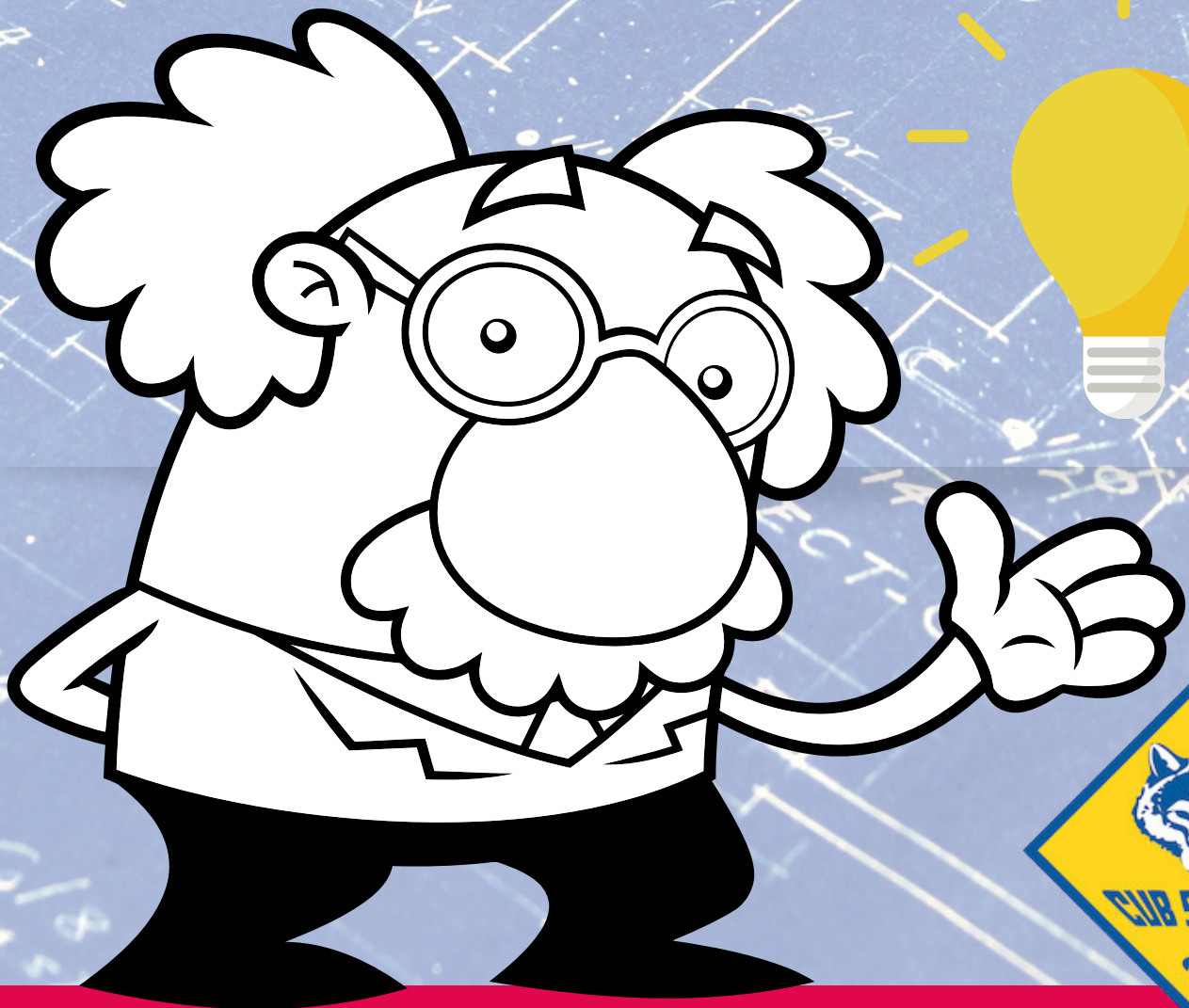
Scouting America

2025 NATIONAL CAMPING SCHOOL RESOURCE GUIDE

BSA NATIONAL CAMPING SCHOOL

INVENTION CONVENTION



CUB SCOUTS

NATIONAL DAY CAMP THEME RESOURCE GUIDE MISSION STATEMENT

"The National Day Camp Theme Resource Guide is published annually to provide inspiration through ideas, projects, games, techniques, and other National Day Camp theme-related materials to enable leaders to produce a quality and fun program for all Cub Scouts at Cub Scout Day Camps."

IN THIS ISSUE

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WELCOME - SETTING THE STAGE FOR FUN!

The material in this resource book is designed to serve your District and Council leaders in providing fun and exciting Cub Scout Day Camp events!

Invention Convention is the theme for 2025. This year you can deliver an event filled with creativity for Scouts with your day camp theme, encouraging them to explore and use their imagination. Making it fun and memorable for the Cub Scouts, staff, leaders, and volunteers who attend.

Set the tone for FUN from the very start. This begins with YOU! Be excited about the program you are creating. Show enthusiasm in your promotional materials. Your attitude is contagious. Your excitement and sense of fun will make great things happen at your camp that will create lasting memories for those who attend and visit.

Keep that positive energy going when you communicate with your staff, leaders, and parents. Use the Invention Convention theme creatively in your emails and your staff manuals. Let them know that you are excited to be able to bring this amazing program to the Cub Scouts.

When Scouts and families arrive for the first time, make sure your camp reflects the fun that will happen. Have lots of theme-filled PIZZAZZ that immediately brings them into the adventure. This book is full of ideas to help bring that pizzazz and excitement to your camp.

Many resources were used to compile the information you will find in this book. THANK YOU to the leaders who sent in ideas and suggestions and THANK YOU to those who contributed to the resources used. We appreciate your help and all that you do for our Scouts and Cub Scout Day Camp!

All materials in this book reflect the high standards of the BSA. Use or modify these materials at your local Cub Scout camping activities to help your Invention Convention Camp!

BUILDING YOUR *Program*

The primary objective of Day Camp is FUN! When designing your program, use your creativity in new ways to bring fun to your camp. Use variety in what you do and how you do it. Shake up your program occasionally. It is good to have traditions such as a tug-o-war, egg drop, or the same camp song from year to year. It's also good to blend some traditional favorites with new ideas. Variety keeps the program interesting for your Scouts and adults. It will also inspire them to return to camp each year.

Look for opportunities to introduce things the Scouts might not otherwise experience. Can you bring in an expert for a lunch program that will enhance your Day Camp? Is there an individual or group that can help your Scouts learn a new skill? Is there an expert that is willing to teach a station?

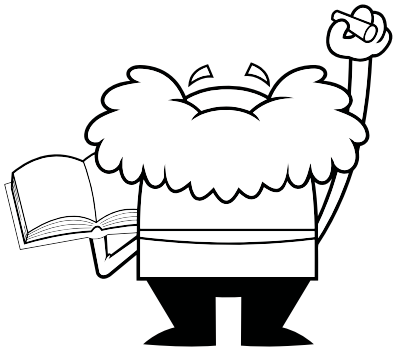
Another thing to consider is advancement; this is one of the things parents and leaders are often looking for with Day Camp. With the theme in mind, look through the Cub Scout Handbooks. Look for those **ELECTIVE** adventures that naturally fit into your theme and your location, and then build around those. Advancement is NOT the primary objective of Day Camp. Use advancement opportunities as a program supplement as it naturally fits into the theme and location. (See NCAP Standard PD-102A)

The "Invention Convention" Theme lends itself to several different options within that broad theme. For example: STEM Challenges, Exploring Water Inventions, Inventions by Kids, An Inventor-Learning How to Invent.

Another option would be to showcase a difference type of Invention Convention adventure each day, i.e.,

- Day One: Inventions that use Water (Water wheel, Irrigation system, Water Transportation System)
- Day Two: Inventing Codes (Background History, Make Your Own Code, Binary Codes)
- Day Three: Inventions using STEM (Thousands of Science, Technology, Engineering and Math ideas) and ART!
- Day Four: Inventions that Fly (Airplanes, Rockets, Spaceships)
- Day Five: Invent Your Own (Robot, A Helpful Item, A New Bug and it's Habitat)

Have a big show and tell at the end of camp for all the families to see the inventions!



A FEW REMINDERS

Avoid using materials or names that are copyrighted or trademarked such as Jurassic Park or Sea World. You can use the concepts as a template to design Scout-friendly activities and give it your own unique camp's name.

Any program activities or camp content that you want to use as part of your camp program need to be evaluated and approved for age appropriateness and verification that they meet the Guide to Safe Scouting policies and procedures cited and Age Appropriate Guidelines prior to conducting such activities.

Additionally, you should be aware of state or local government regulations that supersede Boy Scouts of America practices, policies, and guidelines.

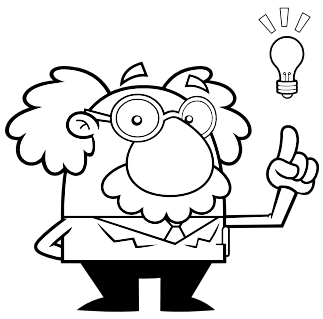
The Guide to Safe Scouting and Age-Appropriate Guidelines can be found here:
https://www.scouting.org/health-and-safety/guidelines-policies/

D.E.I. (DIVERSITY, EQUITY, INCUSION)

If you have not yet taken the DEI training at https://training.scouting.org/courses/SCO_1800, you may want to familiarize yourself with the principles of D.E.I. shown in this training.

Adapt your activities as needed to meet the needs and ability ranges of all your attendees. Use the least amount of change necessary to make the activity successful for everyone. Parents, the scouts themselves and pack leaders can help determine adaptations. Include them in the planning sessions. Making changes for adaptability and inclusion in your Cub Scout activities requires being prepared ahead of time, not at the last minute. All or your staff members should be involved in planning and support the changes.

Check out Scouting's Inclusion Toolbox at:
https://www.scouting.org/resources/disabilities-awareness/inclusion-toolbox/



Interfaith Service

The Scout Law teaches, "A Scout is reverent. A Scout is reverent toward God. He is faithful in his/her religious duties. A scout respects the beliefs of others."

It is important that Scouts be taught to recognize the beliefs of other Scouts and to respect those beliefs. Scout outings and activities that could bring scouts together of all different faiths where an interfaith worship service would be appropriate. If you choose to have an interfaith service, it is recommended that scripture, prayers, hymns, and all other parts of the worship be considerate of everyone present—respectful of all religions.

One example of a simple Interfaith Service:

The Golden Rule in the World Religions

Adapted from "The Christopher Newsletter"

The Golden Rule is found in many of the worlds major religions–here are some examples

Christianity: All things whatsoever ye would that men should do to you do ye so to them; for this is the law and the prophets. Matthew 7:1
Confucianism: Do not do to others what you would not like yourself. Then there will be no resentment against you, either in the family or in the state. Analects 12:2
Buddhism: Hurt not others in ways that you yourself would find hurtful. Udana-Varga 5,
Hinduism: This is the sum of duty; do naught onto others what you would not have them do unto you. Mahabharata 5,1517
Islam: No one of you is a believer until he desires for his brother that which he desires for himself. Riyad as-Salihin 236
Sunnah Judaism: What is hateful to you, do not do to your fellowman. This is the entire Law; all the rest is commentary. Hillel Talmud, Shabbat 31a
Taoism: Regard your neighbor's gain as your gain, and your neighbor's loss as your own loss. Talmud, Shabbat 3id
Tai Shang Kan Yin P'ien Zoroastrianism: That nature alone is good which refrains from doing another whatsoever is not good for itself. Dadisten-I-dinik, 94,5

Such a basic principal among all men should be mastered and applied in all our lives. Le us take a moment of silence for person prayer meditation or to think about how we be better at treating each other with kindness,

For more information on Interfaith Services go to scouting.org and search for interfaith services.

Faith & REVERENCE

The following are prayers that are appropriate for a day camp setting possibly before meals:

Spoken Prayers

WE GIVE THANKS
We give thanks for being here together in the name of Scouting.
We ask to have clean hands, clean words, and clean thoughts.
We ask that we learn to work hard and play fairly.
We ask to see the needs of others so we may help.
We ask for strength to do a Good Turn each day and to live up to our promises. Amen

PHILMONT GRACE
For food, for raiment, For life, for opportunity,
For friendship and fellowship, We thank thee, Oh Lord.

THE SUMMIT GRACE
For this time and this place, For Your goodness and grace,
For each friend we embrace, We thank Thee, Oh Lord. Amen

Bless our Scouting leaders who spend so much of their time and energy to help us grow up well. Guide them in their work, give them patience and wisdom, and reward them in this life and the next. Amen.

As our campfire fades, we thank you for the joys and blessings of this day. We lift our minds and hearts to you in gratitude for life, happiness, and the Scouting movement. Amen.

WORLD FRIENDSHIP FUND

During an interfaith service, there is an opportunity to introduce and take up a collection for Scouting's World Friendship Fund.

The World Friendship Fund is administered by Boy Scouts of America to help struggling Scouting associations in other lands. Adding this element to your camp can help Scouts and leaders learn more about world-wide Scouting and what they can do to strengthen Scouting throughout the world. They will also learn the meaning of the World Crest patch that is on their uniform.

Let camp families and Packs know that you will be collecting money for the World Friendship Fund in your promotional materials if you decide to collect for the fund. When you do face-to-face promotion in Pack Meetings or Roundtables, mention it as well. Get the adults that are bringing these Scouts to camp excited about your camp's efforts toward the World Friendship Fund.

At camp, briefly explain the purpose of the World Friendship Fund. Have someone share how the World Friendship Fund has helped Scouts in another country. Explain to the Scouts that your camp will be collecting money to donate to the World Friendship Fund.

There are several ways to collect money for the fund. Here a couple of examples:

- A specific item in the trading post could be designated as a World Friendship Fund item. Let the Scouts know that all proceeds from the purchase of that item will be donated to the World Friendship Fund. Make sure you put the World Crest on the bin that holds this item so the Scouts know exactly which item is helping to raise money.
- You could have a coin collecting competition between the dens. The den with the most coins donated by the end of the week gets special recognition on the last day of camp. Have a donation jar at the trading post throughout the week, then pass that jar around during the last day's closing ceremonies.

Be sure to share the grand total of the collection with the Scouts and their families.

To find out more about the World Friendship Fund and how to donate go to:
https://filestore.scouting.org/filestore/pdf/wff.pdf

gathering activities & downtime fillers

It is important to have gathering activities and fillers to keep Scouts engaged and out of mischief during downtime or quiet time. This section includes lots of quick games and fillers to help camp run smoothly. Set your Den Walker/Leader or Den Chief up for success by providing appropriate time-fillers when there is downtime.

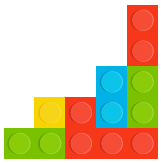
Gathering Activities:
Be sure to have something for your campers to do when they arrive at camp and after they check-in with their Den Walker. Gathering Activities should be simple and not require a lot of leader time.

Here are some ideas:

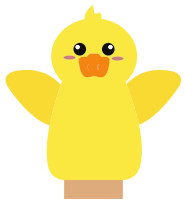
Range Targets: Have your campers color or add interactive pieces to a target for their range time. (Interactive pieces could include, soy packets, Smarties, ketchup packets, peppermint candy)

Thank You Cards: Have the Cubs make Thank You cards for camp volunteers.

Lego Build: Just put out a bunch of Legos on a LARGE tarp and let them build right there.



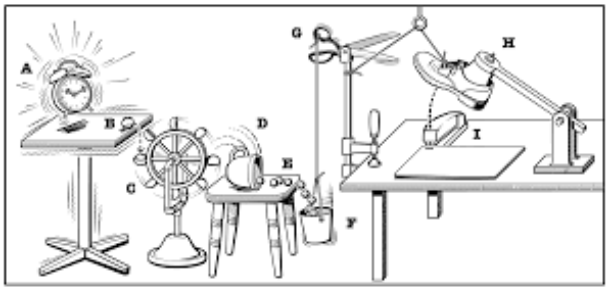
Lunch Bag Puppets: Have lunch bags, construction paper, markers, scissors, glue out and ask them to make a puppet. Let them create, just put items out for them to use.



Magic Color Scene Either have the Cubs create their papers with: Have paper, crayons, black crayons (lots of black crayons), and toothpicks out. Have the Cubs cover their paper with rainbow colors, then cover that with black! Give them a toothpick and ask them to create. Or purchase the Rainbow Scratch Papers.
Here is an Amazon Link:

gathering activities & downtime fillers

Rube Goldberg Machines: Put many different types of items out and let them create. (dominoes, clothes pins, balloons, small cars, Hot Wheels track, paracord, paperclips and many more)



Color Pages: Give the Cubs some different Rube Goldberg Diagrams and let them color and learn.

