After School Science

Fun and Rewarding!
Two Different Types of After-School Science Opportunities

- Meet Monthly/Semi-monthly/Summer
  - Young Astronauts
  - Science Club
  - Robotics
  - Garden Club

- Special Occasion Clubs
  - 5th Graders 3 Day After-School Science Camp
  - Super Saturday Science

Yes, all clubs provided snacks!
Young Astronauts Program

*Established by the White House in 1984 to promote greater proficiency and interest in science, math and technology using space as the underlying theme. The Young Astronaut Program is a national organization that helps bring science and technology alive for young children within the framework of the space program.*

**Teachers in grades 3-5 nominate 1 boy and 1 girl**

- Interest
- Teacher recommendation
- Conduct grades
- Written application

For YAP files email: dabs.hollimon@sa-ssc.org
Activities

- Young Astronauts Program
- Ralph Young, Principal Laser Scientist
- Tomato Seeds from the Space Shuttle
- Ham Radio with the Mir
- Physiology Center
- NASA-Johnson Space Center
- Hanger 9
- Egg Drop
After-School Science Club

- Designed for 5th graders only
- Some teachers gave extra credit for attendance
- Activities were hands-on unless there was a guest speaker
- Flexibility in the activities that were chosen
- Activities were selected from a number of sources including:
NEW! Check out the monthly newsletter **NSTA’s Book Beat**!

Recent Releases | Science Store | Award Winners
Behind the Books | NSTA Press Extras

Classroom-ready activities, hands-on approaches to inquiry, relevant professional development, the latest scientific education news and research, assessment, standards-based instruction—NSTA Press® develops and produces the high-quality resources that science educators need, in all disciplines. Download a free catalog or sample free PDFs of NSTA Press chapters at the Science Store.

Explore some of our top sellers!

- Uncovering Student Ideas in Science
- Picture-Perfect Science Lessons
- Force & Motion
- Stop Faking It! Electricity & Magnetism
- Stop Faking It! Air, Water, & Weather
- Chemistry Basics
- Science, Math 5-8
• Outstanding Science Trade Books for Students K–12
• Freebies for Science Teachers
- **Exploratorium Science Snacks**
  These are simple hands-on activities. Each “miniature exhibit” contains a photograph, materials list, instructions, science explanations, and interesting historical bits. Snacks serve as inspiration for any K–12 student, teacher, or science enthusiast looking to personally discover science concepts in an active way.

- **Middle Level Energy Curriculum**
  Produced by Lehigh University’s Environmental Literacy and Inquiry initiative, these standards-aligned curriculum materials use geospatial information technology tools, including geographic information systems (Web GIS or My World GIS) and Google Earth and inquiry-based lab activities, to teach students in grades 5–8 about energy sources (e.g., solar, wind, tidal, hydroelectric, and others), production, and consumption (energy use). The materials include a suggested instructional sequence, student resources, assessments, and teacher support materials.

- **First Living, Dancing Periodic Table of the Elements**
  That famous chart displaying the chemical elements that make up everything on Earth—a fixture on the walls of classrooms and labs—literally comes alive in this new video from the American Chemical Society (ACS). Chemists Can Dance! features scores of chemists wearing symbols representing the elements, kicking up their heels to the tune of an original rap song. It's all part of ACS’s celebration of the International Year of Chemistry. Check out the fun and share the link.
Texas A&M University
http://peer.tamu.edu/
The Veterinary
Black Bag Program:

- Uses students’ natural interest in animals to motivate them and excite them!
- Uses that motivation as a hook to get them interested in learning the required concepts in science...the TEKS!
- Uses that motivation to help them see the “real-world” application of what they learn in their science class!

**Why do we have to learn this??????**

- Stimulates interest in careers in science and cultivate interest in careers in veterinary medicine!
About the Teacher Enrichment Initiatives

The Teacher Enrichment Initiatives (TEI) involve partnerships between UTHSCSA researchers and health professionals and San Antonio area school teachers. All curricula are FREE to download on this website!

The Teacher Enrichment Initiatives consist of:

- K-12 Teacher and UTHSCSA Researcher Collaboration
- Multidisciplinary Health Science Curriculum
- Teacher Professional Development Programs
- Interactive On-line Activities & Simulations for Students

What can the TEI offer to teachers and students?

- Activities that are teacher and researcher approved and free of charge to use
Enrichment Initiatives

The Enrichment Initiatives (TEI) involve partnerships between healthcare professionals and San Antonio area schools. All resources are FREE to download on this website!

The TEI projects consist of:

- Researcher Collaboration
- Science Curriculum
- Research & Simulations for Students

Have you heard of the TEI’s content for teachers and students?

- Mobility
- Nutrition

Read more quotes from

"The responsibility of teaching health content cannot rest solely on PE teachers or Science teachers. Everyone must take a part in this crucial education."

- Middle School Language Arts Teacher

See More Activities

Teacher Resources

- Science Education
- Partnership Award
- NIH Office of Science
Garden Club

Resources

**Bexar County Master Gardener**
- [http://www.bexarcowntymastergardeners.org/](http://www.bexarcowntymastergardeners.org/)
  Master Gardener training sessions are held in spring and fall, with a short, intensive course during the summer for teachers to train with the Junior Master Gardener curriculum.

