

Volume II: Data – Resource List

Song – To the tune of The Sound of Science, with apologies to Simon & Garfunkel
Hello Summer, my old friend ---
It's time to work on you again.
Yes, Summer Reading's softly creeping,
It's with me even when I'm sleeping!
And the music,
That has sprung up in my brain
Still remains.
It's called the Sound of Science.

BoomWhackers

Tuned Percussion Tubes www.boomwhackers.com

Three Must-Have Books:

BrainJuice: Science, Fresh Squeezed!: 41 Thirst-For-Knowledge-Q;'[-p0000000uenching poems by Carol Diggory Shields *** A collection of poems and song parodies on such scientific topics as the water table, the food chain, volcanoes, fossils, the periodic table, inertia, and more.

The Day-Glo Brothers: The True Story of Bob and Joe Switzer's Bright Ideas and Brand-New Colors by Chris Barton

Blockhead: The Life of Fibonnaci by Joseph D'Aganese

Book to go with Starry Night

'Twas the Night before Thanksgiving by Dav Pilkey

Books for a Science Crafts “Crafternoon”

Gizmos & Gadgets: Creating Science Contraptions that Work (& Knowing Why) by Jill Frankel Hauser

Science Crafts for Kids: 50 Fantastic Things to Craft & Create by Gwen Diehn and Terry Krautwurst

Miscellaneous Books:

The Golden Section – Nature's Greatest Secret by Scott Olsen

Swirl by Swirl: Spirals in Nature by Joyce Sidman

The Simpsons and Their Mathematical Secrets by Simon Singh

The Book of Totally Irresponsible Science: 64 Daring Experiments for Young Scientists by Sean Connolly

Juvenile Fiction Chapter Books about Science Fairs/Experiments

Alien in my Pocket #1: Blast Off by Nate Ball

Alien in my Pocket #2: The Science Unfair by Nate Ball

Alien in my Pocket #3: Radio Active by Nate Ball

Frank Einstein and the Antimatter Motor by Jon Szieszka
I was a Third Grade Science Project by Mary Jane Auch
Nick and Tesla's Robot Army Rampage: A Mystery with Hoverbots, Bristle Bots, and Other Robots You Can Build Yourself by Bob Pflugfelder
Nick and Tesla's High-Voltage Danger Lab: A Mystery with Electromagnets, Burglar Alarms, and Other Gadgets You Can Build Yourself by Bob Pflugfelder
Nick and Tesla's Secret Agent Gadget Battle by Bob Pflugfelder (Series suggested by Cindy Hittle who attended the Dodge City workshop)

The Elements: A Visual Exploration of Every Known Atom in the Universe by Theodore Gray
**** Teens/Adults. A fascinating book for kids to look at in combination with a copy of the Periodic Table of the Elements – they could spend hours finding out fascinating details about individual elements. Full color. ****

Nibbling on Einstein's Brain: The Good, the Bad and the Bogus in Science by Diane Swanson
(Suggested by Suprena Cheshier, who attended the workshop in Iola)

Book suggestions from Rachel Carnes of the Manhattan Library:

The Graphic Science collection from Graphic Library, an imprint of Capstone. Lots of science topics explained by Max Axiom, Super-Scientist

<http://www.capstonepub.com/product/9781429647748>

Snowball Launchers, Giant-Pumpkin Growers, and Other Cool Contraptions by Tom Fox

<http://www.amazon.com/gp/product/0806955155>

It looks like this one is out of print, but still available new as a remainder in a few places.

From Susan Mueller, who attended the Topeka workshop:

Here is the link to the state 4-H web site. Under resources, there is a line for STEM. I found they even have traveling trunks of information on STEM topics. I have already put in a request for the one on robotics. Hope this might be helpful for others.

<http://www.kansas4h.org/>

From Patti Poe, NEKLS:

This video would be fun to share during a summer reading program or event. I think kids would love it! Thanks to Lissa Staley who shared it on FB

It would be great if you had a local HS chemistry teacher or college chemistry student who could join in and explain some of what was happening to the kids.

<https://www.youtube.com/watch?v=0KFAoqODZok>

Here is a great idea I thought. Very cute craft. (Just requires an oven for the bead-baking.)