Here is a list of suggestions for Down Time:

- Decorate your den flag and name tag
- Skit practice; work on voice projection
- Stay hydrated and take a restroom break
- Tell jokes- have the Cubs have a joke off

` -270 Funniest Jokes for Kids 2023 (goodhousekeeping.com)

- Sing Fun Songs

-12 Camp Songs for Kids to Sing Around the Campfire (thedyrt.com)

Thumb ball or dice that have funny things to do on them. Here is a link two Links from Amazon: Thumball 

Dice Game 

Give them riddles to figure out - 80 Best Science Riddles with Answers - https://icebreakerideas.com/science-riddles/

Play Mad-Libs Kids Online Madlibs (glowwordbooks.com)

Play Uno or another simple card game (you could have these in a ‘Be Prepared’ bag)

gathering activities & downtime fillers

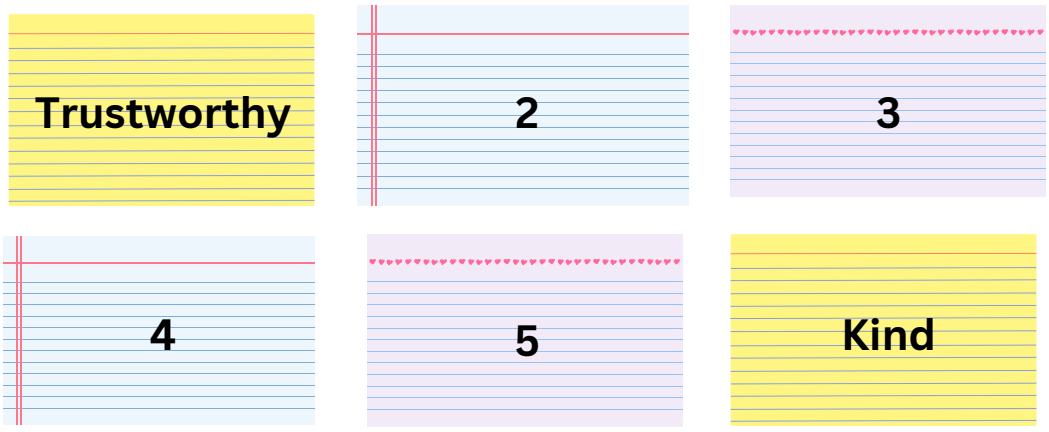
Play games that require no equipment like:
Simon Says
Mother May I
Red Light, Green Light

Give Facts or Watch a Short Inventor Video:
The 15 Most Popular Inventors (thoughtco.com)
https://youtu.be/75okexRzWMk
https://youtu.be/6IiJGRbDN1I
https://www.youtube.com/watch?v=XiuU1mlFeEc

Scout Law Toss:

Put one point of the Scout Law on a 3x5 index card or square piece of paper/card stock. On the reverse side, put the number of the point of the law as it falls in the sequence. Turn each of the 12 Scout Law cards over on a grid so that the number side is up. Place the cards in proper order – 1 through 12. Have each Cub Scout toss a beanbag or alternative onto one of the squares.

The Cub Scout who throws the bag must now say the point of the law on which their beanbag landed. If they do not know it, the next in line may answer. Continue until the grid is completed. [Have an alternate game for Tigers and Wolves.]



gathering activities & downtime fillers

Bean Game:
(Have small snack bags with beans and instructions in them to give to Den Walkers)

Object: Balance beans on back of your hand
Material needed: 20 dried beans
Number of players: 2 or more
Instructions: Pick up one bean in the left hand. Transfer the bean to the right hand. Place the bean on the back of your left hand. While still balancing the bean, pick up another bean in the left hand, transfer to the right hand, and place it on the left hand. Continue until the beans are gone or one falls off. If a bean falls off, you must start over.
Winner: The person who balanced the most beans on the back of the left hand. Repeat until a bean falls off.

HUMAN KNOT

Group of Cub Scouts make a circle and extend both hands into the center of the circle. The Cub Scouts then grasp the hands of two other people, but not the hands of an adjacent person. Without letting go of hands, the Cub Scouts try to untangle themselves. Grips may change and palms may pivot on one another, but contact must be maintained.

gathering activities & downtime fillers

Inventors Trading Cards:

Make up theme-related trading cards with a picture on one side and fun facts on the other, or use the Scout Law - a set of twelve cards with each one having a point of the Scout Law on one side and what it means on the other.

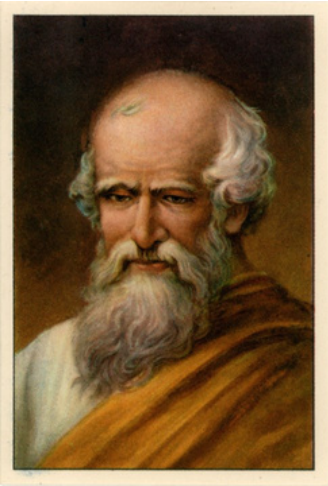
Give each Cub Scout a set of cards that are all the same. If you are doing the Scout Oath, give a Scout 12 cards of the word TRUSTWORTHY. The Cub Scouts will then have to go to other Cub Scouts and "trade" his/her card with them after introducing him/herself. The goal is to collect a full set of cards.

This is a great way for the Cub Scouts to get to know each other and get excited about camp with a theme-related activity.

Give Scouts a starter pack of cards - 8 cards each of 3 different people for a total of 24 cards. Include the list of all possible cards to collect. Have small (4-5 cards) mixed sets available at stations or in the trading post so that Scouts can complete their sets through trading and collecting.

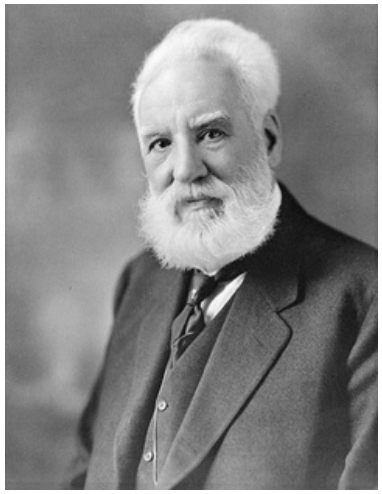
Below are trading cards that are for the Invention Convention Theme. They fit on an 8 ½ X 11 landscape. You can put 8 on a sheet. Print pictures on front and fun facts on the back. Print the cards on cardstock to make them a little sturdier.

QR Code to Inventor Trading Cards Google Doc or go to: https://bit.ly/44w2pbA



Archimedes

c.287—c. 212 BC



Alexander Graham Bell

1847-1922

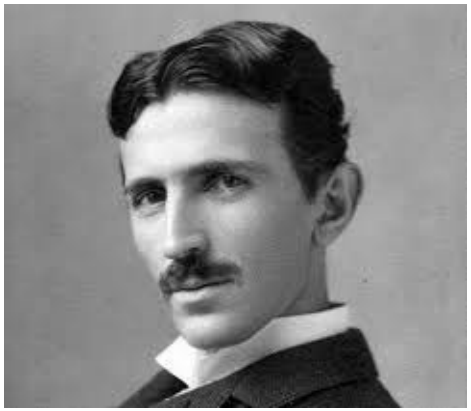
Leonardo da Vinci

1452-1519

Artist/Scientist/Inventor

Elon Musk

1971-



Nikola Tesla

1856-1943

Electrical & Mechanical En-

Steve Jobs

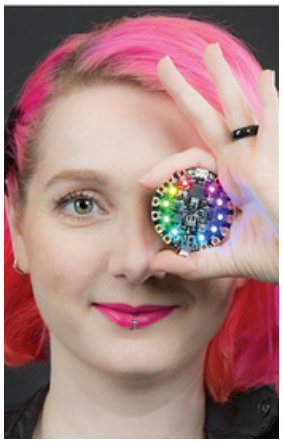
1955-2011

Industrial Designer/Media

Hedy Lamarr

1914-2000

Inventor/Actress/Producer



Limor Fried

Electrical Engineer

• Founded or co-founded the following companies: Zip2, Paypal, SpaceX , SolarCity, Open AI, Neuralink & The Boring Company. • CEO of Tesla Motors, Inc. • SpaceX became the 1st private company to launch a person into orbit & doc a crewed spaceship with the ISS • Oversaw Tesla Roadster product design	• Widely considered the most diversely talented individual that ever lived • Many of his notes on science and invention have led to numerous inventions by others. • Studied anatomy, botany, cartography, painting, paleontology & Sculpting • Had no formal academic training	• Awarded the 1st US patent for the telephone on March 7, 1876 • One of 33 founders of the National Geographic Society Co-founder of AT&T • Was fascinated with the study of speech, sound & hearing • 1st sentence ever spoken on a telephone “Mr. Watson come here. I want to see you”	• The greatest mathematician of ancient history and one of the greatest of all times • His thinking and application of concepts helped to form modern calculus • Derived a accurate approximation of pi • One of the 1st to apply math to physical phenomena • Was killed in the Siege of Syracuse by Roman soldiers
• MIT Graduate • Started Adafruit Industries in her dorm room at MIT. The company designs and sells open source electronic kits & tools for the hobbyist market & STEM education. • 1st female engineer to be featured on the cover of Wired Magazine • Her goal is to make the best designed products for makers of all ages and skill levels	• Co-invented an early version of a radio guidance system using frequency-hopping for Allied torpedoes intended to defeat the treat of jamming by the Axis. • Her spread spectrum techniques are incorporated into Bluetooth technology and similar to methods used in Wi-Fi. • Posthumously inducted into the National Inventors Hall of Fame in 2014 • Appeared in 30 films.	• Co-founder of Apple Inc. with Steve Wozniak • Dropped out of college • Worked at Atari creating circuit boards for video games. • Apple Inc. started in Steve Jobs’ garage • Funded the spinout of the Graphics Group (Pixar) from Lucas Films • Executive Producer of Toy Story • Largest shareholder in Disney Corporation	• Worked for Thomas Edison, but left due to differences of opinion on DC vs AC current • Developed AC current for Westinghouse Electric • Was the 1st to think wireless communication was possible • Would put on fantastic shows to prove the safe use of electricity was possible • Was often thought eccentric due to his vivid imagination of the possibilities in science

Maria E. Beasley
1836—1913
American Entrepreneur & Inventor

Sarah E. Goode
1855—1905
American Entrepreneur & Inventor

Margaret A. Wilcox
1838—1912
Mechanical Engineer & Inventor

Bessie Virginia Blount
1914—2009
Physical Therapist, Inventor & Scientist

Stephanie L. Kowlek
1923—2014
Chemist & Inventor

Maria Van Brittan Brown
1922—1999
Nurse & Inventor

Patricia E Bath
1942—2019
Ophthalmologist & Inventor

Ann Tsukamoto
1952—
Researcher & Inventor

One of the few African American Physical Therapists when she entered the field During WWII, Blount practiced at several Veteran's hospitals helping wounded soldiers recover from their injuries Invented a device to help amputees eat without assistance from another individual. By biting down on a tube attached to a mechanical device, they would be able to procure a bite of food. In 1953, she was the 1st Black woman to appear on the television show "The Big Idea" which introduced her inven-	Invented a rail car heater Margaret's design was the basis for automobile heating systems. Her design was utilized by the Ford Motor Company in 1929 and then General Motors in 1930. She has several patents that were registered under her husbands name because women were not allowed to apply for patents Her invention names one of the top 10 inventions by women.	Born into Slavery The fourth African-American Woman to receive a US Patent Invented the Cabinet Bed— a precursor to the Murphy Bed In 2012, the Sarah E. Goode STEM Academy opened in Chicago In 2019, author Vivian Kirkfield published a book about Sarah's life as an inventor titled "Sweet Dreams Sarah"	Invented a footwarmer, a better life raft (previously used lift raft was flat) and an anti-derailment device for trains Greatest success came from her barrel-making machines and processes Founded two companies for the design & manufacture of barrels on of which sold for $1.4 million (equivalent to $45B+ in 2022 dollars)
Patented her research on how to isolate Stem cells Her research has led to major advancements in cancer research across the world The scientific community did not initially recognize how important her research into stem cells was and discounted her discovery Because she was a woman, information about her research was poorly represented in the scientific community	1st Female member of the Jules Stein Eye Institute Holder of 5 patents including the Laserphaco Probe used to treat cataracts Also has a patent for the use of ultrasound to remove blindness Started the non-profit American Institute for the Prevention of Blindness in Washington, D.C.	Along with her husband Albert, she invented a video home security system that is the basis for many security systems in existence today The patent was the first ever to list the woman first and the man second on the patent Her invention has been cited in at least 32 other patents as the starting point for those patents	Invented the Kevlar fiber that is used in bullet-proof vests used by police forces and military's around the world Award DuPont Company's Lavoisier Medal—The only female employee to do so through 2019 Only the 4th woman to be inducted into the National Inventors Hall of Fame Won the National Medal of Technology among many other awards

Jane Ni Dhulchaointigh

Inventor

Angela Ruiz Robles

1895-1975

Inventor/Writer/Teacher

Simone Giertz

1990 -

Inventor/Maker/Robotics

Samuel Morse

1791-1872

Inventor

John Logie Baird

1888-1946

Inventor/Electrical Engineer

Orville & Wilber Wright

1871-1948/1867-1912

Inventors/Aviation Pioneers

Josephine G. Cochran

1839—1913

Inventor

Mark Rober

YouTuber/Engineer/

Inventor

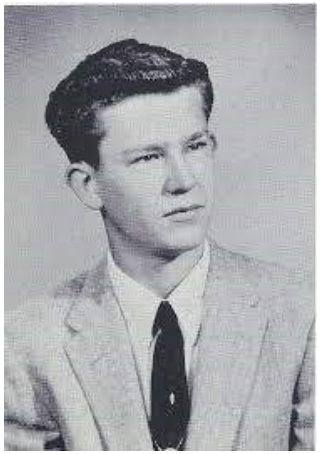
• Was a reputable portrait painter • Invented the single-wire telegraph • Co-developer of Morse code • Has paintings hanging in the Louvre in Paris • His original patent submission is in the National Museum of American History at the Smithsonian Institute • Holds 7 US patents	• Uses her Youtube channels and other social media platforms to promote inventing , makers and robotics • Some of her sillier inventions have been the alarm clock that slaps you to wake you up, a lipstick applier, and a robot to shampoo your hair. • In 2018, built a robot to promote season 2 of Westworld	• Invented the mechanical precursor to the electronic book • Received a Spanish patent for her "Mechanical Encyclopedia" • As a teacher, she was concerned about the weight of the books her students carried so she invented the device with a series of texts and illustrations on reels under a sheet of magnifying glass with a light to read by.	• Graduated from the Royal College of Art in London • Won the 2018 European Inventor Award for a moldable glue called Sungru that was described by Time Magazine as one of the world's best inventions • Spent 8000 hours in the lab developing her product • Used crowd funding to raise money for production
• Former NASA Engineer who worked on the Curiosity Rover • Worked for Apple Inc. Special Projects Group on virtual reality in self-driving cars • Turned to YouTube to make science fun and interesting for all of us. • Went viral with "Glitter bombs for Porch Pirates" • With YouTuber MrBeast,	• Invented the first successful hand powered dishwasher • Founded Garis-Cochran Manufacturing Company which ultimately became KitchenAid • Posthumously inducted into the National Inventors Hall of Fame in 2006 for 355 patents	• By observing other attempts to fly and what went wrong on those flights as well as there own experiments with kites & gliders, they made changes to their design accordingly. Thus it only took them 3 tries at controlled, powered flight • On December 17, 1903 Orville flew 120 feet in 12 seconds at a speed of 6.8 mph	• Invented the first working television system, the 1st color television system & the 1st purely electronic color television picture tube • Listed in National Library of Scotland's "Scottish Science Hall of Fame", inducted into Scottish Engineering Hall of fame • Entered College by never graduated due to WWI

James Naismith
1861—1939
Physical Education, Physician,
Chaplin & Inventor of Basketball

Ole Kirk Christiansen
1891—1958
Carpenter & Designer

Ruth Handler
1916—2002
Businesswoman &
Inventor

Robert W. Patch
1959—
Inventor & Business
Owner



Frank Epperson
1894—1983
Inventor

Louis Braille
1809—1852
Inventor & Professor

Abby Fleck
1985—
Inventor

George Nissen
1914—2010
Gymnast & Inventor

• Youngest person every to receive a patent. • Invented toy truck that could be taken apart and reassembled. • He didn't make any money from his invention, but did receive a pair of tennis shoes from KEDS when they saw that he had used one of their shoe boxes in his original truck.	• Co-founder of Mattel Toy Company with husband Elliott • Invented the Barbie Doll in 1956 after watching her daughter play with paper dolls and realizing there was an opportunity to develop a new genre of toys • Served as 1st President of Mattel from 1945—1975 • Named Barbie and later Ken after her children	• Danish Carpenter who invented the LEGO • Founded the LEGO Group in 1932—initially made all sorts of wooden toys • Switched from wood to plastic in 1947 after acquiring a plastic molding injection machine • The Lego Brick was patented in Copenhagen in 1958 • Lego is now one of Europe's biggest companies selling over 600 billion Legos	• Was an outstanding football player at McGill University in Montreal—decided that he needed to invent a sport that could be played indoors in the winter. • 1st game of Basketball was played in December 1891 • Wrote the original Basketball Rule Book • Lived to see Basketball become an official Olympic Sport and the inception of the NCAA Tournament
• Invented the trampoline at age 16 in his parents garage • Got the idea after watching a trapeze artist fall into a net at the end of his performance • Co-founded the Griswold-Nissen Trampoline & Tumbling Company in Iowa • Co-founded the United States Tumbling & Trampoline Association • Finally saw the trampoline become an Olympic sport in 2000	• Was 8 years old when she invented the Makin' Bacon cooking dish. • After watching her parents cooking bacon, she realized that it would be less messy if you were to hang the bacon over the dish. • With father's help, invented the microwave cooking dish. • With family, started a company to manufacture & sell the Makin' Bacon cooking dish.	• Blinded at age 3 due to an injury in one eye that spread to both eyes. • Had trouble reading the raised letters used to that point by blind persons. • Modified a communication system used by the French military to create Braille • Spent the rest of his life perfecting the system. • Presented the system to his peers for the first time at age 15.	Frank was 11 years old when • he accidentally invented the popsicle • Frank left his soda with a stirring stick sitting on the porch overnight. The next morning he found his soda frozen. He decided to try the frozen soda. • Originally called the "Episicle" it was a hit with other kids. • Patented in 1924. • His kids convinced him to change the name to popsicle.

LUNCHTIME programs

A lunch program is one way to keep Scouts engaged and learning while eating lunch. This is a great time to have outside experts or educators come to camp. Keeping in mind the attention span of your youngest campers, ask them for a 10-30 minute presentation.

Possible outside experts/educators:

***Experiment or Invention Show:** Contact high school or college science clubs to have them do an invention convention show.
***Recycling Truck:** Let's take care of the outdoors and learn more about recycling.
***Rube Goldberg Machine Experts:** YouTube is FULL of Rube Goldberg Machine Experts, see if one of them lives in your area.
***Firefighter with truck/ Smokey the Bear:** Importance of treating fire properly. (Who doesn't LOVE fire trucks?)
***Rocket Launch:** Ask your local Rocket Club to do a demonstration for the Cubs. (They may be willing to help you with Cub rocket building too, if you ask.)
***Robots:** Ask your high school or college robotics club to bring their robot and do a demonstration.
***Police Robot:** Ask your first responders to bring their Bomb Robot or Mobile Lab and do a demonstration for the Cubs.
***Weather:** Ask your local news station about their meteorologist coming to day camp and sharing their gadgets and knowledge with the Cubs.
***Dogs:** Reach out to those who work with; drug dogs, arson dogs, service dogs, and ask them to do a presentation for the Cubs about the training and science that it takes for these dogs to become certified.