**Texas Parks and Wildlife**
- [http://www.projectwild.org/GrowingUpWILD.htm](http://www.projectwild.org/GrowingUpWILD.htm)
  - Project WILD
  - Growing up Wild - Ages 3-7
  - School habitat consultants
  - [http://aggie-horticulture.tamu.edu/kindergarden/Child/Cgintro.htm](http://aggie-horticulture.tamu.edu/kindergarden/Child/Cgintro.htm)

**Texas Agricultural Extension Office**
- [http://bexar-tx.tamu.edu/HomeHort/Local Nurseries](http://bexar-tx.tamu.edu/HomeHort/Local Nurseries)

**Boy Scouts**
# Robotics

http://robotics.nasa.gov/edu/matrix.php

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<th>Curriculum</th>
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<td>Robotics Curriculum Clearinghouse</td>
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<td>Squeakland</td>
<td>Trinity Fire-Fighting Robot Contest</td>
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<td>Let younger children try their hand at programming.</td>
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<td>ImagiBotics</td>
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<td>Robotics classroom activities, articles, and interviews at Imagiverse</td>
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<td>Pre-K-12 Engineering</td>
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<td>Standards-aligned engineering activities for grades Pre-K to 12th Grade.</td>
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<td>Make Your Own Rover</td>
<td>FIRST® LEGO® League</td>
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<td>Eleven activities designed to help students learn about robotics.</td>
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<td>Classroom Robotics on the Web</td>
<td>Storming Robots</td>
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<td>Lessons, materials, and rubrics developed in a Texas classroom using RoboLab.</td>
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<td>NASA Student Involvement Program</td>
<td>National Underwater Robotics Competition</td>
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<td>Six competitions for grades K-12 that link students directly with NASA’s exciting missions of exploration and discovery.</td>
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Science Camp

- For ALL 5th graders
- Meet Tuesday, Wednesday, and Thursday the week before TAKS, now STAAR
- Could be Super Science Saturday

or The A-Zs

A- Assembling       Z- Celebrating
Assembling-
Choosing Activities

Respond to the Data

- Know the TEKS and the test specifications
- Work with 5th grade teachers to design the camp
- Look at the data to determine the areas of greatest need
- Teacher recommendations
Activities in a Box

- **Must** be hands-on
- **Must** be different than those used in classroom instruction
- **Must** have complete directions including TEKS and vocabulary
- **Must** be packed in a box
- **Must** include rotation schedule
Mixtures and Solutions

Glossary

**Atom**: The smallest particle of an element. Atoms are the building blocks of matter.

**Catalyst**: A chemical that changes the rate of a reaction.

**Change**: The process of becoming something different.

**Chemical**: A substance used in chemistry.

**Compound**: A substance made of two or more elements that are chemically combined.

**Dilute**: To make a solution less concentrated, usually by adding more liquid.

**Dissolving**: The process of a material becoming incorporated uniformly into a solution, together evenly.

Tools and Measurement

**Purpose**: Review and classify different types of elementary science tools; practice using the science TAKS rulers for measurement.

TEKS-(4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:

- Use scientific tools including calculators, microscopes, cameras, and recorders, computers, hand lenses, thermometers, compasses, balances, hot sticks, timing devices, magnets, and safety goggles;

Use the 10 science TAKS rulers in the activity below.

- About the terms and the activity in no particular order.
Game Shows

Who Wants to be a Millionaire?

-Scientist
-Environmentalist
-Astronomer
-Skeleton

PassWord

-Vocabulary Words

http://www.csun.edu/~vceed002/ref/games/
Welcome to

Who Wants to be a Scientist?
Passports

- Group Students
  - Beginning
  - Daily
- Cover Key Points
- Used for Prize Drawings
  *(Must be filled out!)*
  - Daily
  - Entire Camp
- Serves as Quick Review
- Returned to Homeroom Teacher
Logistics

- Grouped by Class
- Snacks
- Divided into Small Teams
- Teams are Numbered
- Send to Rotations
Parent Volunteers

- Set up Tables
- Pack/unpack Boxes
- Organize Students
- Oversee Snacks, Pencils, Passports
- Take Photos
- Help with Dismissal

Science Camp Volunteers 2011

Directions:
1. Please pull out the boxes for Science Camp from the closet next to the stage.
2. Take each box and unpack it at the location noted on the map.
3. Place each 5th grade teacher's name on the floor at the front of the room. Put out each clipboard for their class.
4. Hand out passports and pencils as the students arrive. On the first day, just hand out blank passports and ask the students to fill in their name. On the other days, please give them their passport.
5. Hand out snacks.

After Camp:
1. Please be responsible and make sure all teaching materials are returned to the correct boxes.
2. Please make sure the area is clean.
3. Return the cart to the closet.
Z is for Zcelebrating

Door Prizes

Daily Prizes Examples
- Plastic lizards, turtles, etc.
- Sidewalk chalk
- Small Slinkies
- Giveaways from Science Conventions

Daily Prize Sources
- Dollar Tree
- Walmart
- Family Dollar

Special Prizes
* Highest % Class
* Best Campers

Special Prize Sources
- Education Stores
- Tuesday Morning
- Steve Spangler
Super Science Saturday
Nature of Science

- Science Equipment
- Lab Safety
- Scientific Method
Physical Science

- Levers and Fulcrums
- Force and Motion
- Friction and Gravity
- Inclined Planes
Earth Science

- Sun and the Planets
- Moon Phases - Rotation and Revolution
- Planet Mnemonics
Life Science

Food Chains and Food Webs
Life Science

Inherited Traits BINGO
Closing Awards
Reflections

Thank You
- Parent Volunteers
- Teachers

- What Worked
- What Didn’t
- Record Immediately

Administrative Support
Freebies

- Young Astronauts Files
- Set-up Directions for Science Camp
- Passport File
- Who Wants to be a Millionaire
- PassWord
- Support and Advise

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