Below is a list of the 2018 events. Items in Bold are done only at the state levels. Please keep in mind that these events must be started now in order to be prepared in time. Not all events are open to all students. We are a competing team and will need to place students or limit the number of students in events.

- 1. Anatomy & Physiology (T) This event encompasses the anatomy and physiology of selected body systems, this year limited to nervous and endocrine systems and sense organs.
- 2. Battery Buggy (B) Competitors must design, build and test a mechanical device that uses the energy from a battery to transport a vehicle along a track as quickly as possible and stop as close to the centerline of various distances.
- 3. **Crime Busters** (L) Teams will identify the perpetrators of a crime or crimes by using paper chromatography and analysis of unknown solids, liquids, and plastics found at the scene of a crime.
- 4. **Disease Detectives** (T) Students will use investigative skills in the scientific study of disease, injury, health and disability in populations or groups of people with a focus on Food Borne Illness.
- 5. Dynamic Planet (T) Students will demonstrate an understanding of the large-scale processes affecting the structure of Earth's crust (Tectonics).
- 6. Ecology (T) Students will answer questions involving content knowledge and process skills in the area of ecology and adaptations in featured North American biomes.
- 7. Experimental Design (L) Given a set of unknown objects, teams will design, conduct, analyze and write-up an experiment.
- 8. Fast Facts (T) Teams will fill in a grid of terms that begin with a given letter to match given science categories.
- 9. Herpetology: Teams will demonstrate their knowledge of Amphibians and Reptiles
- 10. Hovercraft (B/T) Competitors may construct a self-propelled air-levitated vehicle with up to two battery-powered motors that turn one propeller each to levitate and move the vehicle down a track. Competitors must also be tested on their knowledge of classic mechanics and related topics.
- 11. Meteorology (T) Students will demonstrate an understanding of factors that influence world climate & use of models to understand/estimate impacts of different climates.
- 12. **Microbe Mission** (T/L) Teams will answer questions, solve problems and analyze data pertaining to microbes.
- 13. Mystery Architecture: (B/T) Teams will be provided with unknown building materials and on the post. Design, build, and test a structure that demonstrates understanding and proficiency of engineering design principles.
- 14. Optics (T/L) Teams must participate in an activity involving positioning mirrors to direct a laser beam towards a target. Teams must also be tested on their knowledge of geometric and physical optics.

- 15. Potions and Poisons: (L/T) Study the physical & chemical effects of toxic and therapeutic chemical household and environmental toxins and poisons.
- 16. Road Scholar (T) Teams will answer interpretive questions that may use one or more state highway maps, USGS topographic maps, Internet-generated maps, a road atlas or satellite/aerial images.
- 17. Rocks and Minerals (T) Teams will demonstrate their knowledge of rocks and minerals.
- 18. Roller Coaster: (B) Design, Build and test a roller coaster track to guide a vehicle that uses gravitational potential energy only to travel as close to target time.
- 19. Solar System (T) Students will demonstrate an understanding of the properties and evolution of stars especially stars forming regions and supernova remnants and their observation with different portions of the electromagnetic spectrum.
- 20. Thermodynamics (L/T) Students will demonstrate an understanding of the properties of energy and heat and construct a device to insulate heat loss.
- 21. Towers (B) Prior to the competition, teams will design and build a Tower meeting requirements specified in the rules to achieve the highest structural efficiency.
- 22. Wright Stuff (B) Prior to the competition teams design, construct and test free flight rubberpowered monoplanes to achieve maximum time aloft.
- 23. Write It/Do It (L) A technical writing exercise where students write a description of a contraption and other students will attempt to recreate it using only the written description.
- 24. TRIAL EVENT: Duct tape Challenge: Build a structure on the spot using mainly duct tape.
- 25. TRIAL EVENT: TBA.

(Trial events are optional and do apply to team standings however medals may be earned by participants. ALTERNATES MAY COMPETE AT TRIAL EVENTS ONLY- SO RULE)