<https://www.facebook.com/photo.php?fbid=10151717074537360&set=a.489918072359.275277.670212359&type=1>

Rainbow

The concept of the Rainbow could be used for one week of programming or carried on throughout the duration of SRP as a weekly event, suitable for all three levels. For teens, see the booktalk on the YA book *Rainbow Boys* by Alex Sanchez – a title often challenged – it calls for 8 audience volunteers.

If you were doing a different color every week, the program below would be for your Violet week.

50 Shades of Violet (This can also be called Purplicious . . .)

Based on the 2014 Pantone Color of the Year: Radiant Orchid

<http://www.pantone.com/pages/index.aspx?pg=21129>

Pantone books:

Pantone: Colors (Board book) Author: Pantone (suggested by Cindy Hittle who attended the Dodge City workshop)

Pantone: The Twentieth Century in Color by Leatrice Eiseman

This theme can be done on all three levels. Below are just a few of the books that could be the basis for a storytime or teen event:

- *Harold and the Purple Crayon* by Crockett Johnson
- I Never Saw a Purple Cow (poem)
- *Lilly's Purple Plastic Purse* by Kevin Henkes
- *Purple* by Sarah L. Schuette
- *Purplicious* by Victoria Kann
- *Purple Little Bird* by Greg Foley
- *Sally and the Purple Socks* by Lisze Bechtold
- *Captain Underpants & the Preposterous Plight of the Purple Potty People* by Dav Pilkey
- *The Amethyst Ring* by Scott O'Dell
- *The Mystery of the Purple Pool* by Gertrude Chandler Warner
- *The Color Purple* by Alice Walker
- *Riders of the Purple Sage* by Zane Grey

Activities:

- Purple Show & Tell
- Purple Fashion show
- Purple Food
- Display of books with purple covers
- Lavender Plant/Fragrance/Farm
- African Violets or Orchids – invite a speaker from a local nursery
- Discussion on how Color of the Year is chosen; invite a local printer/graphic artist/regular artist; ask them to talk about Pantone colors
- Crafts (Pick a favorite but use purple paper, crayons, markers, paint, yarn etc.)
- Book Tie-In: <http://www.crayola.com/crafts/inside-a-purple-purse-craft/>
- Purple finger paint made in a zip-lock bag using shaving cream and equal drops of blue and red food coloring (mixing two primary colors to create a secondary color)
- Write a haiku about purple (if you use the words “Radiant Orchid” you only need 12 more syllables!)

Interesting Factoids

Great Bend's Nobel Prize Winner

Jack Kilby was awarded the Nobel Prize in Physics in 2000. He took part in the realization of the first integrated circuit. Integrated circuits are the genesis of nearly every electronic product used today. He was also the inventor of the handheld calculator and the thermal printer. He grew up in Great Bend and graduated from Great Bend High School.

Kansas Astronauts

In the mid-1960s, two Kansans, Ron Evans and Joe Engle joined the NASA astronaut program. Evans was born in St. Francis and spent part of his youth in Topeka, graduating from Highland Park High School. Engle was a native of Abilene and grew up in nearby Chapman. He achieved his pilot-astronaut rating in 1965. His test flight on the X-15 to a height of 280,000 feet earned him the distinction of being the youngest Air Force officer to wear astronaut's wings. Although they weren't acquainted at the time, both Evans and Engle graduated from the University of Kansas in the same engineering class. Both men were also part of the back-up crew for the Apollo 14 moon flight.

Ron Evans was named to the crew of Apollo 17, the last moon landing flight in the Apollo program. He piloted the command module that orbited the moon while the other crewmembers landed on its surface. Engle was to have been named to that crew but he was "bumped" by scientist Dr. Harrison Schmitt. Engle, however, was soon assigned to work on the development of the space shuttle. He piloted the shuttle in two approach and landing tests in 1977 and was part of the back-up crew for the shuttle's initial voyage. He and Captain Richard Truly manned the crew for the shuttle's second flight.

