Science Olympiad Weekly Helpful Hints

Hello Everyone,

From this point forward till Science Olympiad we will be sending out weekly emails to all the teams with hints and interesting articles that we’ve found which might help you prepare for the events. With that being said, we may not send out articles each week for every event, but we will try our best to find things!

Science Olympiad Events:

**Life, Personal & Social Science**

 **Both B & C**

* Anatomy & Physiology
	+ [General](http://www.biology-questions-and-answers.com/physiology-review.html) Anatomy & Physiology
	+ [Virtual](http://www.indiana.edu/~anat215/virtuallab/index.html) Anatomy Lab
	+ [Get](https://www.getbodysmart.com) Body Smart
	+ [Anatomy](http://www.wiley.com/college/apcentral/anatomydrill/) Drill & Practice
	+ [Virtual](http://glencoe.mheducation.com/sites/dl/free/0078757134/383958/BL_21.html) Lab
	+ [Medical](http://maexamhelp.com/a__p_lecture_notes.htm) Assistant Exam Help
	+ [Anatomy](http://academic.pgcc.edu/~aimholtz/AandP/ANPmain.html) & Physiology
	+ [Anatomy](http://rmoskowitz.tripod.com/ap1_lecture_notes.htm) & Physiology Lecture Notes
	+ [Lecture](http://www.mc3cb.com/ap_lecture.html) Notes 2
* Ecology
	+ [Ecology](https://store.soinc.org/us/Ecology-Both-B-_-C-Div-CD/p/90364) Learning CD
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_ECOLOGY_0.pptx) PowerPoint
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_ECOLOGY_INTERNETresources_0.pdf) Internet Resources
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_ECOLOGY_P1_GENERAL_PRINCIPLES.pdf) General Principles
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_ECOLOGY_P2-TERRESTRIAL_ECOSYSTEMS-YR2.pdf) Terrestrial Ecosystems
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_ECOLOGY_P3-HUMAN_IMPACT.pdf) Human Impact
* Herpetology
	+ [Official](https://www.soinc.org/sites/default/files/uploaded_files/2018_Official_Herpetology_List.pdf) Herpetology List
	+ [Field](https://store.soinc.org/us/Field-Guides/c/2753/Amphibians-and-Reptiles-Eastern/p/90122) Guide Eastern
	+ [Field](https://store.soinc.org/us/Field-Guides/c/2753/Amphibians-and-Reptiles-Western/p/90123) Guide Western
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_HERPETOLOGY_0.pptx) PowerPoint
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_HERPETOLOGY_INTERNETresources_0.pdf) Internet Resources
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_HERPETOLOGY_BINDER_HANDOUT_0.pdf) Binder Handout
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_HERPETOLOGY-TRAINING_HANDOUT.pdf) Training Handout
* Microbe Mission
	+ [Digital](https://store.soinc.org/us/Digital-Test-Packets/c/2723) Test Packets
	+ [Microbial](https://www.soinc.org/sites/default/files/uploaded_files/2018_Official_Microbe_Mission_List.pdf) Disease List
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/2018_MICROBE_MISSION_0.pptx) PowerPoint
	+ [Microscopy](https://www.soinc.org/sites/default/files/uploaded_files/2018_MICROSCOPY_REVIEW_0.pdf) Review
	+ [Training](https://www.soinc.org/sites/default/files/uploaded_files/2018_MICROBE_GENERAL_TrainingHandout.pdf) Handouts
* Disease Detectives
	+ [Principles](http://www.montefiore.ulg.ac.be/~kvansteen/GeneticEpi-PublicHealth/ac0910/Chapter3/BackgroundReading_CH3b_BonitaGEpiBook.pdf) of Epidemiology
	+ [Ecology](http://dieoff.org/page165.htm) of Increasing Disease
	+ [Foodborne](https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/UCM187482.pdf) Illnesses Chart
	+ [Sample](https://www.soinc.org/sites/default/files/uploaded_files/4-17_DISEASE_SAMPLE_1.pdf) Test
	+ [Training](https://www.soinc.org/sites/default/files/uploaded_files/16_DISEASE_HANDOUT.pdf) Handout