A lunch program can also be a **5–7-minute friendly competition** between the Directors and the Den Chiefs building something, tying knots, or any other Scout skill. Get someone who is a great emcee to provide the running commentary. The Scouts can cheer for their favorite team and determine the winner. Scouts LOVE seeing adults be silly!

Some silly contests could be:
***Rube Goldberg Machine Competition:** Have leaders or Dens have a creating competition. Put out a bunch of items, such as dominoes, balloons, clothes pins, small cars, etc, and see what they can do.
*** Game or Obstacle Course Creation:** Have Leaders build and then compete in a game or obstacle course. Put out many different items for games and see what they can do.
***Cooking Showdown!:** Give leaders the same ingredients, such as chocolate syrup, strawberries, bananas, mini marshmallows, sprinkles, cookies, etc, and have them create a 'masterpiece'. Have them use ALL their ingredients and then have the Cubs vote on their favorite. Have a FUN emcee.
***Joke Off:** Have leaders tell theme related 'Dad Jokes' back and forth.
***Song Off:** Have leaders lead silly songs with the Cubs back and forth.

ADVENTURES BELTLOOPS BY THEME

Please do not offer the REQUIRED adventures in your Day Camp setting. Use the ELECTIVE Adventures instead.

Many Elective Adventures exist that may be adaptable to a day camp setting depending your resources. Review all the requirements.

Wanting to know what adventures have similar themes/topics? Here is a **Google Spreadsheet with Adventures By Theme:**

https://bit.ly/4ar8qb1

Range and Target Activities -
BB, Archery, Slingshot may only be earned in a Council or District event. Units are not authorized to conduct these activities on their own.

Range & Target Activities Elective Adventures

https://www.scouting.org/outdoor-programs/shooting-sports/cub-scout-shooting-sports/

BB Gun Lesson Plan	https://www.scouting.org/wp-content/uploads/2024/05/2024_Cub-Scout_BB-Adventure-Lesson-Plan_051724.pdf
Age Appropriate Guidelines	https://bit.ly/4bL7OOv
	Units are not authorized to hold range and target activities at the den or pack level.
Lion BBs is NOT Allowed	

Tiger	
1	Explain what you should do if you find a gun. Recite the 4 safety reminders (Tigers with the help of their adult partner).
2	Identify and wear the appropriate safety gear (Tigers with the help of their adult partner).
3	Demonstrate proper range commands (Tigers with the help of their adult partner).
4	Show how to use the safety mechanism. (Tigers with the help of their adult partner).
5	Demonstrate how to properly load, fire, and secure your BB gun (Tigers with the help of their adult partner).
6	Demonstrate one of the positions for shooting a BB gun (Tigers with the help of their adult partner).
	Note: this is a demonstration requirement and not mandatory as a shooting requirement.
7	Fire 5 BBs at the target. With the help of your Tiger adult partner, score your target.
8	Repeat and do your best to improve your score.
9	Fire at least 10 BBs.
10	Discuss how to put away and properly store your BB gun and shooting equipment after use.

Wolf	
1	Explain what you should do if you find a gun. Recite the 4 safety reminders.
2	Identify and wear the appropriate safety gear.
3	Demonstrate proper range commands.
4	Show how to use the safety mechanism.
5	Demonstrate how to properly load, fire, and secure your BB gun.
6	Demonstrate one of the positions for shooting a BB gun. Note: this is a demonstration requirement and not mandatory as a shooting requirement.
7	Fire 5 BBs at the target and score your target.
8	Repeat twice and do your best to improve your score.
9	Fire at least 15 BBs.
10	Discuss how to put away and properly store your BB gun and shooting equipment after use.

Bear	
1	Explain what you should do if you find a gun. Recite the 4 safety reminders .
2	Identify and wear the appropriate safety gear.
3	Demonstrate proper range commands (Bears are to demonstrate proper range commands and explain them to an adult or another scout)
4	Show how to use the safety mechanism.
5	Demonstrate how to properly load, fire, and secure your BB gun.
6	Demonstrate one of the positions for shooting a BB gun. Note: this is a demonstration requirement and not mandatory as a shooting requirement.
7	Fire 5 BBs at the target and score your target.
8	Repeat twice and do your best to improve your score.
9	Fire at least 15 BBs
10	Discuss how to put away and properly store your BB gun and shooting equipment after use.

Webelos	
1	Explain what you should do if you find a gun. Recite the 4 safety reminders.
2	Identify and wear the appropriate safety gear.
3	Demonstrate proper range commands (Webelos are to demonstrate proper range commands and explain them to an adult or another scout)
4	Show how to use the safety mechanism.
5	Demonstrate how to properly load, fire, and secure your BB gun.
6	Demonstrate one of the positions for shooting a BB gun (Webelos are to demonstrate prone, bench and sitting positions for shooting a BB gun).
	Note: this is a demonstration requirement and not mandatory as a shooting requirement.,
7	Shoot 5 shots at a target.
8	Repeat three times and do your best to improve your score each time.
9	Shoot at least 20 BBs
10	Discuss how to put away and properly store your BB gun and shooting equipment after use.

AOL	
1	Explain what you should do if you find a gun. Recite the 4 safety reminders.
2	Identify and wear the appropriate safety gear.
3	Demonstrate proper range commands (Arrow of Light Scouts are to demonstrate proper range commands and explain them to an adult or another scout)
4	Show how to use the safety mechanism.
5	Demonstrate how to properly load, fire, and secure your BB gun.
6	Demonstrate one of the positions for shooting a BB gun (Arrow of Light are to demonstrate prone, bench and sitting positions for shooting a BB gun).
	Note: this is a demonstration requirement and not mandatory as a shooting requirement.
7	Shoot 5 shots at a target.
8	Repeat three times and do your best to improve your score each time.
9	Shoot at least 20 BBs
10	Discuss how to put away and properly store your BB gun and shooting equipment after use.

Range & Target Activities

Elective Adventures

Archery Lesson Plan	https://www.scouting.org/wp-content/uploads/2024/05/2024_Cub-Scout_Archery-Adventure-Lesson-Plan_051624.pdf	
Age Appropriate Guidlines	https://bit.ly/4bL7OOv	
	Units are not authorized to hold range and target activities at the den or pack level.	
Lion		
	1	Identify and wear appropriate safety gear. (Lions and Tigers: with the help of their adult partner.)
	2	Demonstrate the archery range safety rules and whistle commands. (Lions and Tigers will recite rules and commands with the help of their adult partner)
	3	Demonstrate proper range commands. (Lions and Tigers: with the help of their adult partner.)
	4	Identify the main parts of your shooting equipment and how to properly use them. (Lions and Tigers with the help of their adult partner)
	5	Demonstrate proper stance and shooting techniques. (Lions and Tigers: with the help of their adult partner)
	6	Shoot 2 arrows at target. Repeat and try to improve your score. A minimum of 4 arrows are shot.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.
Tiger		
	1	Identify and wear appropriate safety gear. (Lions and Tigers: with the help of their adult partner.)
	2	Demonstrate the archery range safety rules and whistle commands. (Lions and Tigers will recite rules and commands with the help of their adult partner)
	3	Demonstrate proper range commands. (Lions and Tigers: with the help of their adult partner. Additionally, Webelos and Arrow of Light will "Demonstrate proper range commands and explain them to an adult or to another Scout")
	4	Identify the main parts of your shooting equipment and how to properly use them. (Lions and Tigers with the help of their adult partner)
	5	Demonstrate proper stance and shooting techniques. (Lions and Tigers: with the help of their adult partner)
	6	Shoot 3 arrows at target. Repeat and try to improve your score. A minimum of 6 arrows are shot.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.
Wolf		
	1	Identify and wear appropriate safety gear. (Lions and Tigers: with the help of their adult partner.)
	2	Demonstrate the archery range safety rules and whistle commands.
	3	Demonstrate proper range commands.
	4	Identify the main parts of your shooting equipment and how to properly use them. (Lions and Tigers with the help of their adult partner)
	5	Demonstrate proper stance and shooting techniques.
	6	Shoot 5 arrows at target. Repeat two times and try to improve your score. A minimum of 10 arrows are shot.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.
Bear		
	1	Identify and wear appropriate safety gear.
	2	Demonstrate the archery range safety rules and whistle commands.
	3	Demonstrate proper range commands.
	4	Identify the main parts of your shooting equipment and how to properly use them.
	5	Demonstrate proper stance and shooting techniques.
	6	Shoot 5 arrows at a target. Repeat twice and do your best to improve your score each time. Shoot at least 15 arrows.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.
Webelos		
	1	Identify and wear appropriate safety gear.
	2	Demonstrate the archery range safety rules and whistle commands.
	3	Demonstrate proper range commands. (Webelos and Arrow of Light will "Demonstrate proper range commands and
	4	Identify the main parts of your shooting equipment and how to properly use them.
	5	Demonstrate proper stance and shooting techniques.
	6	Shoot 5 arrows at target. Repeat three times and try to improve your score. A minimum of 20 arrows are shot.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.
AOL		
	1	Identify and wear appropriate safety gear.
	2	Demonstrate the archery range safety rules and whistle commands.
	3	Demonstrate proper range commands. (Webelos and Arrow of Light will "Demonstrate proper range commands and explain them to an adult or to another Scout")
	4	Identify the main parts of your shooting equipment and how to properly use them.
	5	Demonstrate proper stance and shooting techniques.
	6	Shoot 5 arrows at target. Repeat 4 times and try to improve your score. A minimum of 25 arrows are shot.
	7	Demonstrate how to safely retrieve your target arrows.
	8	Discuss how to put away and properly store your archery shooting equipment after use.

Range & Target Activities

Elective Adventures

Slingshot Lesson Plan	https://www.scouting.org/wp-content/uploads/2024/05/2024_Cub-Scout_Slingshot-Adventure-Lesson-Plan_051624.pdf	
Age Appropriate Guidlines	https://bit.ly/4bL7OOv	
	Units are not authorized to hold range and target activities at the den or pack level.	
Lion		
	1	Identify and wear appropriate safety gear. (Lions and Tigers: with the help of their adult partner.)
	2	Recite the safety rules for using a slingshot. (Lions and Tigers: with the help of their adult partner)
	3	Demonstrate proper range commands. (Lions and Tigers: with the help of their adult partner.)
	4	Explore the parts of a slingshot and their proper usage. (Lions and Tigers: with the help of their adult partner)
	5	Discover the types of ammunition that may be used and types that may not be used. (Lions and Tigers: with the help of their adult partner)
	6	Shoot 2 shots at a target. Repeat and do your best to improve your score. Shoot at least 4 shots.
	7	Discuss how put away and properly store your slingshot and shooting equipment after use.
Tiger		
	1	Identify and wear appropriate safety gear. (Lions and Tigers: with the help of their adult partner.)
	2	Recite the safety rules for using a slingshot. (Lions and Tigers: with the help of their adult partner)
	3	Demonstrate proper range commands. (Lions and Tigers: with the help of their adult partner.)
	4	Explore the parts of a slingshot and their proper usage. (Lions and Tigers: with the help of their adult partner)
	5	Discover the types of ammunition that may be used and types that may not be used. (Lions and Tigers: with the help of their adult partner)
	6	Shoot 3 shots at a target. Repeat and do your best to improve your score. Shoot at least 6 shots.
	7	Discuss how put away and properly store your slingshot and shooting equipment after use.
Wolf		
	1	Identify and wear appropriate safety gear.
	2	Recite the safety rules for using a slingshot.
	3	Demonstrate proper range commands.
	4	Explore the parts of a slingshot and their proper usage.
	5	Discover the types of ammunition that may be used and types that may not be used.
	6	Shoot 5 shots at a target. Repeat and do your best to improve your score. Shoot at least 10 shots.
	7	Discuss how put away and properly store your slingshot and shooting equipment after use.
Bear		
	1	Identify and wear appropriate safety gear.
	2	Recite the safety rules for using a slingshot.
	3	Demonstrate proper range commands.
	4	Explore the parts of a slingshot and their proper usage.
	5	Discover the types of ammunition that may be used and types that may not be used.
	6	Bear, Webelos, Arrow of Light - Discover the types of targets that may be used and types that may not be used.
	7	Shoot 5 shots at a target. Repeat twice and do your best to improve your score each time. Shoot at least 15 shots.
	7	Discuss how put away and properly store your slingshot and shooting equipment after use.
Webelos		
	1	Identify and wear appropriate safety gear.
	2	Recite the safety rules for using a slingshot.
	3	Demonstrate proper range commands. (Webelos will "Demonstrate proper range commands and explain them to an adult or to another Scout")
	4	Explore the parts of a slingshot and their proper usage.
	5	Discover the types of ammunition that may be used and types that may not be used.
	6	Bear, Webelos, Arrow of Light - Discover the types of targets that may be used and types that may not be used.
	7	os Shoot 5 shots at a target. Repeat twice and do your best to improve your score each time. Shoot at least 15 shots.
	8	Discuss how put away and properly store your slingshot and shooting equipment after use.
AOL		
	1	Identify and wear appropriate safety gear.
	2	Recite the safety rules for using a slingshot.
	3	Demonstrate proper range commands. (Arrow of Light will "Demonstrate proper range commands and explain them to an adult or to another Scout")
	4	Explore the parts of a slingshot and their proper usage.
	5	Discover the types of ammunition that may be used and types that may not be used.
	6	Bear, Webelos, Arrow of Light - Discover the types of targets that may be used and types that may not be used.
	7	Shoot 5 shots at a target. Repeat three times and do your best to improve your score each time. Shoot at least 20 shots.
	8	Discuss how put away and properly store your slingshot and shooting equipment after use.

KEEPING YOUR CAMP SAFE

by Reinforcing Boy Scouts of America Safety Moments

One of the Boy Scouts of America's National Camp Standards is:
Standard HS-552 – Safety Moment

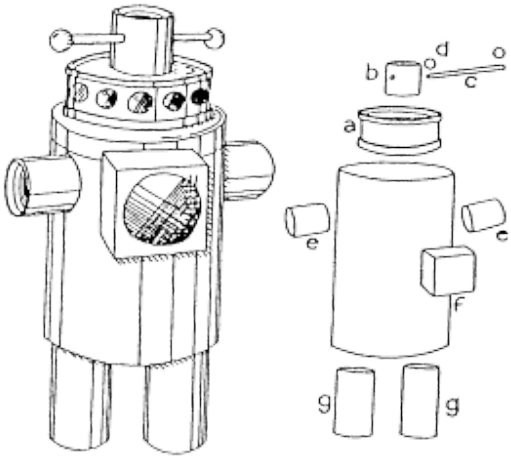
The camp includes a safety moment as part of its daily program to help foster safety awareness and a culture of safety.

Standard HS-552 is a recommended practice standard that can be easily implemented into your day camp plan!

Safety Moments are exactly what the name implies: opportunities to prepare for an activity, review safety measures and report incidents correctly.

Cub Scout safety moments for day camp will soon be posted to the national website. In the meantime, feel free to review the safety moments that are currently listed. Safety moments can be included in your opening of day camp each day, at program activity stations and during lunchtime.

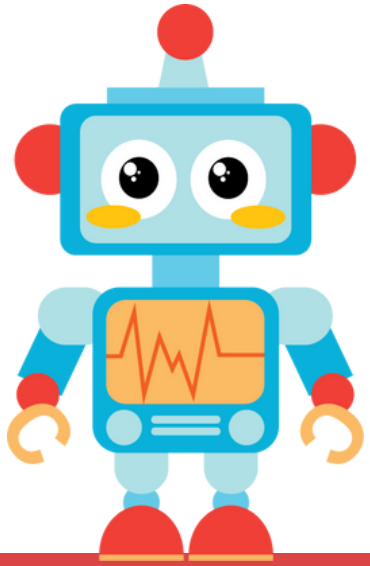
Remember, that the Guide to Safe Scouting (GTSS) is a cornerstone resource for everyone in Scouting, this guide offers information on the latest policies and procedures, serving as your go-to manual to help you plan and provide a safe Scouting program. From camping protocols to aquatic activities, its detailed sections empower leaders to make informed decisions that benefit all participants' welfare.



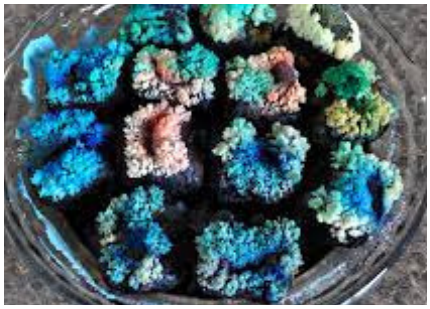
ODDS & ENDS ROBOT
Source: Circle Ten Council

Materials:
Oatmeal box, 2 beads, Tuna fish can
2 cardboard tubes from inside rolls of paper towels
Pencil ,Liquid white glue, Poster paints
Waxed-paper towels, Straw
Crayons or colored felt-tipped markers, Watercolor brush

Let's begin:
1. Remove the lid from a tuna fish can.
2. Glue the can to the top of an oatmeal box, open side down, Fig. A
3. Cut one of the cardboard tubes in three equal parts.
4. Punch a hold with a sharp pencil completely through the center of one of the tube sections. You can use a paper punch.
5. Glue this tube to the top of the tuna can. Fig. B.
6. Push a straw through both ends of the tube. Fig. C.
7. Glue a bead to both ends of the straw, Fig. D
8. Glue the other two sections of the cut tube to the oatmeal box, close to the top. Fig. E.
9. Cut off one end of an empty waxed-paper box.
10. Glue the waxed-paper box section to the front of the oatmeal box. Fig. F.
11. Cut the other cardboard tube into two equal parts.
12. Glue both parts of the tube to the bottom of the oatmeal box. Fig. G.
13. Paint the robot with gray poster paint.
14. Paint red circles on the tuna fish can, and blue circles on the front of the box.



