

From Steam Engines to Stars

Space Exploration Educators Conference
Space Center Houston – Houston, Texas

February 2, 2012

Stars At Yerkes

Some of the activities presented today are part of the education outreach site from the SOFIA mission. SOFIA is the Stratospheric Observatory for Infrared Astronomy. Full details regarding the mission can be found at:

<http://www.sofia.usra.edu/>

Click on “Active Astronomy” within the Educational Activities page to find the complete set of lessons including downloadable Word documents which you can modify. Part of the SOFIA mission will involve opportunities for teachers to participate in research with astronomers and fly on the modified Boeing 747SP SOFIA aircraft. If you are interested, be sure to sign up for SOFIA updates via their site.



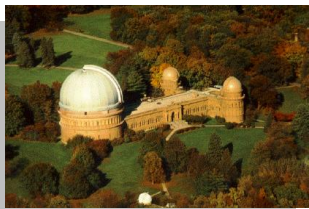
All handouts from this session are found at the Stars at Yerkes site in the SEEC news post.

https://sites.google.com/a/starsatyerkes.net/arcs/news/_draft_post-2#edit

For additional resources, visit us at:
www.starsatyerkes.net

Find us on Facebook at:
www.facebook.com/starsatyerkes

Yerkes Observatory, Williams Bay, Wisconsin
<http://astro.uchicago.edu/yerkes/>



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<https://sites.google.com/a/troygapps.org/ms-corp-adventures-in-science/>

Reference List and Useful Web Links

Cool Cosmos Infrared Astronomy

http://coolcosmos.ipac.caltech.edu/cosmic_classroom/ir_tutorial/

“Infrared: More Than Your Eyes Can See”.

(see a segment of this on YouTube) <http://www.youtube.com/watch?v=2--0q0XIQJ0>

NASA Spitzer Space Telescope site

<http://www.spitzer.caltech.edu/>

The Annenberg/CPB Math and Science Project Teachers’ Lab – The Science of Light

<http://www.learner.org/teacherslab/science/light/color/spectra/index.html>

Newton’s Apple – Infrared Light lesson ideas

<http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/newton/infrared.html>

Liquid Crystal IR Detector

http://www.exploratorium.edu/spectra_from_space/IR_activity/index.html

Amazing Space – Star Light Star Bright interactive light models

<http://amazing-space.stsci.edu/resources/explorations/light/index.html>

Why Files - Map of the Stars Birth of a Star and Infrared Astronomy

<http://whyfiles.org/shorties/155starform/>

NOVA Seeing the Invisible - infrared experiments

http://www.pbs.org/wgbh/nova/teachers/activities/2311_einstein_01.html

NASA Space Based Astronomy Educators Guide

www.nasa.gov/pdf/58277main_Space.Based.Astronomy.pdf

Pop Can “Hero Engine” Model - NASA

http://www.nasa.gov/pdf/153414main_Rockets_Pop_Can_Hero.pdf

Although Stars at Yerkes does not endorse any particular store or vendor, these links are listed here to assist teachers in finding materials used in S@Y workshops.

Sources for Leslie’s Cube:

<http://www.thesciencefair.com/> (search for “Leslie’s Cube”)

<http://www.sciencefirst.com/Leslie-s-Cube-Absorbtion-Radiation-Box.html>

<http://wardsci.com/product.asp?pn=IG0003289>

Sources for the steam “putt putt” boats:

<http://www.puttputtboats.com/classroom.htm>

<http://store.jalts.com/puttputtboats.html>

<http://www.flinnsci.com/store/Scripts/prodView.asp?idproduct=16559&noList=1>

Source for IR Camera Filters:

http://www.amazon.com/gp/product/B003TY2UQG/ref=oss_product

PVC pipe for IR Camera Filter:

Home Depot Model # C4801-7 Store SKU # 189855