**Earth & Space Science**

 **Both B & C**

* Dynamic Planet
	+ [Test](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Packets
	+ [2017](https://www.soinc.org/sites/default/files/uploaded_files/DYNAMIC_PLANET_2017_ONLINE_LIBRARY.pdf) Links for Dynamic Planet
* Rocks & Minerals
	+ [Official](https://www.soinc.org/sites/default/files/uploaded_files/2018_Official_Science_Olympiad_Rocks_Mineral_List_0.pdf) Rocks & Minerals List
	+ [Rocks](https://www.soinc.org/sites/default/files/uploaded_files/RocksAndReferenceTablesRM2013.pdf) and Reference Table
	+ [Rock](https://www.soinc.org/sites/default/files/uploaded_files/RockCycleQuizRM2013.pdf) Cycle Quiz
	+ [Minerals](https://www.soinc.org/sites/default/files/uploaded_files/MineralOresGemsSheetRM2013.pdf) Ores and Gem Sheets
	+ [Igneous](https://www.soinc.org/sites/default/files/uploaded_files/IgneousQuizzesRM2013.pdf) Quizzes
	+ [Igneous](https://www.soinc.org/sites/default/files/uploaded_files/IgneousFormationsRM2013.pdf) Formations
	+ [Mineral](https://www.soinc.org/sites/default/files/uploaded_files/MineralIDChartRM2013.pdf) ID Chart
	+ [Mineral](https://www.soinc.org/sites/default/files/uploaded_files/MineralFlowChartRM2013.pdf) Flowchart
	+ [Mineral](http://www.minerals.net) and Gemstone Kingdom
	+ [Mineralogy](https://www.mindat.org) Database
	+ [USGS](https://education.usgs.gov/secondary.html#rocks) Secondary Education Resource Site
	+ [GeoMan’s](http://jersey.uoregon.edu/~mstrick/MinRockID/MinRockIndex.html) Minerals and Rock Charts
	+ [GeoMan’s](http://jersey.uoregon.edu/~mstrick/AskGeoMan/geoQuerry13.html) Answer Page

 **B Events**

* Meteorology
	+ [Meteorology](https://www.soinc.org/sites/default/files/uploaded_files/metr2018_resourceListForSoincWebPage.20171027.pdf) Link List
	+ [Sample](https://www.soinc.org/sites/default/files/uploaded_files/sample_meteorologyv2.pdf) Problems
* Road Scholar
	+ [Test](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Packets
	+ [Site](https://www.soinc.org/sites/default/files/uploaded_files/2015ROADSCHOLARSRESOURCELINKS.pdf) Links
	+ [Math](https://www.soinc.org/sites/default/files/uploaded_files/RS18_MathinRoadScholar.pdf) in Road Scholar
	+ [Sample](https://www.soinc.org/sites/default/files/uploaded_files/Student_Map.pdf) Student Design Exercise
	+ [Course](https://www.soinc.org/sites/default/files/uploaded_files/Road_Scholar_Course_Outline.pdf) Outline
	+ [Contest](https://www.soinc.org/sites/default/files/uploaded_files/Road_Scholar_Contest_Prep_Info.pdf) Preparation
	+ [Competition](https://www.soinc.org/sites/default/files/uploaded_files/Road_Scholar_Comp_Study_Guide.pdf) Study Guide
	+ [Competition](https://www.soinc.org/sites/default/files/uploaded_files/Road_Scholar_Study_Guide_Answers.pdf) Study Guide (Answers)
	+ [SARBC](http://www.sarbc.org/sarbc/m%26c.html) Maps
	+ [SARBC](http://www.sarbc.org/sarbc/m%26c.html) Compass
* Solar System
	+ [Sample](https://www.soinc.org/sites/default/files/uploaded_files/082317_SS1718_ExampleExam.pdf) Test
	+ [Annotated](https://www.soinc.org/sites/default/files/uploaded_files/082317_SS1718_AnnotatedExampleExam.pdf) Sample Test
	+ [Link](https://www.soinc.org/sites/default/files/uploaded_files/SolarSystem1718AnnotatedLinks.pdf) List
	+ [Webinar](http://chandra.harvard.edu/edu/olympiad.html)s

