosing (other than their home country), and document their findings in a display and a model.

**STEM Animation (Plan ahead)** - Participants use computer graphics tools and design processes (i.e., animation) to communicate, inform, analyze, and/or illustrate a topic, idea, subject, or concept that focuses on one (1) or more of the following areas: science, technology, engineering, or mathematics. Sound may accompany graphic images.

**Structural Engineering (Plan ahead)** - Participants apply the principles of structural design and engineering through basic research, design, construction, and destructive testing to determine the design efficiency of a balsa wood tower.

**Video Game Design (plan ahead)** - Participants develop, build, and launch an E-rated, online game that focuses on the subject of their choice. The game should be interesting, exciting, visually appealing, and intellectually challenging.

**Website Design (plan ahead)** - Participants design, build, and launch a website that features the team's ability to incorporate the elements of website design, graphic layout, and proper coding techniques.



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