CRAFTS



Charcoal Crystals
Source: Longhorn Council

Supplies needed per scout:
1 charcoal briquette, 1 clay pot fragment, 1 bowl, 4 tablespoons non-iodized salt, 1 tablespoon ammonia, 4 tablespoons liquid bluing, 4 tablespoons water.
Instructions:
Place the charcoal briquette and clay pot fragment into the bowl.
Mix the non-iodized salt, ammonia, liquid bluing, and water.
Stir till salt is partially dissolved.
Spoon this into the bowls making sure some salt falls over the charcoal and the clay.
Put drops of food coloring (different colors) on various parts of the garden. Leave it several days and crystals will form.

GENIUS KIT
York-Adams Council - From February 2003 Baloo's Bugle

What is a Genius Kit?
Well it's a group of 20 or more odds and ends thrown together into a container and given to a Scout to turn into something. (Variations include letting the Scouts pick their own items from a large open container, but again, the items are odds and ends.)

What is the purpose of the Genius Kit activity?
The object is to let the kids use their imaginations to come up with some of the most unbelievable creations from the junk they have. You will be amazed at the results!

Climbing Robot
Source: buggyandbuddy.com

CRAFTS

Rain Sticks
Source giftofcuriosity.com

Build Robots
Source: sciencebuddies.org

CRAFTS

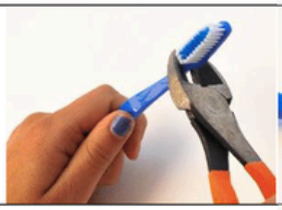
Pipe Cleaner Dragons
Source: frugalfun4boys.com

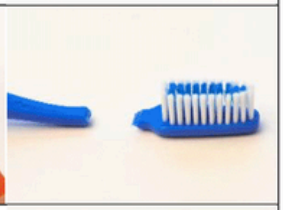
Brushbot
Source: researchparent.com

BrushBot Instructions
https://www.jameco.com/z/BRUSHBOT-PARTY-PACK-Make--Make-Brushbot-STEM-Party-Pack_2239200.html

1. Check the Contents of Your Kit: 1 toothbrush, 1 tiny motor with wires attached, 1 battery with wires attached and 1 piece of double-sided tape.

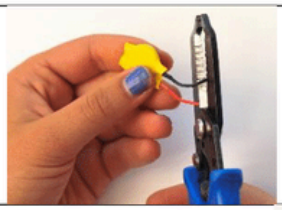
2. Cut the toothbrush: Use strong scissors or diagonal cutters to cut the toothbrush head off the handle. Make sure to cut it close to the bristles, as shown.



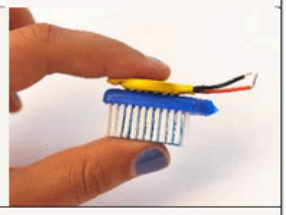


3. Cut the tape: Use scissors to cut one piece of double-sided foam tape into 4 smaller squares.

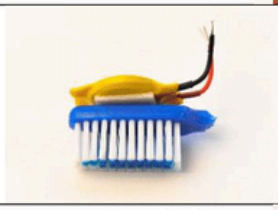
4. Trim the battery wires: Cut the battery wires about 1" long. Then use wire strippers to strip about ¼" of insulation off the end of each wire.

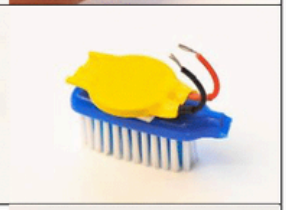


5. Test-fit the battery: The battery has a natural "curve" to it. This curve should be bent upward, to allow the battery to sit flat on the toothbrush.



6. Attach the battery: Use a small square of double-sided foam tape to attach the battery to the toothbrush head.

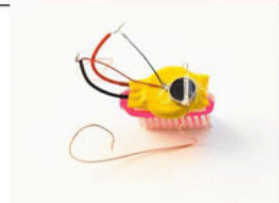




7. Attach the vibrating motor: Peel the sticker off the motor and stick the motor firmly on top of the battery.

8. Twist the wires and go!
When you are ready to run your BrushBot, twist each battery lead together with a motor lead to connect them. The polarity doesn't matter, so you can twist black to black, or black to red. Your BrushBot will start vibrating. Let it go and watch it run around!

9. Modify your BrushBots (optional): After you build your BrushBots, mod them for more fun!
   - Connect 2 bots together with tape or a bit of wire.
   - Trim or bend the bristles to make the BrushBot change direction.
   - Add stabilizing wire legs. This way the BrushBots can crash into each other without tipping over.
   - Make up a racetrack and see whose BrushBot wins!



CRAFTS

Paper Plate Marble Maze
Source: buggyandbuddy.com

Mini Robots
source: madlyodd.com

CRAFTS

DoddleBots 2.0
source: adventuresinstorytime.com

Paper Plate Marble Maze
Source: buggyandbuddy.com

CRAFTS

Homemade Kaleidoscope Craft
Source: darcyandbrian.com

Jumping Frog Craft
Source: supersimple.com

CRAFTS

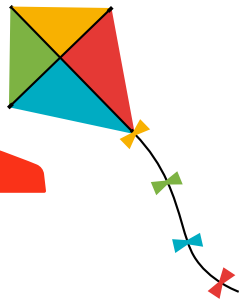
Paper Roll Robots
Source: madetobeamomma.com

DIY Robot Hand
Source: kaplanco.com

DIY-Rubber Band Racer
Source: yourmoderndad.com

Derbies & Races!


Derbies are fun camp-wide activities.
The craft station area can be used during camp to build the derby project. Practice derbies can be run in the game station area.


Types of derbies:
1. Pinewood Derby
2. Raingutter Regatta
3. Space Derby
4. Push Car Derby
5. Paper airplanes
6. Rockets (film canisters, soda bottles, stomp)
7. Fishing Derby
8. Kite Flying Derby
9. Frisbee Derby

Rules and Instructions:
Consider using ideas from the following resources to build the project and run the derby.

20 tips for planning and hosting the best Pinewood Derby:

https://scoutingmagazine.org/2015/12/20-tips-planning-hosting-best-pinewood-derby/

LEGO MINIBRICK DERBY

Derbies & Races!

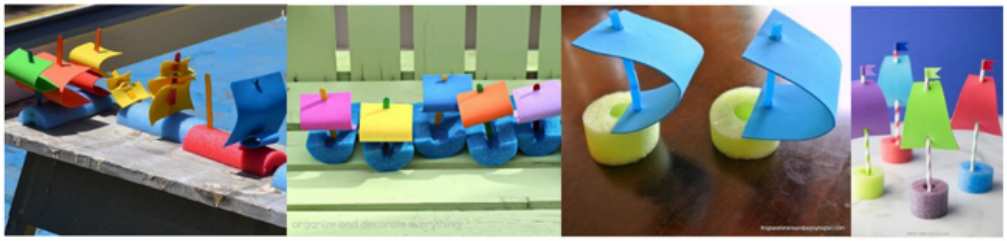
Tips for preparing your Cub Scout for a **Raingutter Regatta**

https://blog.scoutingmagazine.org/2022/09/06/tips-for-preparing-your-cub-scout-for-a-raingutter-regatta/

Invention Convention Derbies using Pool Noodles:

• Pool Noodle Boats for Raingutter Regattas

Provide pool noodles cut into a variety of shapes for Cub Scouts to make boats. Include foam sheets and straws for sails and masts



Cubanapolis Ideas:

https://www.pinterest.com/20babygirl05/cubanopolis/

Rockets:

First BSA Rocket Safety!!

https://www.grc.nasa.gov/www/k-12/rocket/rktbot.html

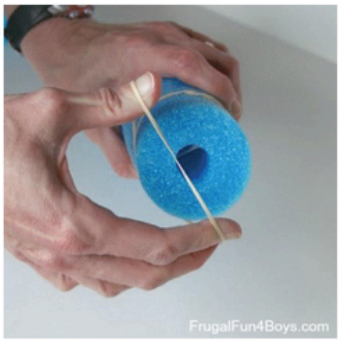
POOL NOODLE ROCKET FLINGER

Supplies Needed for a Pool Noodle Rocket Flinger:

- A pool noodle – get the smallest diameter that you can find. We bought ours at Walmart.
- A serrated kitchen knife – for cutting the pool noodle.
- Duct tape
- Rubber bands – small and large
- Scissors
- A crochet hook, or Rainbow Loom hook
- Craft foam
- Hot glue gun
- A large nail

Follow step-by-step on fualfunforboys website.

1. Use the serrated knife to slice a 12-inch section off the pool noodle. This length makes 4 flingers from each pool noodle.
2. Cut fins from craft foam. Use a double layer of craft foam for each fin to make them a little stronger. Make your own fins! The size and shape do not need to be exact.
3. Find a rubber band that is wide enough to fit over the tip of the nail, and stretchy. Use the nail to poke the rubber band through the pool noodle as shown below. The rubber band should stick out on both sides, like this:



4. Loop each end of the rubber band around the pool noodle. This holds it on very securely.
5. Attach a second rubber band which will be used to fling the rocket. Use a crochet hook or something similar to tie a knot with this rubber band around the other rubber band. (Like you're attaching a luggage tag.)

6. Wrap duct tape around the top of the rocket. This makes it look cool and keeps the rubber band secure.
7. Use hot glue to attach the fins to the rocket. Hot glue works quite well for this! The pool noodle will melt a little, and it creates a strong connection.

Derbies & Races!

AquaPod Water Bottle Rocket Launcher Kit:

https://www.amazon.com/Aquapod-Bottle-Launcher-Launch-Bottles/dp/B003Y5DOJC

Stomp Rocket (Air Rocket); Water Rockets:

https://www.instructables.com/Make-a-Stable-2-Liter-Bottle-Rocket/

Kite Derby

http://usscouts.org/bbugle/bb0308/bbpackden.html

How to Make a Kite

https://littlebinsforlittlehands.com/how-to-make-a-kite/
https://buggyandbuddy.com/make-kite/

Derbies & Races!

LEGO DERBIES

LEGO constructions are a perfect fit for the **INVENTION CONVENTION** theme!

Tips for using Legos:

- Set building boundaries for everyone. Textured kitchen hand towels are a good size (12”x18”.)
  - Lego pieces stay on the towel during building.
  - The edges of the towel are gathered at the end of building to efficiently return building bricks pieces to the container.
- Decide ahead of time how to distribute and gather back the building bricks:
  - one cup per person
  - presorted pieces in a plastic bag
- Clearly define guidelines for getting building bricks from the bin if different or additional pieces are desired.

Lego **HOT WHEEL** cars

Required parts:

- Base: Part 68556
  - Lego store wall: However, the Lego store wall seasonally changes. You can ask clerks to check the “back room” and ask for instructions on how to order the part from Lego.
  - Brinklink:
    - https://www.bricklink.com/v2/search.page?q=68556#T=A
    - https://www.bricklink.com/v2/catalog/catalogitem.page?P=2441#T=C
  - Brick Owl: https://www.brickowl.com/catalog/lego-parts/vehicle
- Wheels: Rim and tire
  - Wheel rim
    - https://www.bricklink.com/v2/search.page?q=93594&tab=A#T=A
    - Also 74967, 93595
  - Tire:
    - Part https://www.bricklink.com/v2/search.page?q=50951#T=A
    - Also #30028
- Body Pieces: It works well to let participants use their imaginations and the available building bricks to create a vehicle!

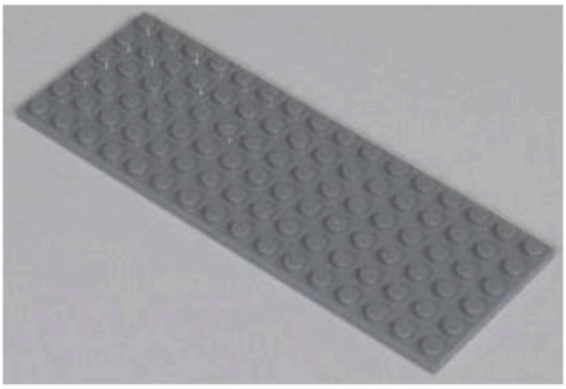
Race the Lego cars: The Lego base fits on a Hot Wheel track, the standard 12” orange tracks that piece together.

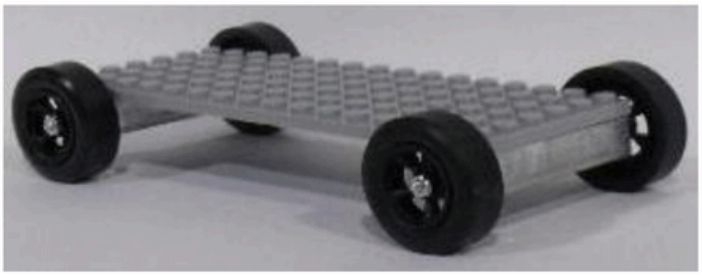
Lego Pinewood Derby Cars

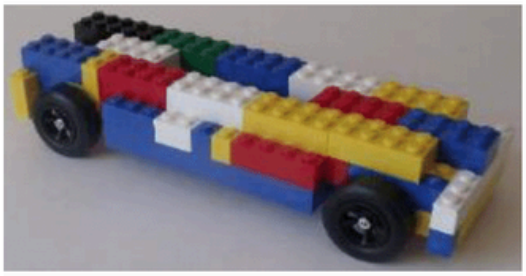
The Derby Magic Company: https://derbymagic.com/mini-bricks/
There are other companies with similar bases and wheel attachments!

Each car will need:

- Two 2x6 bricks with steel axles installed, wheels, and attachment nuts. This sets the width of the wheels to fit on a standard track and comes assembled as pictured.
    - Note: I hot glued a thin 2x6 Lego brick to each of the wheel axles to prevent the metal from wearing down.
- One 6x16 car base.
- A variety of Lego bricks to build the car!







Basic Derby Car Rules
Each car is inspected at weigh-in for the following inspection points:

Pinewood Derby Car Dimensions

- The overall length of the car shall not exceed 7 inches.
- The overall width of the car shall not exceed 3 inches.
- The car must use the standard Lego Derby wheels and axles.
- The car must have 3/8" clearance underneath the body so it does not rub on the track.

Derby Car Weight

- The car's weight shall not exceed 5.0 ounces.
- The official race scale that is used at car check-in shall be considered final.

Wheels and Axles

- The wheels may not be cut, drilled, beveled, or rounded. You may remove the seams and imperfections from the wheels.
- The axles may be altered, polished, and lubricated.

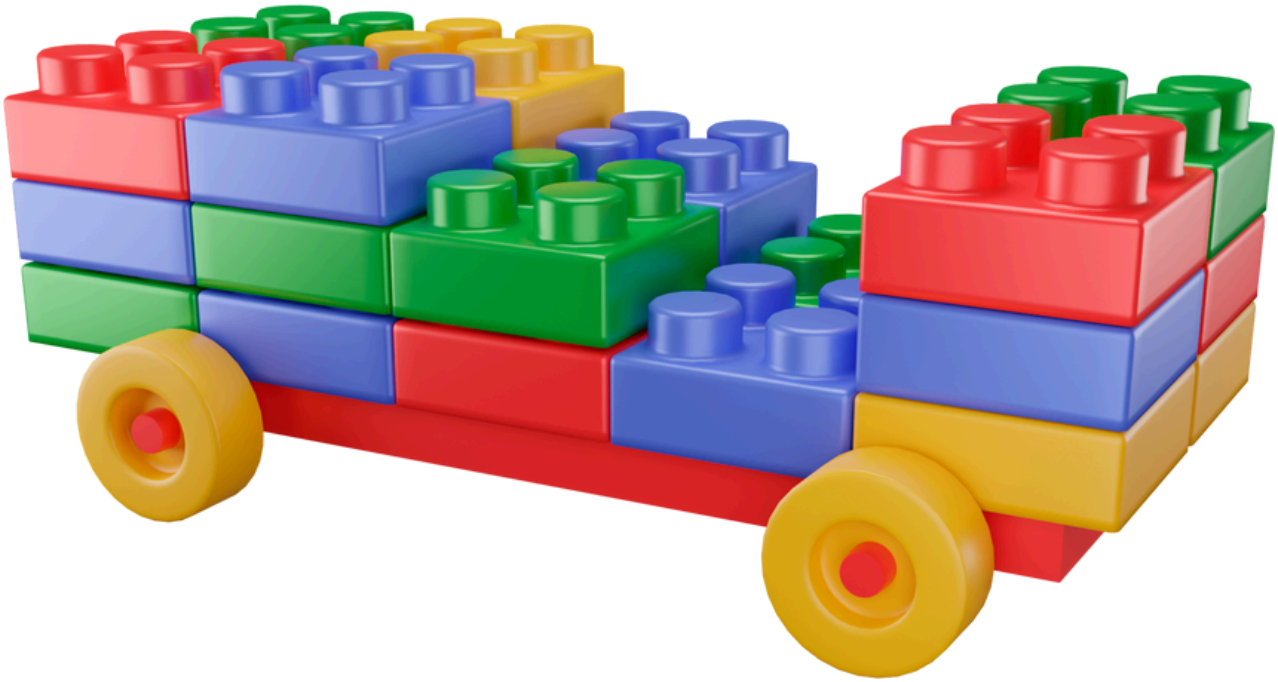
Car Modifications Not Allowed

- Wheel bearings, washers or bushings are prohibited.
- The car must not ride on any type of springs.

- No starting devices. The car must be freewheeling.
- No loose material of any kind, such as lead shot, may be used.

Other Pinewood Derby Race Rules

- Once a car passes inspection and is entered into the race, only race committee members can touch it.
- If the car loses a piece, or is otherwise damaged, the racer shall have 5 minutes to make a repair.
- Each car must pass inspection by the official inspection committee before it will be allowed to compete.
- The Inspection Committee has the responsibility to disqualify those cars that do not meet these specifications.



Games & Activities

Everyone likes to have FUN!

The playing of games is an extremely easy and fulfilling way to have fun – for all ages! Scouting is FUN! It is one endless game where the Scout learns new skills, improves existing skills, and can see more clearly his place in the world around him. Games can encompass a large scale of activities – more than just skill improvement. They can encourage thought, promote team spirit, build citizenship, develop one's own mind and body, and be an outlet for excess energy. Games teach the Scout to follow rules, to wait his turn. To respect the rights of others, to give and take, and to play fair.