 **C Events**

* Astronomy
	+ [Practice](https://www.soinc.org/sites/default/files/uploaded_files/AstronomyCNationalCathedral2016Test.pdf) Test
	+ [Answer](https://www.soinc.org/sites/default/files/uploaded_files/AstronomyCNationalCathedral2016Key.pdf) Key
	+ [NASA](https://www.nasa.gov/mission_pages/hubble/science/star-v1.html)
	+ [AAS](https://www.nasa.gov/mission_pages/hubble/science/star-v1.html)
	+ [Exoplanets](https://www.nasa.gov/mission_pages/hubble/science/star-v1.html)
	+ [Robotic](http://mo-www.harvard.edu/MicroObservatory/) Telescope Network
	+ [Amazing](http://amazingspace.org/) Space
	+ [Astronomy](http://www.astronomytoday.com/) Today
	+ [Solar](http://space.jpl.nasa.gov/) System Simulator
	+ [Welcome](https://pds.jpl.nasa.gov/planets/) to the Planets
	+ [Sky](https://pds.jpl.nasa.gov/planets/) and Telescopes
	+ [Space](http://www.spaceweather.com/) Weather
	+ [Constellations](http://www.astro.wisc.edu/~dolan/constellations/constellations.html)
	+ [Stars](http://www.telescope.org/btl/) and Galaxies
	+ [Astronomical](http://aa.usno.navy.mil/data/index.php) Information
	+ [University](http://casswww.ucsd.edu/archive/public/astroed.html) of California
	+ [Data](http://exoplanets.org/) Explorer
	+ [Exoplanet](https://exoplanets.nasa.gov/) Exploration
* Remote Sensing
	+ [Remote](http://www.noaa.gov/resource-collections/2018-science-olympiad-remote-sensing) Sensing Resources from NOAA
	+ [Test](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Packets
	+ [Earth](https://www.nasa.gov/audience/foreducators/Redirect_Spacelink.html) from Space
	+ [Geogratis](http://rst.gsfc.nasa.gov)
	+ [Mars](https://mars.jpl.nasa.gov/mer/gallery/all/spirit.html) Exploration Rover Mission
	+ [NASA](http://rst.gsfc.nasa.gov) Remote Sensing Tutorial
	+ [Obtaining](https://radar.jpl.nasa.gov) Radar Images
	+ [Remote](http://pages.csam.montclair.edu/~chopping/sciors/) Sensing of the Cryosphere
	+ [Satellite](http://octopus.gma.org/surfing/summary.html) Imagery for the Classroom
	+ [The](http://ww2010.atmos.uiuc.edu/%28Gh%29/guides/rs/home.rxml) Online Guides

**Physical Science & Chemistry**

 **Both B & C**

* Hovercraft
	+ [Track](https://www.soinc.org/sites/default/files/uploaded_files/Hovercraft_track_setup_examples_160222.pdf) Setup
* Optics
	+ [Resource](http://optics.creol.ucf.edu) Page
	+ [Lasers](https://www.soinc.org/lasers)
	+ [Test](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Packets
	+ [Optics](https://m.youtube.com/watch?v=E9AvjUi6ciI) MINI
	+ [Laser](https://www.soinc.org/sites/default/files/uploaded_files/SO_Optics_Laser_Shoot_Surface_161024.pdf) Shoot Surface Instructions
	+ [Optics](https://www.soinc.org/sites/default/files/uploaded_files/SO_Optics_LSS_Tips_and_Tricks_161024.pdf) Tips & Tricks
	+ [Make](https://www.soinc.org/sites/default/files/uploaded_files/SO_AC_powered_laser_pointer_161024.pdf)-Your-Own Laser
	+ [Wikipedia](https://en.m.wikipedia.org/wiki/Optics)
	+ [Online](http://www.lightandmatter.com/lm/) Physics Textbook
	+ [BYU](http://optics.byu.edu/textbook.aspx) Optics Book
	+ [Optics](https://www.soinc.org/sites/default/files/OPTICS-Reflection.pdf) Handout on Reflection
	+ [Optics](https://www.soinc.org/sites/default/files/OPTICS%20Lenses.pdf) Handout on Lenses
	+ [Optics](https://www.soinc.org/sites/default/files/Optics%20Multiple%20Lenses.pdf) Handout on Multiple Lenses
* Thermodynamics
	+ [Heat](https://www.soinc.org/sites/default/files/example%20keep%20the%20heat%20-%20thermodynamics%20plots%20111008.pdf) Plots
	+ [Wikipedia](https://en.m.wikipedia.org/wiki/Thermodynamics) Page
	+ [Engineering](https://www.ohio.edu/mechanical/thermo/) Thermodynamics
	+ [Science](https://www.ohio.edu/mechanical/thermo/) world