Lise Meitner

Lise Meitner faced two obstacles in her career as a nuclear physicist: she was Jewish and she was a woman. But Lise was not to be deterred. Her work was the most important thing in her life. When the Nazis came to power, Lise and her partner were making break-through discoveries in how the nucleus of the atom could be split. But, because she was Jewish, her contributions to the discovery of nuclear fission were kept secret. After the war, when her partner, Otto Hahn, was awarded the Nobel Prize, she was not mentioned. For fifty years she was denied her rightful honor as the co-discoverer of nuclear fission. But she did get the last laugh, her own element (Meitnerium Mt 109) – a far less fleeting honor than a mere Nobel.

Ben Franklin

As he reached old age, Ben Franklin found himself becoming both near- and far-sighted. Outdoors, he needed a set of long distance lenses to see where he was going, but when he examined something close-up, he would need to swap out his outdoor glasses for a pair with different lenses. It quickly became a frustrating ritual, so Franklin simply cut the two glasses in half and joined them together in one frame. With the new glasses, Franklin could see long distances by peering through the lens at the top of the glasses. To read, he would simply peer through the bottom of the lens. Amazingly, both far-sighted and near-sighted glasses had been around for centuries before Franklin's birth, but nobody had thought to join them together.

Riddles

True or False: The formula for determining the circumference of a circle is πR^2 .
That's technically true. However, pie are round and cornbread are square.

What is the radiation fraternity?
Alpha Beta Gamma

Where do you put dirty dishes?
In the Zinc.

Where does bad light go?
To a prism.

What do you do with a dead chemist?
Barium.

A neutron walks into a bar and asks, "How much for a drink?" The bartender replies, "For you, no charge."

What's a nuclear physicist's favorite meal?
Fission chips.

Who solves mysteries involving electricity?
Sherlock Ohms

Watson: Holmes, what kind of rock is this?
Sherlock Holmes: Why that's sedimentary, my dear Watson.

What is Iron's favorite ride at the carnival?
The Ferris Wheel

A photo walks into a luggage store. The clerk asks him "Are you interesting in buying a suitcase?" And the photon says "No, I'm traveling light!"

Can you name a book about Geometry?
The Life of Pi

What's a tornado's favorite game?
Twister!

If an orchestra plays in a thunderstorm, who is most likely to get hit by lightning?
The conductor.

Rainbow Boys Booktalk

Who knows what an Acronym is?

It's the name for a word made from the first letters of each word in a series of words

Such as SCUBA (Self-Contained Underwater Breathing Apparatus)

[Ask for 8 volunteers from the audience]

[Pass out 7 letter pages plus one page that says BOYS

Letters have R O Y G B I V on one side, and R A I N B O W on the other.

BOYS is blank on one side. To start, the ROYGIV letters and the blank side of BOYS are facing the audience]

[Read acronym] ROYGBIV

This stands for the sequence of hues in the visible spectrum.

These letters also stand for other words:

R – Red, Relationships, Recognition, Reluctance, Romance

O – Orange, Outsider, Organizing, Offensive Language, Out

Y – Yellow, Youth, Yearbook, Yelling, Yearning

G—Green, Girls, Girlfriends, Grades, Groups, Gay

B – Blue, Boys, Boyfriends, Basketball, Braces, Baseball Cap, Bullies

I – Indigo, Immaturity, Inexperience, Issues, Identity, Independence, Intoxication, Image

V – Violet, Virginity, Violence, Voice

ROYGBIV is an acronym for the sequence of hues in the visible spectrum. Who knows another name for the Visible Spectrum? RAINBOW!

It's also part of the name of a frequently challenged YA book:

[Turn over letters and BOYS] *RAINBOW BOYS* by Alex Sanchez

For a description of a librarian's struggle over deciding whether to purchase this book for her library, read the chapter called "If I Don't Buy It, They Won't Come" by Peggy Kaney, in the book *True Stories of Censorship Battles in America's Libraries* edited by Valerie Nye and Kathy Barco, ALA Editions 2012 <https://www.alastore.ala.org/detail.aspx?ID=3524>

Periodic Table of World Literature Laminated Poster

http://www.thelibrarystore.com/product/01-02184/library_posters_and_banners

Periodic Table of American Prose

<http://www.amazon.com/Periodic-American-Educational-Laminated-Literature/dp/B002ET7JYU>