Play is unrestricted – games have rules. In each game there is a contest. Scouts like games in which there is a sizeable amount of luck. They do not require prizes, nor do they seem to worry if the game is not finished. They like games which restart almost automatically, so that everyone is given a new chance. Scouts like games where they gain the reassurance that comes with repetition.

PLAYING GAMES

1. **Choose an Appropriate Game** - Be sure the game is right for your age-level and playing area. Decide if the game should be an elimination game, or just reset every time the goal is accomplished. Remember, if you use elimination, very soon most of your players will be looking for something else to do!
2. **BE PREPARED!** – Have everything you need ready to go before hand – nothing kills enthusiasm for a game quicker than the leader running around trying to find all the parts needed.
3. **Start Positive!** - sell the game with your actions and enthusiasm. Cub Scouts may be wary of learning something new, but if you make it look like fun – they'll start on the right track!
4. **Get the group in position before explaining the rules!** This will cut down on those who "don't want to play" because they don't know what they're doing – and if you start quickly, they'll be playing before you know it!
5. **Make instructions brief!** Explain enough to get them started, then start – add information along the way as needed – they're not going to remember long, complicated explanations anyway….

6. **Demonstrate, or do a dry run!** – Actions speak louder than words – they'll pick it up quickly if you walk them thru it once.
7. **While the game is in progress ……** Watch for opportunities to "adjust" as necessary – you may have to stop and redo the teams, boundaries, rules, scoring, or any number of variables. Pay attention while play is in progress.
8 .**End the game BEFORE it reaches its peak of enjoyment**! – If you stop while it's still fun, they'll want to play it again! (This is a good thing!) Next time, you're halfway home, they already know some rules, AND that they like to play it!
9. **Delay setting a winning score!** Try not to get locked into anything too early. If the game is a real "dog" and you've set 100 as a winning score, everyone will hate it by the time it's done – be flexible, keep control!
10. **Reach for lasting results!** Lord Baden-Powell, the founder of Scouting said "Scouting is a game – with a purpose"! Remember the ideals of sportsmanship and fair play fit right into what we're trying to accomplish in Scouting – make sure they're upheld during your game as well!

Games & Activities

Pool Noodle Activities

These ideas can be used in relay races, sections of an obstacle course, and as individual challenges.

Pool Noodles and Shaving Cream

Put your engineering and design skills to work with this fun building challenge using pool noodles and shaving cream.

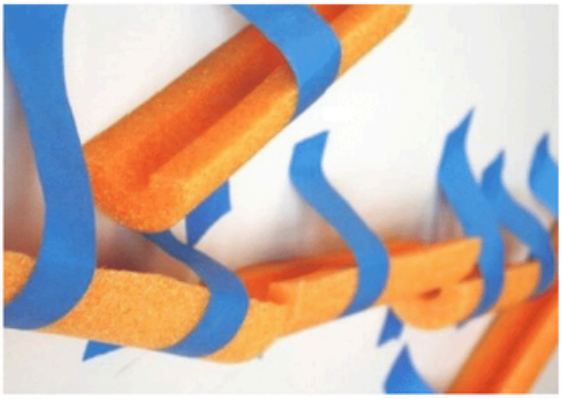
Toothpick Pool Noodle Structure Challenge

Supplies: pool noodles, toothpicks

- Cut pool noodles into pieces of varying sizes.
- Build a structure!

Test your structure in water to see if it floats!

Pool Noodle Marble Run



Attach pool noodle pieces to a wall to create a marble run wall.

Supplies:

- Painter's tape
- Pool noodles
- Knife and scissors

Instructions:

1. Cup chunks of the pool noodle using a serrated knife.
2. Slice the pool noodle pieces down the middle creating halves. You will also need a roll of painter's tape and some marbles!
3. My best tip for creating the pool noodle marble run is to put the tape on the noodle pieces before you place them against the wall. Make sure your tape piece covers the underside of the pool noodle right to the edges to make it easier to accurately stick them to the wall.
4. Once you have attached your pieces to the wall, grab some marbles and test it out!

Tall Tower & Golf Ball Challenge

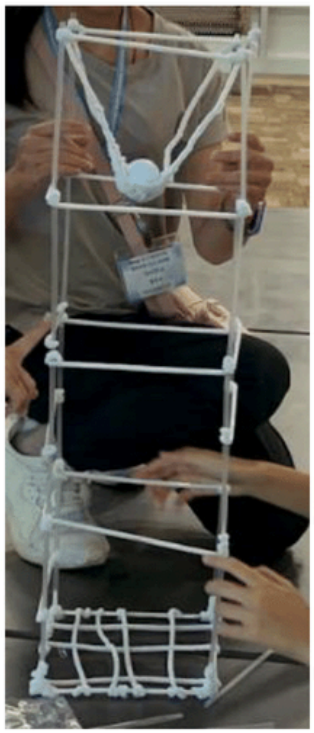
NOTE: Instructions are included to provide a variety of options for different ages, group size and time constraints. Requirements can include sketching designs before building, sketching after building, videoing the results to post for viewing.

Problem Statement:
I need a tall structure that can support a weight on or near the top.

Design Statement:
Construct a tower using the supplied materials to support the supplied weight for the specified time. The tower must be at least 24-inches tall.

Design Requirements:

- Materials: 50 straws, 50 pipe cleaners, 25 paper clips, NO TAPE, string, or walls to hold up the structure!
- The tower must be at least 24-inches tall.
- Surface must be a tabletop, countertop, wooden/linoleum floor, NOT carpet or tablecloth.
- Load: support a golf ball as high as possible within the height of the structure.
- Time: The tower and ball must remain stationary for 30 seconds without external support.
- Document the designing and construction of a tower using straws (50), pipe cleaners (50) and paper clips (25).



Documentation for the Score Sheet:

- The Problem Statement and Design Statement are written in the score table. The Design Requirements are listed above.
- Draw an initial conceptual sketch showing how you would like to build your tower. (2)
- Draw an as-built sketch explaining any differences between that and the original concept. Include a picture of the final tower. (3)
- Report the tower height, golf ball height and the time the tower held the golf ball 30 seconds. (3)
- note: 0 points for under 30 seconds, 1 point for 30 or more seconds.
- What worked, what didn't and what changes would you make? (4)
- Video your process and explanations.

Names:		
Tall Tower & Golf Ball Challenge	Points Possible	Total Points
Problem Statement: I need a structure at least 24 inches tall that can support a weight on or near the top.		
Design Statement: Construct a tower using the supplied materials to support the supplied weight for the specified time.		
Draw an **initial conceptual** sketch showing how you would like to build your tower. (2)	**2**	
Draw an **as-built sketch** explaining **any differences** between that and the original concept. (3) Explanation can be included in a video clip.	**3**	
Report the **tower height (.5), golf ball height (.5)** and **the time the tower held the golf ball 30 seconds** (0 point for under 30 seconds, 1 points for 30 or more seconds)	**2**	
What worked (1), what didn't (1) and what changes would you make (1)?	**3**	
TOTAL	**10**	

Games & Activities

CHASE THE RABBIT - Players sit or stand in a circle. A rag, ball or other object is passed around the circle as fast as possible until it gets "home". It is the rabbit. After some practice, announce the next time around a hound will chase the rabbit, and introduce another object to the circle. Players pass the "hound" as fast as possible, trying to catch the "rabbit", while at the same time trying to keep that from happening.

JUMP STICK RELAY – Players line up in 2 equal lines. The first player in each line has a long, sturdy stick (a rope may be substituted). On the signal, the first player runs to marked position, then returns to his team. When he reaches the team, he hands one end of the stick (or rope) to the next player in line, and they move back thru their team as each player on the team has to jump the stick. When he reaches the end of the line, the first player gives up the stick (or rope) and #2 heads for the marker. Play continues until the last player has run to the mark, moved thru his team, and returned to the front of his line.

Games & Activities

BIRDS HAVE FEATHERS – One player leads, the others flap their arms in a flying motion when the leader mentions something with feathers. If a player flaps at the wrong time, he drops out, and play continues. The leader may flap his arms at any time to confuse the others. He makes his calls rapidly: "Birds have feathers, ducks have feathers, frogs have feathers, swans have feathers, etc.

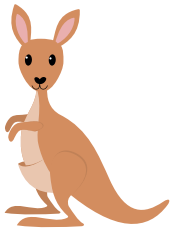
GUARD THE CHAIR - Players form a circle around a single chair. One player has to protect the chair from getting hit by a soft ball, while the other players maneuver the ball around trying to hit the chair. The player who hits the chair is now the "guard".

ELECTRIC SHOCK – The players stand or sit in a circle. One player is "it" and stands in the center. He tries to discover where the shock is. All the players hold hands. And one player is designated to start the "shock". The shock may move in either direction, and at any time the player may send it back the other. "It" watches the faces and hands of the players, trying to detect where the shock is. When he guesses correctly, the players trade places.

NUMBERED CHAIRS – Players are seated and numbered off. One blank chair is left in the game. The space remains the same number, but the players may change, depending on which space they are sitting in. Number One calls a number – "Number 5!" – immediately Number 5 must respond with another number, and so on. When the person does not respond quickly, or calls the number of the empty space, that player goes to the lowest number space, and all others move up one space, changing their numbers as they move to a new space. Numbers should be called rapidly, with special effort made to catch those at the top and send them back down.

Games & Activities

KANGAROO RELAY – Player's form 2 lines. The first player has a soft ball. On the signal, the players pass the ball over head to the back of the line. The last player in line puts the ball between his knees, his hands on his hips, and hops to the front of the line. If he drops the ball, or his hands, he must stop and continue from the drop spot.



DIZZY LIZZY – Form 2 lines, relay-style. A volunteer is needed from each team to serve as a counter. On the signal, the first player runs to the counter (who is 20-30 feet away) and takes the bat. He puts his hands on top of the bat, his forehead on his hands, and pins 7 times while counter counts and makes sure everything is still touching. Once finished, he returns to his line, and the next player does the same thing. Play continues until the last player has returned to his line. Once he is back, the line sits down. The winner is the first team sitting down in their original order.

SOCK BASEBALL – This game is played the same as baseball, except the ball is made of rolled up sock/socks. Players hit the ball with their hands held together, and field size is scaled down for a smaller number of players. This can easily be played is a small backyard.

SHOE SCRAMBLE – Players take off their shoes. They are piled at random in the center of the group. On the signal, the players recover their shoes and run to the finish line. Winners can be individuals or groups – as in the first Den across the finish line wins the prize.

LONG DISTANCE KNOT – the goal of this game is tie objects together to make the longest "chain". Anything goes - shoelaces, belts, shirts, etc. Once the chain is formed, the chain must be able to withstand one person on each end holding on and leaning back. Then the challenge is to get everything untied!

BALLOON CHOPSTICKS – Each team will need a pair of 18" to 24" dowel rods to serve as chopsticks. A balloon is placed between the ends of the chopsticks, and the player maneuvers around chairs, etc. to a prearranged spot, then returns to the line. The sticks are passed to the next player in line, and he repeats the course. If a balloon falls, it must be recovered with the chopsticks, No hands are allowed in this game.

Games & Activities

THUMB BOTTLE RACE – Fill a plastic soft drink bottle with water. Teams form lines side by side. The leader of the team begins by placing a thumb over the mouth of the bottle and inverting it. The bottle must remain upside down for the entire race. The leader then passes it to the next player in line. When the bottle reaches the end on the line, the last player turns it upright, and the team with the most water wins!

FIND YOUR KNEE – Player's form two circles, one inside the other. Each player on the outside circle is assigned a partner on the inside circle. On a signal, the outside circle walks clockwise, while the inner circle walks counterclockwise. On the stop signal, the inner circle drops to one knee, and the outer circle must find it's partner and sit on the knee. The last player to find his knee is out, and play continues. A variation could be the last player trades places with the signal caller, partners are reassigned, and play continues.

POSTMAN – Players sit in chairs, or stand in a circle. Each is given the name of a local city. The player in the center is the postman. The leader is the postmaster. The postmaster calls out the names of two cities. The players named those cities must switch places with each other, while the postmaster tries to take over and empty spot. If successful, the player without a spot is the new postman. The leader may call several cities at once. The announcement "Parcel Post" means everyone must change seats.

SPIDER RACE – Partners stand back-to-back, arms linked. They race to the goal, and then immediately reverse positions and return to the start.

FRISBEE TEAM GOLF – Players are divided into teams of two. The players alternate shooting their Frisbee towards a target – tree, post, garbage can, etc., until they hit the target. Score may be kept, buy it really won't matter. Play continues around the course, with a different target identified on each "hole". Great game for wide open spaces!

Games & Activities

EAT THE FISHTAIL – Have the Scouts line up single file, holding each other on the hips. The first boy is the fish head, the last is the fish tail. On signal, the head tries to catch the tail. While the tail tries to avoid being caught. All players must hold on to the player in front of them. The longer the fish the better! If the head catches the tail, he becomes the tail. If the tail can't be caught, rotate up occasionally.

FEATHER BLOW RELAY - Players form two lines. The first player is given a feather which he places on the floor in front of him. He blows the feather past a finish line 25' away, then picks it up and returns it to the next player. The next player continues until all have gone. A variation might be to keep a smaller feather in the air while going a shorter distance.

FUTURE - This is a continuing story game in which each player adds something to the developing story. It begins like this: "I looked into the future and saw ….". For example, the first player might say: "I looked into the future and saw a duck." The second player might say: "The duck was flying in space." The third player might say: "The duck flying in space saw a satellite." And so on, with each player adding to the story with a sentence of his own. Continue on until no one can add another element to the story to keep it going. Great for campfires!

PIGEONS & SQUIRRELS – A circle approximately 6 feet across is marked on the ground to represent a tree. A rope circle (ring toss ring) and 2 eggs (ping pong balls) are placed in the center of the circle. This is the nest with eggs. Two Scouts, the pigeons, stand inside the circle, while 4 others, the squirrels, are outside. The squirrels try to remove the eggs, one at a time, from the nest. Any squirrel pecked (touched) by the pigeons while reaching into the nest is out of the game. The pigeons win if they still have eggs left after a given amount of time (2-3 minutes). Fresh pigeons and squirrels take the place of the originals, and the game continues.

ANTELOPE RACE – To prepare for the race, each player extends his left hand back between his legs and grasps the right hand of the person behind him to form an antelope column. The entire "Antelope" must move to the finish line together, with hands clasped. If the handclasp is broken, the group must return to the start, regroup, and start again.

Games & Activities

BLIND TRIBE - All players form a circle with "it" in the center. Blindfold the "tribe" (everyone else) and have them put their hands out from their sides. Space them so their hands just touch. The "tribe" then drops their hands to their sides. They may move their hands and arms, but not their feet. On the signal, "it" tries to get through the tribe without being touched. If he escapes, he picks one of the 2 he slipped between to be the new "it" and the game resumes.

THE STAVE GAME – Players form a large circle, the more players the better. Each player has a stave (3' – 5' pole, broomstick, etc.) The players hold the staves in their right hands, with one end on the ground. As the commands are given, the staves should stay where they are, only the players change position. The commands "right" and "left" with the players moving in that direction and grabbing the stave there before it falls. Anyone without a stave is eliminated. Once the group gets the idea, the speed of the commands can be increased. When there are only two players left, the command is "now". The players should decide, in advance, which direction they are going to rotate when the command is given. Last one with a stave wins!

BARNYARD BEDLAM - Players are divided into teams. A group of 30 might have 5 teams of 6 – one player in each team would be designated captain and be given a paper bag. Each team is given the name of a barnyard animal and must imitate its cry. They are told that squirrels have hidden supplies around the field – specify the area. Each team is to gather as many of these nuts as possible. The team with the most nuts would be the winner. Only the captains may pick up the nuts and put them in the bag. When a player finds a pile of nuts, he stands beside it and gives the team cry. The captain then comes to pick up the nuts. It can be a barnyard "bedlam"!

Equipment needed: Bags for captains. Several pounds of peanuts in shells so that you can lay out a lot of little piles of peanuts for the players to find.

BLOB - Two players join hands to form the 'Blob.' The Blob grows by chasing other players and touching them. Note: Only the free hands at the end of the Blob can be used to touch players. The Blob continues to grow until only one player is left untouched – that player is the winner. As a variation, require the Blob the split when it grows to 4 to 6 players; now there are 2 Blobs, which split again when each grows to 4 to 6 players.

Games & Activities

SPIES - Hang a number of cardboard pieces about one meter above the ground. Depending on the size of the area and the cover, hand one to three umpires patrolling the area. From the starting point, players move through the area, attempting to find the specific number of hanging cards and to write their names on them—while avoiding detection by the umpires. The umpires write down the names of players that they spot within 5 meters of a hanging card. At the end of the game, add the number of times a player has signed his name on different sheet sand subtract the number of times that umpires recorded seeing him. The individual or team with the most points would be the winner.

STREETS AND ALLEYS - This is a tag game – best played with about 20 players. Players line up as if in relay formation – but with hands touch the hands of the players beside them. This creates the Streets. By turning 90 degrees and touching the hands of the players now beside them, they now have the Alleys. Two players are selected – one is the pursuer and one is the quarry. The pursuer chases the quarry down the streets. Neither may break through the arms of those forming the streets. The leader calls "Alleys" and players turn to form the alleys. This can change the situation dramatically. Runner should be changed every minute or so to give runners a break and everyone a chance to run.

HULA-HOOP CIRCLE - Scouts form a circle, holding hands. A hula-hoop is placed so that it hangs from the arm of one scout. On a signal, the scouts move the hoop completely around the circle by passing through it. Use smaller groups to race each other, or just for fun with the big group.

Games & Activities

STEAL THE BACON - Teams should be divided equally, both kids and adults. Teams line up on opposites sides of the playing area, by height. Each side counts off, starting from the short end. The shortest person on each team is number 1, the tallest person, the highest number. The tallest person on team "A" should be opposite the shortest person on team "B", so they have to come from opposite sides when their number is called. An object - like a ball, 2 liter soda bottle, or even a sack of clothing will work. The object (the bacon) is placed in the center of the field. The person running the game will call out a number, and that number from each side comes out to the center of the field. The object of the game is to get the "bacon" back to your line on your side of the field. Scoring is as follows: one point for getting the bacon back to your side, untouched by the other player, or, one point for tagging the other player while he or she is holding the bacon. Players can drop the bacon if they think they are going to get tagged, and the game continues. Once everyone gets the hang of the game, multiple numbers can be called.