 **B Events**

* Crime Busters
	+ [Plastic](https://plastics.americanchemistry.com/Education-Resources/Plastics-101/) 101
	+ [Chemical](https://www.chemheritage.org/historical-biographies) Heritage Foundation
	+ [Macrogalleria](http://www.pslc.ws/macrog/index.htm)
	+ [The](http://www.pslc.ws/macrog/exp/rubber/menu.htm) Story of Rubber
* Potions & Poisons
	+ [Wards](https://wardsci.com/store/content/externalContentPage.jsp?path=/www.wardsci.com/en_US/custom_kits_science_olympiad.jsp) Science

 **C Events**

* Chemistry Lab
	+ [Basic](https://www.chemedx.org/JCEDLib/QBank/collection/ConcepTests/) Science Lab Techniques
	+ [Build](http://www.imagesco.com/articles/geiger/build_your_own_geiger_counter.html) Your Own Geiger Counter
	+ [Chemistry](http://dwb.unl.edu/Chemistry/MicroScale/MScale00.html) Resources for Secondary Education
	+ [Chemistry](http://www5.csudh.edu/oliver/demos/index.htm) Demonstrations
	+ [Concept](https://www.chemedx.org/JCEDLib/QBank/collection/ConcepTests/) Tests
	+ [Frank](http://www.sciencegems.com/physical3.html#17) Potter’s Science Gems
	+ [Geiger](http://www.nuc.berkeley.edu/news/Sci_teachers_workshop/Geiger/geiger.htm) Counter Experiment
	+ [General](http://antoine.frostburg.edu/chem/senese/101/index.shtml) Chemistry
	+ [High](https://www.cdc.gov/niosh/npg/npgdname.html) School Hub
	+ [Microscale](http://www.chemistry.mcmaster.ca/~chem2o6/labmanual/microscale/complete.html) Lab Techniques
	+ [Microscale](http://dwb.unl.edu/Chemistry/MicroScale/MScale00.html) Labs
	+ [Pocket](https://www.cdc.gov/niosh/npg/npgdname.html) Guide to Chemical Hazards
	+ [Interactive](http://library.thinkquest.org/3659/?tqskip1=1&tqtime=0112) Guide to Chemistry
* Materials Science
	+ [Test](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Packets
* Forensics
	+ [Flame](https://www.soinc.org/sites/default/files/uploaded_files/flametest.pdf) Test
	+ [Forensics](https://www.soinc.org/sites/default/files/uploaded_files/Forensics09Scene.pdf) Test Scene

**Technology & Engineering**

**Both B & C**

* Towers
	+ [Towers](https://www.soinc.org/sites/default/files/uploaded_files/Towers2018_TestBase_v1.pdf) Test Base
	+ [Towers](https://www.soinc.org/sites/default/files/uploaded_files/Towers_2018_Blocks_Sticks_v2.pdf) Blocks and Sticks
	+ [Ring](https://www.soinc.org/sites/default/files/uploaded_files/Towers_2018_Ring_Gauge_v2.pdf) Gauge
	+ [Side](https://www.soinc.org/sites/default/files/uploaded_files/Towers_2018_Tower_Side_View_v2.pdf) View
	+ [Top](https://www.soinc.org/sites/default/files/uploaded_files/Towers_2018_Tower_Top_View_v1.pdf) View

 **B Events**

* Battery Buggy
	+ [Battery](https://www.soinc.org/sites/default/files/uploaded_files/BatteryBuggy2018TrackV2.pdf) Buggy 2018 Track Diagram
* Roller Coaster
	+ [Official](https://www.soinc.org/events/rules-clarifications) Rules/Clarification
* Wright Stuff
	+ [Construction](https://www.soinc.org/sites/default/files/uploaded_files/ScienceOlympiad5.0.pdf) Tips
	+ [Minimizing](https://www.soinc.org/sites/default/files/uploaded_files/glueweight.pdf) weight while maximizing strength

 **C Events**

* Helicopters
	+ [Helicopter](https://www.soinc.org/sites/default/files/uploaded_files/Helicopters2018DiagramV2.pdf) Diagram
	+ [Gluing](https://www.soinc.org/sites/default/files/uploaded_files/glueweight.pdf) Tips
	+ [How](https://m.youtube.com/watch?v=y8YL3kYLTVk) to Bend a Wire
* Mission Possible
	+ [Simple](https://www.soinc.org/sites/default/files/HowToBuildSOMeasureCube.pdf) Measuring Box
	+ [Science](https://scioly.org/wiki/index.php/Mission_Possible_B) Olympiad Student Center WIKI
	+ [Wikipedia](https://en.m.wikipedia.org/wiki/Rube_Goldberg_machine) Site on Rube Goldberg Machines
	+ [Khan](https://www.khanacademy.org/science/physics) Academy Tutorials on Physics
* Mousetrap Vehicle
	+ [2018](https://www.soinc.org/sites/default/files/uploaded_files/MousetrapVehicle2018TrackV2.pdf) Mousetrap Vehicle Track Diagram
	+ [Science](https://scioly.org/wiki/index.php/Mousetrap_Vehicle) Olympiad Student Center WIKI
	+ [2010](https://www.soinc.org/sites/default/files/uploaded_files/Mousetrap%20Vehicle%20v3.pps) Training PowerPoint
	+ [Simple](https://www.soinc.org/sites/default/files/HowToBuildSOMeasureCube.pdf) Measuring Box