DOWN BY THE BANK - First, you learn the song : "Down by the banks of the hankity pank, where the bullfrog hops from bank to bank. With an EEPs, IPEs, OPEs, AAPs, he's off the lily with a big Ker plop!" Everyone stands in a circle, with palms up, your left hand is under the next persons right, your right hand is on top of the person's left hand. When you start singing the song one person, (the first time it's the leader) Starts his right hand (the frog) jumping to the right of the person in the circle next to him, that person uses his right hand to jump to the next person's hand and so on and so on all around the circle. When the song ends whoever has the frog is out- or in the middle of the circle. Then you start again until there are just two, they do a "thumb" off. Its best kept at a steady pace, little kids as well as adults enjoy this contained large group game.

CATCH THE DRAGON TAIL – Neckerchief or hanky stuffed in back of pants. Boys chase each other within a defined area. The one with the most hankies wins. Variations - the last one to have his taken wins or play with teams, etc.

DEER AND HUNTER - Scouts form a circle around two boys who are blindfolded. One is the deer and the other is the hunter. Spin both boys briefly. The hunter attempts to find the deer and touch him while the deer tries to escape. If deer or hunter tries to break out of the circle he is redirected into the circle.

Games & Activities

BALLOON VOLLEYBALL - Form two teams and stretch a string between two chairs or poles. (This is the "net") Each team is on either side of the "net". One team serves the balloon by hitting it over the net. Each side is allowed three hits before the balloon must pass over the net to the other side. The balloon is batted back and forth across the net until it hits the ground. If the balloon hits the ground on the server's side, the serve goes to the other team and there is no score. If the balloon lands on the ground on the non-serving side, the serving team gets a point. Play until a pre-arranged odd numbered score is reached.

SIX-LEGGED RACE - Teams of three scouts stand back-to-back and hook arms together. On a signal the teams race to the finish line about twenty feet away. For added fun, mix up the teams and have eight, ten or twelve legged races.

CAMP BASEBALL - Form 2 teams. One team is “batting”, the other “fielding”. One of the players on the batting team spins the foxtail and launches it in any direction. The batting team forms a tight circle and the batter starts running around his team, counting each complete orbit as a run. Meanwhile the fielding team has to recover the foxtail, and pass it thru the legs of the entire fielding team. Once this is accomplished. they yell “out” and the batter stops counting runs. There is no prescribed rule on how to accomplish the passing, it’s up to the team to decide their technique, but the foxtail must go thru the legs of all players on the team. Once three outs are made, the teams switch and the fielding team bats. Play as many innings as you want!

WHOOSH BALL - The ‘Ball’ is passed around the circle by pushing with both hands and saying “Whoosh”
The travel can be stopped by holding a hand up in the air and saying “Whoa!” The direction then changes the other way.
In the case of a ‘Double Whoa’ed Whoosh” (a whoa on each side of the whoosher), the ball may be ‘zapped’ across the circle to anyone by clapping hands and pointing them at the ‘zappee’. The zappee is free to zap to someone else, or whoosh it to either side.
Additional moves:
“Boing” – bend at the knees up to three times and say ‘boing’ (the rest of the circle repeats “boing” and bends as well. The ball is then passed to either side.
“Freak Out!” when a ‘freak out’ is called everyone in the circle runs to another location on the circle. Once everyone is in place, the ball is passed to either side.
“Super Freak Out -----!” where ----- is an action, such as hop on 1 leg, duck walk, square dance, ... etc. The group must move to a new location while doing whatever the action is.

Games & Activities

UNTANGLED KNOTS - Players form a close circle. Then everyone reaches their hands into the center and holds two other player's hands. Now the players must try to untangle the "knot" without letting go of either hand. They may have to climb over arms or crawl under arms to untangle the knot. It helps to be limber!

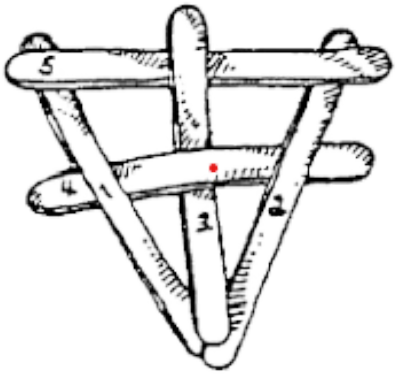
RUNAWAY TRAIN - Designate one Cub Scout as the locomotive. He will be IT. The rest of the Cub Scouts will be runaway train cars. When caught by the locomotive (IT), they hook on behind the locomotive. The game continues with all of the Cub Scouts trailing along behind the locomotive, until all the Cub Scouts are caught.

DO AND ADD - Have the Cub Scouts sit in a circle. The first Cub Scout does some physical action (scratching head, clapping hands, etc.). The next Cub Scout repeats the action of the first Cub Scout and adds one of their own (waving an arm, stomping a foot, etc.). Each succeeding player repeats all the previous actions and adds one action. If a Cub Scout misses and action, they are eliminated. The last Cub Scout remaining, is the winner.

MINUTE JUDGING - Everyone is in a seated position. The leader looks at their watch, says "Go", and everyone tries to judge when a minute is up. Each indicates his guess by standing up. The closest to the correct time is the winner.

Amazing Flying Machine Source: Baltimore Area Council
Materials: 5 Craft sticks (tongue depressors work best)

1. Weave the 5 sticks together as shown.
2. Fly like a Frisbee. The plane "explodes" on contact with the ground or other surfaces.
3. Assemble it again, and have more fun

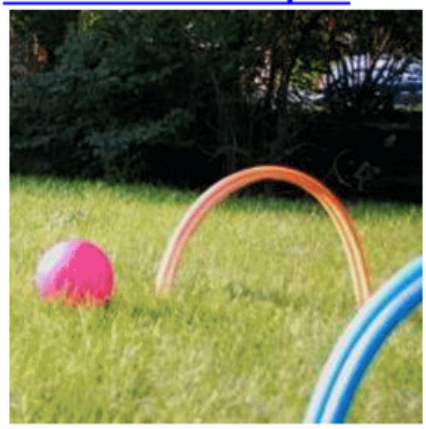


The Mad Scientist
Source: Baltimore Area Council
One player is chosen as the Mad Scientist and leaves the room. The rest of the players form a line and hold hands.
Then, without letting go of their hands, the line ties itself up by crawling under the arms, through the legs, over the arms, etc.
The Mad Scientist then returns and tries to untangle the line without anyone letting go of the others hands

Games & Activities

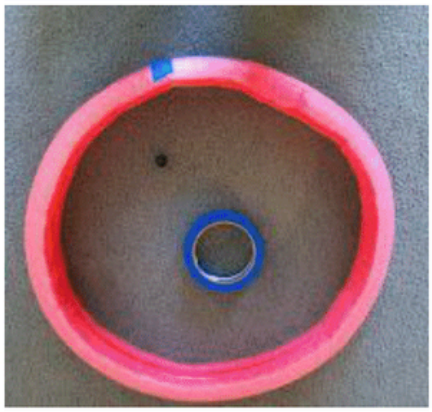
Batting Tee Pool Noodle

Pool Noodle Croquet

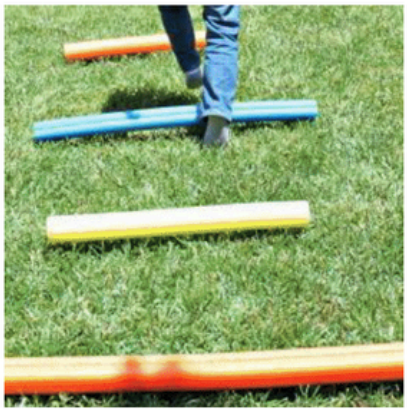


Pool Noodle Javelin

Pool Noodle Marble Ring



Pool Noodle Obstacle Course



Games & Activities

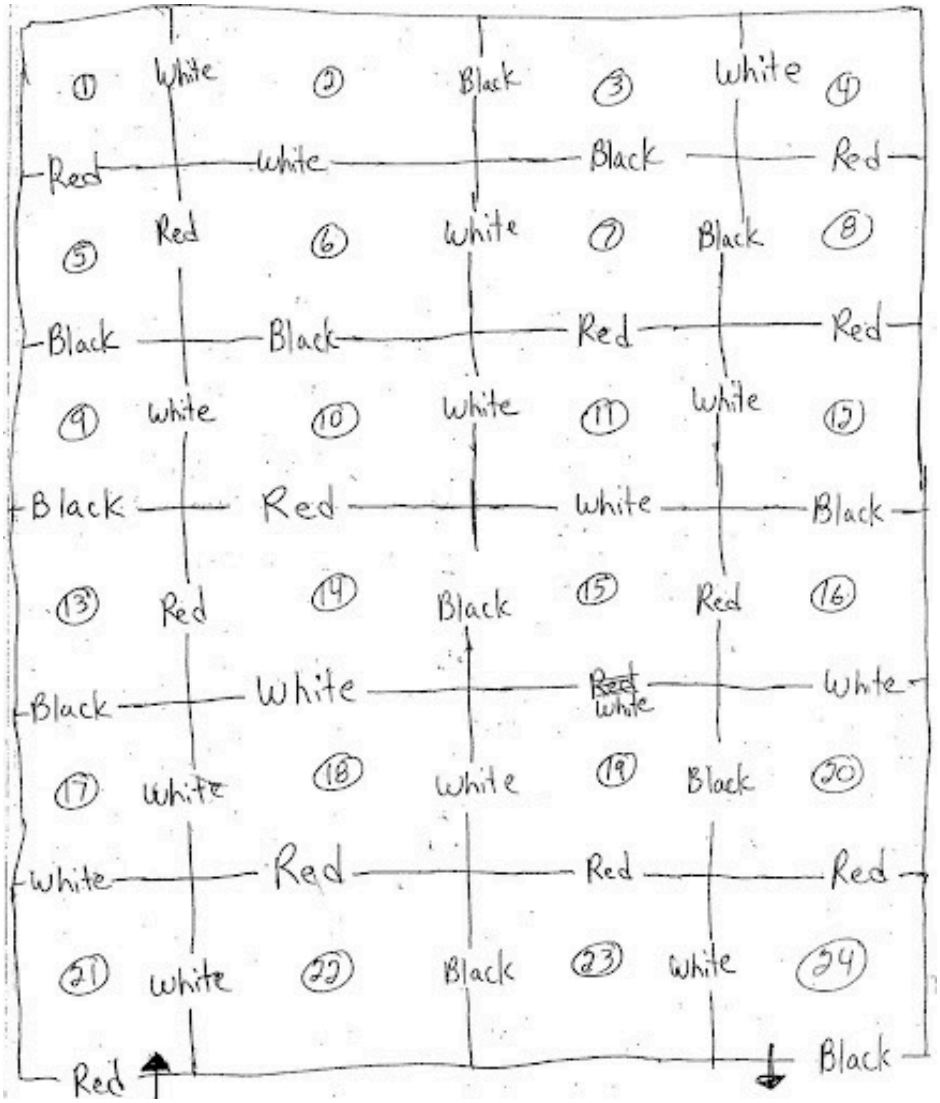
MAZE - The maze can be accomplished using Electrical tape on a gym floor. Outdoors it can be accomplished using the yellow caution tape used in construction with Black and Red Duct Tape available at Home Depot/Lowes. Cut up and bent coat hangers are used to stake it to the ground. This maze is made of three-foot squares.

Object: Enter at the red in the lower left corner and exit out over the black at the lower right corner. You must step over into each square in this color pattern. Boxes may be entered more than once.

Red...White...Black...Red...White...Black

Maze Answer:

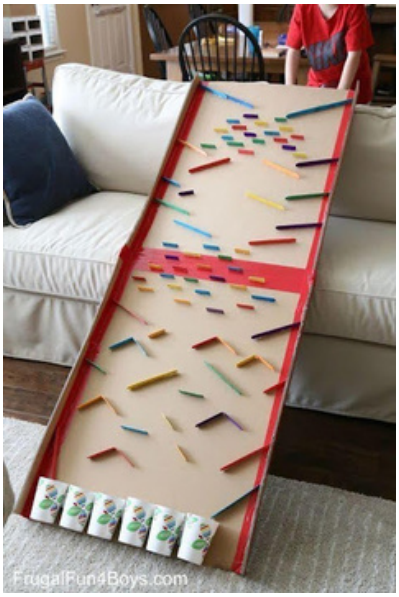
Red to 21, 22, 23, 19, 15, 14, 10, 9, 5, 6, 7, 8, 4, 3, 7, 11, 12, 16, 15, 19, 20, 24, 23, 22, 18, 14, 15, 16, 20, 19, 23, 24, out over black.



Games & Activities

Mini-basketball
Source: dltk-kids.com

Marble Run
Source: frugalfun4boys.com



Feed the Monster
Source: bloglovin.com

Balloon Tennis
Source:littlebinsforlittlehands

Target Golf
Source: Startathomedecor.com

WATER GAMES AND ACTIVITIES

Ping Pong Game
(resource: ordinaryandhappy.com)
Don't let the simple description fool you! Fill some cups to the brim with water and place one ping pong ball on top of each cup. Each player uses a straw to try and blow the ping pong balls off the water. It's difficult, believe us!

Sponge Run
(resource: playpartyplan.com/outdoor-water-games)
Supplies: Two plastic buckets, large sponges

Play:
Players must dunk the sponge in the water trying to soak up as much water as possible. They then have to put the sponge on their head and hold it their while they run to the empty bucket, hoping to keep as much water as possible in the sponge. Wring out the sponge into the empty bucket and run back, continuing until someone reaches the mark on the empty bucket.
Win:
First person to fill up their bucket to the marked line wins.

Water Pass Over
(resource: ordinaryandhappy.com)
Set up 2 teams and line your players up one behind the other. Fill the starting cups with water. The first person in line will raise the cup overhead to pour the water into the next player's cup and then joins the line back at the end. See which team finishes with the most water in the cup.

Water Balloon Piñatas
(resource: Shaun Dreisbach, Parents.com)
Fill large balloons with water, knot them, then use a short length of string to tie them to tree branches or a clothesline, suggests Michelle Bachman of Little Miss Party, a party-planning firm in New York City. Then grab a Wiffle ball bat and take turns being the blindfolded hitter. Instead of candy, you'll all get a nice, refreshing shower after this water balloon game!

Musical Instruments
BOOMWACKERS

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Boomwhackers

P7-7400

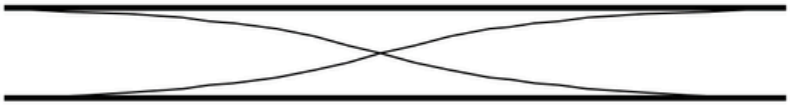
BACKGROUND:

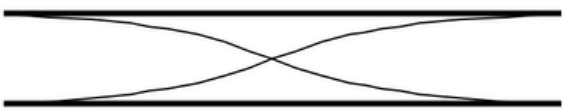
Boomwhackers create distinct tones when whacked against a surface. The tone is determined by the length of the tube. The tubes are cut to the correct lengths to form the eight notes in a C major diatonic scale (C-D-E-F-G-A-B-C).

The tubes create tones in much the same way as other tube-shaped instruments. They filter a particular tone from noise that is introduced into the tube. A clarinet is played by vibrating a reed at one end. The reed does not vibrate at any particular frequency, but produces a range of frequencies (a buzzing noise). The shape of the clarinet and which holes are covered determine which frequency is amplified. Boomwhackers work in much the same way. Whacking the tube produces a noisy sound that contains many frequencies. The tube, because of its length, resonates and amplifies one of the frequencies. Notice, in the figures below, that the resonant wavelength is one that has antinodes at both ends of the tube.

EXPERIMENTS:

1. **Pitch/Wavelength:** Whack two different tubes. Which tube produces the lower tone? How do the lengths of the tubes compare? Longer tubes produce lower tones because they amplify a longer wavelength (lower frequency).





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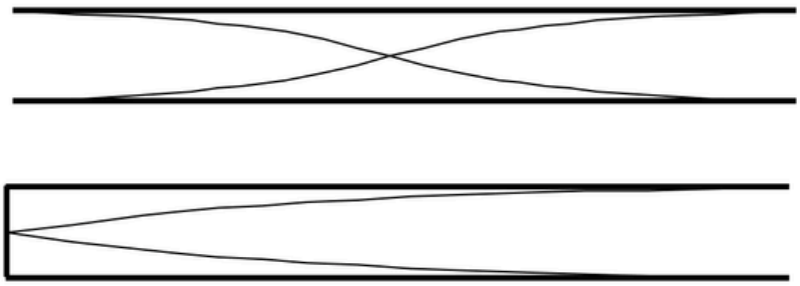
2. **Resonance:** Hum loudly over the end of a tube near and at its natural frequency. The tube will vibrate when you reach its natural frequency, in addition to amplifying the sound.

3. **Resonance 2:** Strike a 256 Hz tuning fork and hold it just inside the end of the longest C tube. The tube will resonate and amplify the 256-Hz tone. Strike the tuning fork again and hold just inside the SHORTEST C tube. The short tube also resonates, because the tuning fork's vibration includes another frequency, 512 Hz. This overtone is much quieter than the fundamental tone, so it is usually not noticed.

4. **Open/Closed Pipe Resonance:** Whack one tube and notice the tone it produces. Cap one end with one of the black caps and whack the tube again. How does the new tone differ from that produced by the open tube? The capped (closed) pipe produces a tone that is exactly one octave lower than the uncapped (open) pipe. The cap forces a node to be at the end of the tube, and the lowest resonant wavelength is twice as long as the wavelength of the uncapped tube. An octave is produced by doubling the frequency (or halving the wavelength) of a sound.



5. **Noise Filtering:** Take the Boomwhackers to a noisy environment, such as a crowded hallway or cafeteria. Put a tube to your ear and listen to the sounds. The tube filters and amplifies the same tone that it produces when it is whacked. If you hold the tube tightly against your head, it becomes a closed tube and will amplify the note an octave lower.

6. **End Correction:** Ideal open pipes amplify a sound whose wavelength matches the length of the pipe. The frequencies of each note are listed below. Calculate the wavelength of each note (wavelength = speed of sound in air / frequency) and compare them to the tube lengths. (For open pipes, the length of the tube is HALF of the wavelength of the fundamental tone. See the diagrams above.) The tubes are a bit shorter than the calculated wavelengths. This is because the vibrating air in the tube does not disperse immediately at the end of the tube. This causes the tube to effectively be slightly longer when it is played.

C 256 Hz	E 320 Hz	G 384 Hz
D 288 Hz	F 341.3 Hz	A 426.7 Hz
B 480 Hz	C 512 Hz	

Thanks to Bob Williamson, Walt Krell, and Clarence Bennett for their experiment ideas.

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Musical Instruments
BOOMWACKERS

Alou et te

A- lou et-te Gen tile A- lou et te.

A- lou et-te je te plu- me- rai.

Je te plu- me rai le tete,

Je te plu- me rai la tete,

Et la tete, et la tete,

Et la tete, et la tete, Oh.....

A- lou et-te Gen tile A- lou et te.

A- lou et-te je te plu- me- rai.

Are You Sleeping?

Are you sleep- ing?

Are you sleep- ing?

Bro- ther John.

Bro- ther John.

Morn- ing bells are ring- ing.

Morn- ing bells are ring- ing.

Ding dong ding.

Ding dong ding.

Eensie Weensie Spider

The Een- sie Ween- sie Spi-der
went up the wa- ter spout.
Down came the rain and
washed the spi- der out.
Out came the sun and
dried up all the rain
and the Een- sie Ween- sie Spi-der
went up the spout a- gain.

The Clock Song

The big hand is busy (C)
But the small hand has the power (D)
The large one counts the minutes (E)
But the little one names the hour (F)
When both hands stand at the top (G)
It's surely twelve o'clock (A)
That's twelve at noon or twelve at night (B)
Depending on dark or light (C')
Tick tock tick tock tick tock tick tock.

http://www.canteach.ca/elementary/songspoems71.html

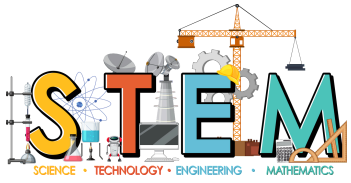
Musical Instruments
BOOMWACKERS

Hush Little Baby

Hush litt-tle ba-by[1] don't say a word,
Pa-pa's gon-na buy you a mock-ing bird.
And if that mock- ing[1] bird won't sing,
Pa-pa's gon-na buy you a
dia-mond ring.

Mary Had A Little Lamb

Ma-ry had a little lamb,
Little lamb, lit-tle lamb.
Ma-ry had a little lamb,
It's fleece was white as snow.



Musical Instruments
BOOMWACKERS

Old McDonald

Old Mac-Don- ald had a farm,

E- I- E- I- O.

And on this farm, he had some chicks,

E- I- E- I- O.

With a chick chick here and a chick chick there, here a chick, there a chick, ev-ry-where a chick chick.

Old Mac-Don- ald had a farm,

E- I- E- I- O.

Musical Instruments
PIPECHIMES

Pipe Chimes Size & Note Chart

NUMBER	SIZE (inches)	NOTE
0	13 5/8	A
1	13 3/8	B flat
2	13	B
3	12 5/8	C
4	12 1/4	C sharp
5	11 7/8	D
6	11 1/2	E flat
7	11 1/4	E
8	10 7/8	F
9	10 5/8	F sharp
10	10 1/4	G
11	9 7/8	A flat
12	9 5/8	A
13	9 3/8	B flat
14	9 1/8	B
15	8 7/8	C
16	8 5/8	C sharp
17	8 3/8	D
18	8 1/8	E flat
19	7 7/8	E
20	7 5/8	F

Directions to Make Pipe Chimes:

- Get two 10-foot lengths of ½-inch galvanized pipe.
- Cut pipe to exact measurements. 1/8 inch off will change the pitch.
- Drill a hole for string 1-1/2 inches from the end of the pipe. For best results, use a drill press.
- Build a frame to suspend or hang the pipes so that they are free to vibrate when played.
- For best results use a spoon to strike the pipes. Strike in the center of the pipe.

Home on the Range
5,7,9,10,12,14,15,17

5	5	10	12	14	10	9	7	15	15	15
Oh	give	me	a	home	where	the	buf-	fa-	lo	roam

15	15	17	10	10	10	9	10	12, 9	
and	the	deer	and	the	an-	te-	lope	play,	

5	5	10	12	14	10	9	7	15	15	15
Where	sel-	dom	is	heard	a	dis-	cour-	ag-	ing	word,

15	15	14	12	10	9	10	12	10
And	the	skies	are	not	cloud-	y	all	day.

17, 14	15, 9	14	12	14, 10
Home,	home	on	the	range

12	12	10, 7	10	10	10	9	10	12
Where	the	deer	and	the	an-	te-	lope	play,

5	5	10	12	14	10	9	7	15	15	15
Where	sel-	dom	is	heard	a	dis-	cour-	ag-	ing	word,

15	15	14	12	10	9	10	12	10
And	the	skies	are	not	cloud-	y	all	day.

Musical Instruments
PIPECHIMES

TAKE ME OUT TO THE BALLGAME
1,3,5,6,7,8,9,10,12,13,15

1	13	10	8	5	8	3
Take	me	out	to	the	ball	game

1	13	10	8	5	8
Take	me	out	to	the	crowd

10	9	10	5	6	8	10	6	3
Buy	me	some	pea-	nuts	and	Cra-	cker	Jack

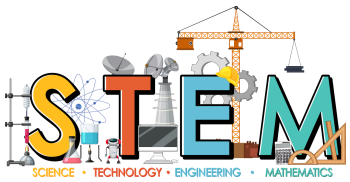
10	10	10	12	13	15	12	10	8
I	don't	care	if	I	e-	ver	get	back

5	3	1	13	10	8	5	8	3
for	it's	root	root	root	for	the	home	team

3	1	3	5	6	8	10
if	they	don't	win	it's	a	shame

10	12	13	13	13	12	10	8
for	it's	ONE!	TWO!	THREE!	strikes	you're	out

7	8	10	12	13
at	the	old	ball	game!



HAPPY BIRTHDAY, TO YOU
3, 5, 7, 8, 10, 12, 13, 15

3	3	5	3	8	7
Hap	py	birth	day	to	you

3	3	5	3	10	8
Hap	py	birth	day	to	you

3	3	15	12	8	7	5
Hap	py	birth	day	dear		

13	13	12	8	10	8
Hap	py	birth	day	to	you

Musical Instruments
GLOVE A PHONE

Gloveaphone

Materials:

- A thin latex glove
- A straw
- A cardboard tube with open ends or 6” length of 3/4” or 1” pvc pipe
- Duct tape
- A rubber band

Instructions:

- Cut a small hole in one of the fingers of the glove.
- Feed the straw a small way through the hole into the glove. Seal off with tape.
- Put the end of the glove over the cardboard tube and secure the glove to the tube with the rubber band, making sure there are no gaps.
- Pull the rest of the fingers of the glove down against the side of the tube so a tight skin is made at the end of the tube.
- Blow into the straw until a sound is made. The glove should inflate.

Results and Explanation:

The latex glove vibrates as air flows down the tube. This creates a standing wave in the air along the length of the tube which we hear as sound.

- Experiment with a variety of Glove-a-Phone designs. Try using tubes of different lengths and diameters.
- Vary how hard you blow and listen for changes in the sound.
- Touch the portion of the glove stretched over the tube opening to alter its tension.
- Make finger holes in the tube and cover/uncover them to change the sound.

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Curriculum topics:

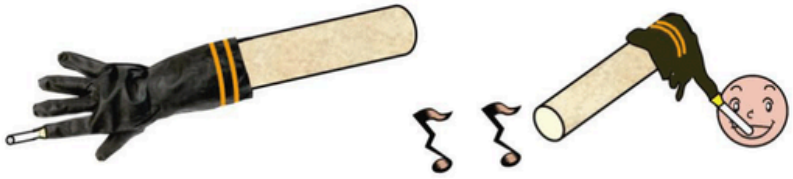
- Sound
- Vibration
- Music
- Instruments
- Properties of Materials

Subject: Art, Physical Science

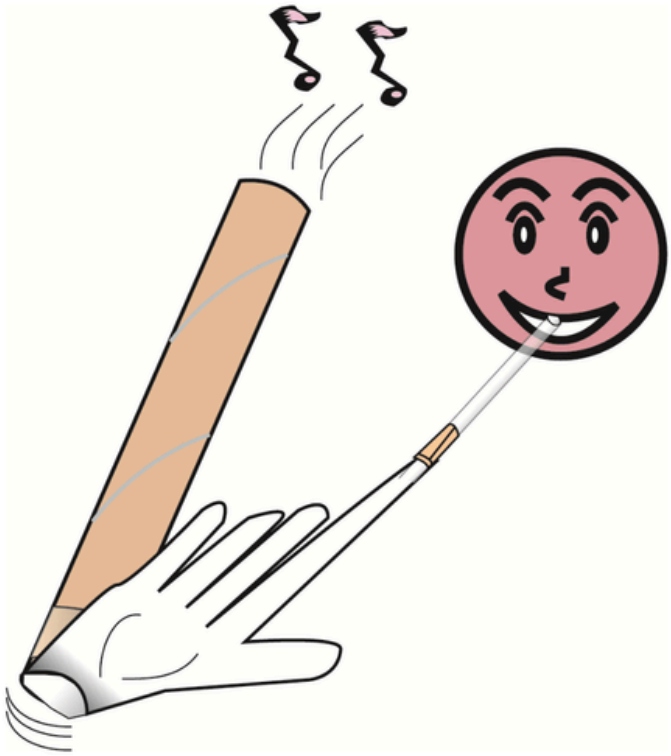
Grade range: K – 8

GLOVE-A-PHONE

A "Note"worthy sound activity



How can a plastic glove, a straw, and a tube be combined to make a "musical" instrument? Build a Glove-a-Phone to discover one way to accomplish this feat. Once you learn the proper technique, your Glove-a-Phone can be heard a surprisingly long way off! How is the sound produced? Careful observation is needed to answer that question.



Who we are:

Resource Area for Teaching (RAFT) helps educators transform the learning experience through affordable "hands-on" activities that engage students and inspire the joy and discovery of learning.

For more ideas and to see RAFT Locations

www.raft.net/visit-raft-locations

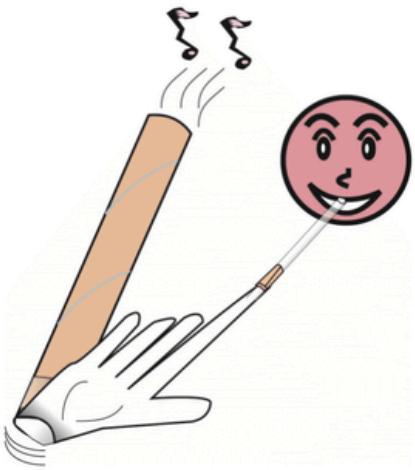
To do and notice

1 Hold the tube vertically in front of you with one hand. Gently pulling the straw with the other hand. Pull and angle the glove so the palm area covers the tube opening completely and makes a tight seal against the round end of the tube. Create a smooth, tight membrane with no wrinkles.

2 Blow through the straw to inflate the glove – a loud honking noise will result.

> If the glove does not inflate, smooth out any wrinkles and pull the glove more tightly over the opening.

> If the glove inflates but there is still no sound, adjust the angle between the tube and the glove. After some practice, anyone can play this instrument!



The science behind the activity

The part of the glove covering the tube opening forms a membrane similar to the covering on the head of a drum. As the fingers of the glove are inflated, the pressure will cause the membrane to vibrate. For a given size tube there will be certain frequencies that resonate, or build, within the tube producing a specific sound.

The Glove-a-Phone is an interesting instrument because it works like a combination of a drum and a flute. The frequency (**pitch**) of the sound coming from the Glove-a-Phone is affected by two main factors: the diameter and the length of the tube.

A **large diameter** tube allows a larger piece of the rubber glove to vibrate. The large piece of rubber vibrates slowly, and creates a low pitch.

When a tube with a **small diameter** is used, the area of rubber that is vibrating is smaller, and vibrates more quickly. This creates a higher pitch.

The **length** of the tube also has an effect. If two tubes are made with the same diameter and different lengths, the longer tube will create a slightly lower pitch.

RAFT IDEAS

Topics: Sound, Vibration, Musical Instruments

Materials List

- ✓ 1 "Wide" cardboard tube, ~3 cm (1 ¼") x 18 cm (7")
- ✓ 1 "Narrow" cardboard tube, ~2 cm (¾") x 20 cm (8")
- ✓ Piece of straw or rubber tubing, 13 cm (5") long, ~1 cm (1/2") diameter
- ✓ 1 Rubber or latex glove (**powder-free, not vinyl**)
- ✓ Tape or adhesive labels
- ✓ Craft or hot glue
- ✓ Scissors
- ✓ Optional: Drill w/ bits

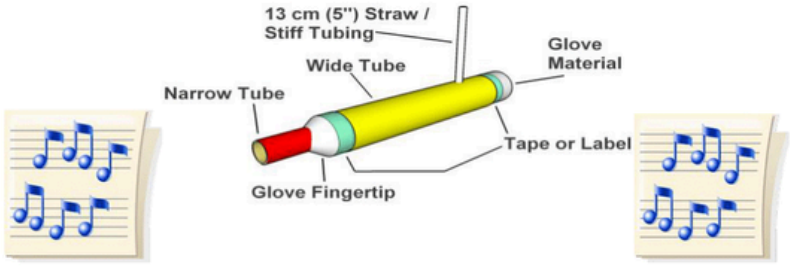
This activity can be used to teach:
Next Generation Science Standards:

- Senses (Grade 4, Life Science 1-2)
- Sound (Grade 1, Physical Science 4-1, 4-4)
- Energy and sound (Grade 4, Physical Science 3-2, 3-4)
- Waves (Grade 4, Physical Science 4-1)
- Science & Engineering Practices (grades K-8)

raft resource area for teaching
www.raft.net

2-Tubaphones

Simple instruments with trombone-like character

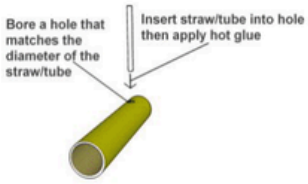


Make an instrument with an adjustable pitch to explore the science of sound waves and the art of music!

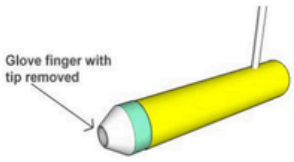
Assembly

(Safety Note: Ask about potential allergies if using latex gloves)

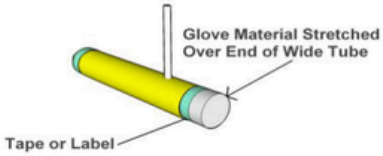
1. Using scissors or a drill, bore a hole slightly wider than the straw or rubber tube into the "wide" tube, about 7 cm (2 ¾") from an end.
2. Insert the straw or tubing piece 1-2 cm (½ - 1") into the hole made in step 1. Apply craft glue or hot glue around the insertion point to form an airtight seal.



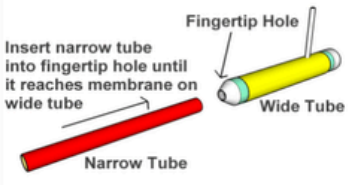
3. Cut off a finger or thumb from a rubber or latex glove at the point where the finger/thumb meets the palm of the glove.
4. Stretch the "mouth" of the cut finger/thumb approximately 2 cm (~1") over the end of the wide tube opposite the end with the straw/tubing. Apply a piece of tape or label to secure the rubber/latex to the tube.
5. Poke or cut a 1 cm (~½") diameter hole into the tip of the finger/thumb (shown at right).



6. Cut a piece of rubber/latex from the palm of the remaining glove material about 7 ½ cm (3") in diameter. Stretch this piece over the open end of the wide tube until tight, forming a membrane. Apply tape or a label to secure to the tube (see illustration below).



7. Insert the narrow tube into the wide tube through the fingertip hole from step 6 until the narrow tube touches the membrane on the other end.

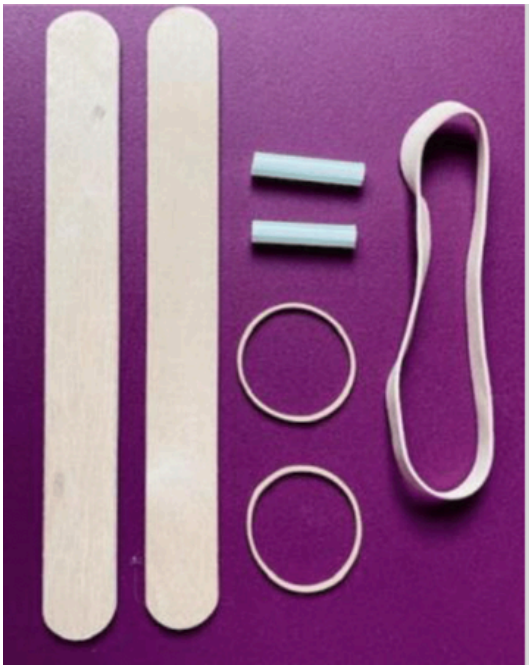


Inspired by an activity developed by Fran Holland, written by Eric Welker (RAFT)

STEM SCIENCE • TECHNOLOGY • ENGINEERING • MATHEMATICS

Musical Instruments
HARMONICA

Tongue Depressor Harmonica



Step 1

Materials:

- 2 Tongue depressors (craft sticks)
- 1 Thick rubber band
- 2 Thin rubber bands
- Straw
- Scissors

Cut two pieces off the straw so that they are each about 1-2 inches (2.5-5 centimeters) long.

Step 2

Stretch the thick rubber band lengthwise across one of the tongue depressors.