**Inquiry & Nature of Science**

 **Both B & C**

* Experimental Design
	+ [Scoring](https://www.soinc.org/sites/default/files/uploaded_files/ExDesChecklist17Final.pdf) Rubric
	+ [Digital](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Test Packets
	+ [Experimental](https://www.soinc.org/sites/default/files/uploaded_files/EXDESSCOREEXPLANATION%28Word%29v2.pdf) Design Scoring Explanation
	+ [Science](https://scioly.org/wiki/index.php/Experimental_Design) Olympiad Student Center WIKI
	+ [The](http://www.liutaiomottola.com/myth/expdesig.html) Basics of Experimental Design
* Write it Do It
	+ [2017](https://www.soinc.org/sites/default/files/uploaded_files/WIDI%202016-17.ppt) Summer Institute Powerpoint
	+ [SciOly](https://scioly.org/wiki/index.php/Write_It_Do_It).org Student WIKI Page

 **B Events**

* Fast Facts
	+ [Digital](https://store.soinc.org/us/Test-Packet-2018-Division-B/p/90649) Test Packets
	+ [The](https://www.thesciencedictionary.com) Science Dictionary
* Mystery Architecture
	+ [SciOly](https://scioly.org/wiki/index.php/Mystery_Architecture).org Student WIKI Page

 **C Events**

* Fermi Questions
	+ [Digital](https://store.soinc.org/us/Digital-Test-Packets/c/2723?resetallfilter=1) Test Packets
	+ [2018](https://www.soinc.org/scoresheets) Scoresheets and Team Checklist
	+ [2012](https://www.soinc.org/sites/default/files/FermiQuestionsHandout.doc) Training Handout
	+ [2012](https://www.soinc.org/sites/default/files/2011-12Fermi.pptx) Training PowerPoint
	+ [Fermi](https://en.m.wikipedia.org/wiki/Fermi_problem) Problems
	+ [Student](https://scioly.org/wiki/index.php/Fermi_Questions) Center on WIKI
	+ [University](http://www.physics.umd.edu/perg/fermi/fermi.htm) of Maryland
* Game On
	+ [Game](https://www.soinc.org/sites/default/files/uploaded_files/Game_On_Game_types_2018.pdf) on Types
	+ [Game](https://www.soinc.org/sites/default/files/uploaded_files/Game_On_Rubric_17_18.pdf) on Rubric
	+ [Game](https://www.soinc.org/sites/default/files/uploaded_files/Game_On_Rubric_17_18_Explained.pdf) on Rubric Explained
	+ [PowerPoint](https://www.soinc.org/sites/default/files/uploaded_files/Game_On_17_18_presentation.pptx)
	+ [Computer](https://m.youtube.com/watch?v=QvyTEx1wyOY) Science is Changing Everything
	+ [What](https://m.youtube.com/watch?index=21&list=PLzdnOPI1iJNfpD8i4Sx7U0y2MccnrNZuP&v=nKIu9yen5nc) most Schools Don’t Teach
	+ [MIT](https://scratch.mit.edu) Scratch Website

**Competition Update**

* [Team Qualification and Home School Policy](https://www.soinc.org/team-qualification-and-home-school-policy)
* [Frequently Asked Questions](https://www.soinc.org/events/frequently-asked-questions)
* [FAQs and Rules Changes](https://www.soinc.org/faqs-rules-changes)

**T- Bird House Cup Update**

* [Science Olympiad Official Code of Ethics & General Rules](https://www.soinc.org/code-ethics-general-rules)
* T-Bird House Cup Point Opportunities (Attached to Email)
* T-Bird House Cup Teams (Attached to Email)
* T-Bird House Cup Standings will be released in every email starting December 11.

Thank you for your participation!

Regards,

The COSE Team at SUU