Musical Instruments
HARMONICA

Step 3: About one inch from the end of the tongue depressor, place one piece of the straw between the rubber band and the tongue depressor.

Step 4: About one inch from the other end of the tongue depressor, place the second piece of the straw on top of the rubber band. Place the second tongue depressor on top of the first.

Step 5

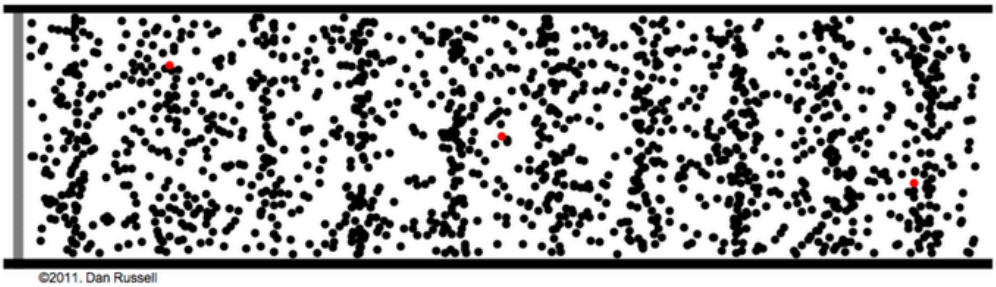
To hold the tongue depressors together, wrap one of the thin rubber band around two tongue depressors between one of the straw pieces and the end of the tongue depressor.

Step 6

Repeat step 5 with the other thin rubber band near the other piece of the straw.
Experiment with the harmonica to see how changes affect the noise it makes.
Try moving the straw pieces closer together or further apart. Or, try blowing harder or softer.

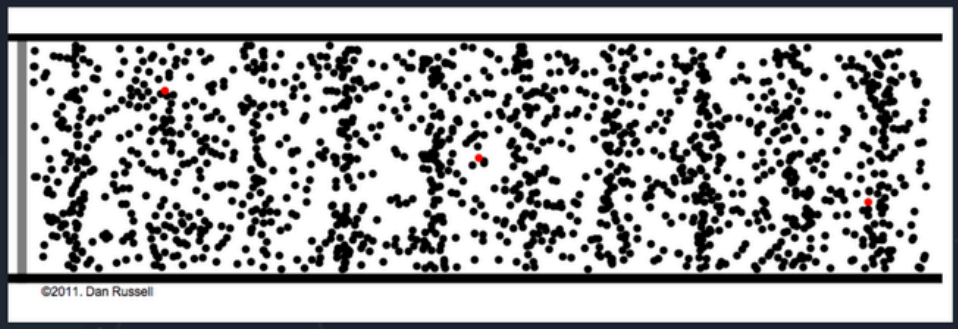
Musical Instruments
HARMONICA

NASA engineers are working to make aircraft quieter to help reduce noise pollutions. Understanding how sound is created allows them to design planes which operate at lower noise levels. This is beneficial to both people and wildlife.



Laws of Physics:

- Sound is energy vibrating through substances.
- All sounds are caused by vibrations—the back-and-forth motion of molecules.
- The molecules collide with each other and pass on energy as a moving wave.

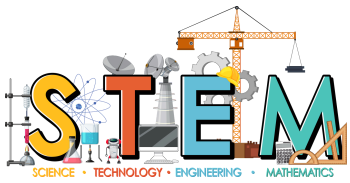


Laws of Physics:

- An endless variety of materials can vibrate and produce sound.
- If these vibrations are combined, it can increase the loudness of the noise being created.

Musical Instruments
MARACAS

How to make 52 musical instruments; this website contains links to multiple sites with instructions on how to make the instruments!



SLIME

TONS of Slime Recipes

https://littlebinsforlittlehands.com

Classic Borax Slime

https://littlebinsforlittlehands.com/how-to-make-borax-slime-easy/

Liquid Starch Slime

https://littlebinsforlittlehands.com/liquid-starch-slime-easy-sensory-play-recipe/

Saline Solution Slime

https://littlebinsforlittlehands.com/how-to-make-saline-solution-slime-recipe/

Fluffy Saline Slime

https://littlebinsforlittlehands.com/make-saline-solution-fluffy-slime/

Codes & Ciphers

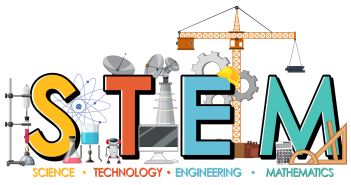
Secret Codes at Cub Scout Day Camp

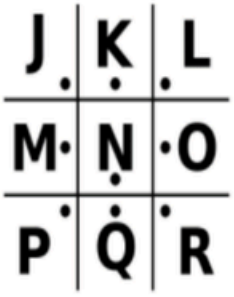
INVENTING a secret code is a fun way to send a message that no one else can read unless they have the **KEY** to the code!

STEM Secret Codes: Create, build, or design a secret code. Write a message to another Cub Scout. Decode a message sent to you!

- **Morse Code:** Learn Morse Code with This Morse Translator and Decoder https://scoutlife.org/hobbies-projects/funstuff/575/morse-code-translator/
- **Pig Pen Code:** Letters are replaced by geometric symbols.

A	·—	N	—·	1	·————	?	··——··
B	—···	O	———	2	··———	!	—·—·———
C	—·—·	P	·——·	3	···——	.	·—·—·—
D	—··	Q	——·—	4	····—	,	——··——
E	·	R	·—·	5	·····	;	—·—·—·
F	··—·	S	···	6	—····	:	———···
G	——·	T	—	7	——···	+	·—·—·
H	····	U	··—	8	———··	-	—····—
I	··	V	···—	9	————·	/	—··—·
J	·———	W	·——	0	—————	=	—···—
K	—·—	X	—··—				
L	·—··	Y	—·——				
M	——	Z	——··				





A		N	
B		O	
C		P	
D		Q	
E		R	
F		S	
G		T	
H		U	
I		V	
J		W	
K		X	
L		Y	
M		Z	

Codes & Ciphers

Overview for adults

A cipher is a code used to protect information that is being stored or communicated, so that only people who are allowed can access it. This activity involves making a cipher wheel and using it to encrypt and decrypt messages, with a simple cipher.

What's the maths?

Using the cipher wheel to encrypt a message (make it secret) involves transforming each letter of the message into another letter or a number by following a series of steps: an algorithm. In this case, the algorithm involves simply shifting each letter of the message by a certain number of places through the alphabet. Algorithms are commonplace in mathematics. The message's receiver is aware of the algorithm – which, in the case of cryptography, is called a cipher – and can decrypt the messages by applying the algorithm in reverse. To anyone else, the message looks nonsensical.

Explore more

During (and before) the Second World War, German military forces used sophisticated devices called Enigma cipher machines to encrypt messages.

Maths in your world

Sophisticated encryption is used to send information across the internet, ensuring that credit card details, emails and other messages cannot be read by anyone who intercepts the data. Many websites are also secured using cryptography, so that hackers cannot gain access to the computer files that make up the website or personal data stored in them. The addresses of secure websites begin with 'https' rather than 'http'.

Did you know...?

The word 'cryptography' comes from the Greek words kryptos (meaning 'hidden') and graphia (meaning 'writing').

Make a Binary Code Bracelet

A	■□■■■■■□	Q	■□■□■■■□
B	■□■■■■□■	R	■□■□■■□■
C	■□■■■■□□	S	■□■□■■□□
D	■□■■■□■■	T	■□■□■□■■
E	■□■■■□■□	U	■□■□■□■□
F	■□■■■□□■	V	■□■□■□□■
G	■□■■■□□□	W	■□■□■□□□
H	■□■■□■■■	X	■□■□□■■■
I	■□■■□■■□	Y	■□■□□■■□
J	■□■■□■□■	Z	■□■□□■□■
K	■□■■□■□□		
L	■□■■□□■■	■ purple	
M	■□■■□□■□	□ blue	
N	■□■■□□□■		
O	■□■■□□□□		
P	■□■□■■■■		

Great video explaining Binary Code:

Binary Code keyring

1. Use the grid and the binary code key to write your name in binary code.
2. Make a key chain of your name in binary code using pony beads or perler beads and plastic lacing or 24-gauge plastic wrapped wire.
3. Each binary code letter is made from a combination of 8 light and dark beads in a specific sequence. The “beady buddy” key ring works better with two rows of four beads (instead of one row of eight beads.)
4. Use the basic “beady buddy” instructions to construct a key chain.

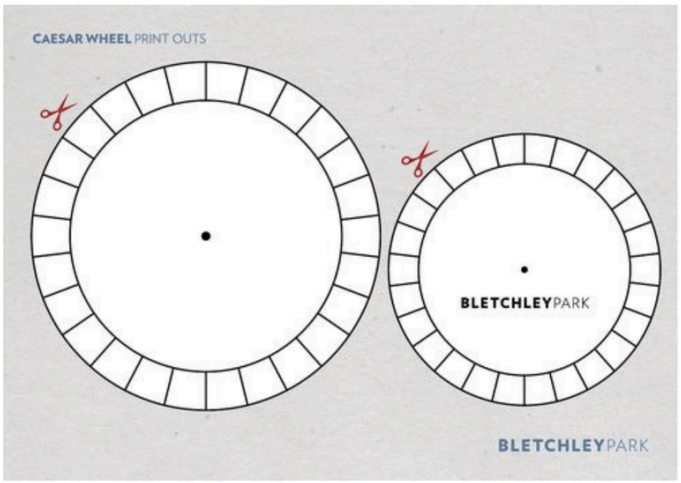
BINARY CODE BRACELET VIDEO

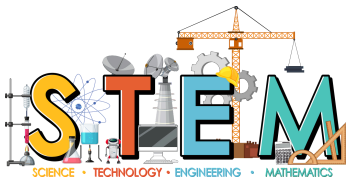
Binary Code Chart for Binary Code Bracelets

A – 01000001	J – 01001010	S – 01010011
B – 01000010	K – 01001011	T – 01010100
C – 01000011	L – 01001100	U – 01010101
D – 01000100	M – 01001101	V – 01010110
E – 01000101	N – 01001110	W – 01010111
F – 01000110	O – 01001111	X – 01011000
G – 01000111	P – 01010000	Y – 01011001
H – 01001000	Q – 01010001	Z – 01011010

Codes & Ciphers

- **Code Wheel:** Letters are replaced by numbers or symbols!





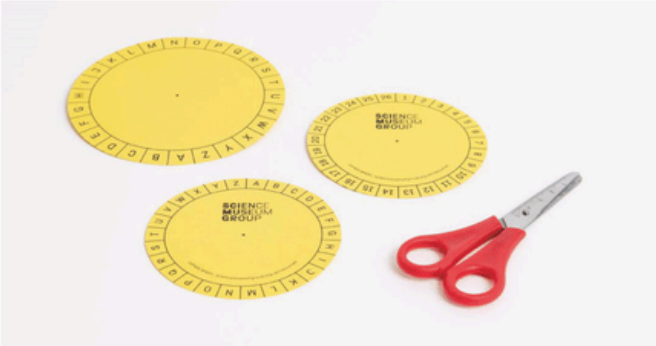
SCIENCE MUSEUM GROUP

CIPHER WHEEL

MAKING	Age 7–11	Topic MATHS, NUMBERS	30 MIN
	Skills used MAKING OBSERVATIONS • PROBLEM SOLVING • CURIOSITY		

Blank code wheel:

Follow these steps...



1 Cut out the templates.

2 Take the small circle with the letters on it and put it on the large circle. Secure with a split pin in the centre.

3 Turn the smaller wheel so that each letter on it lines up with a different letter on the larger wheel.

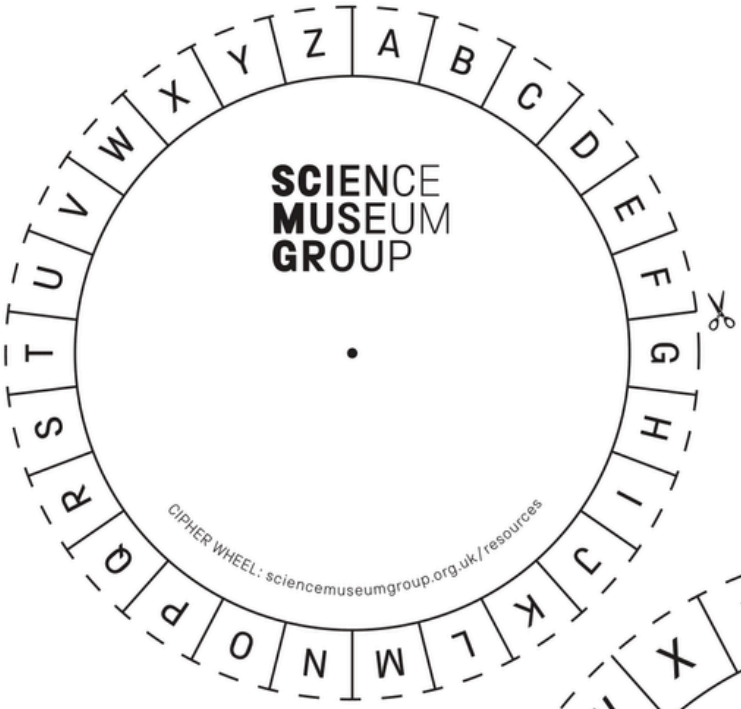
4 Now encrypt your message (make it secret). For each letter, write down the letter on the smaller wheel that appears directly beneath it.

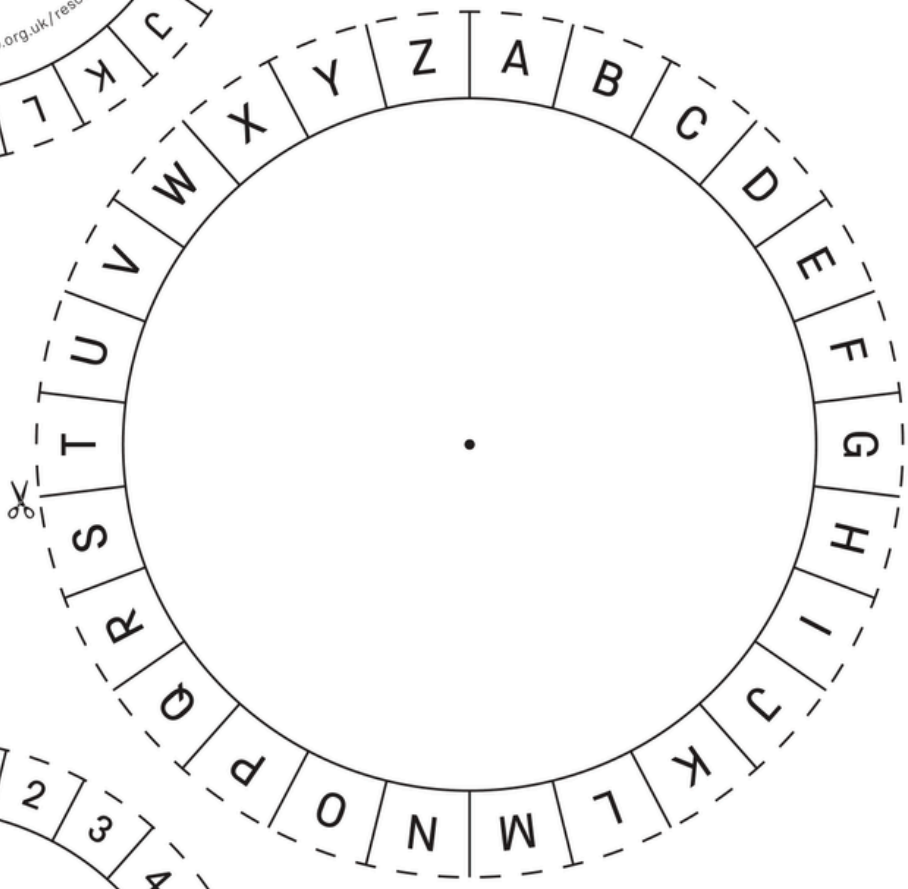
5 Replace the smaller letter circle with the number circle. Now you can encrypt messages with numbers instead of letters.

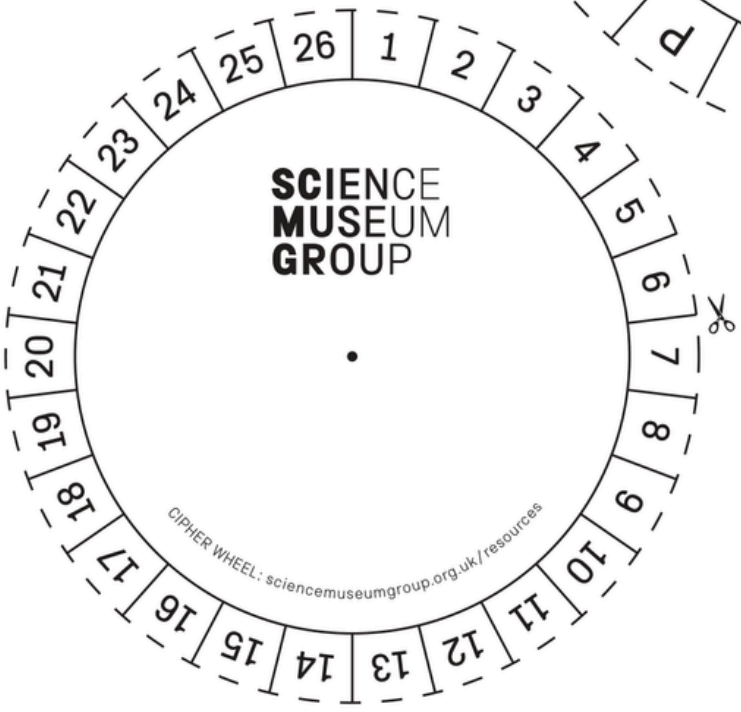
6 Encrypt messages to a friend in letters or numbers, and ask them to send you encrypted messages too.

Maths in your world

Encryption is used to send emails and information across the internet. Instead of a cipher wheel, a computer uses really complicated mathematics to encrypt the information.


SCIENCE
MUSEUM
GROUP
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
CIPHER WHEEL: sciencemuseumgroup.org.uk/resources


A B C D E F G H I J K L M N O P Q R S T U V W X Y Z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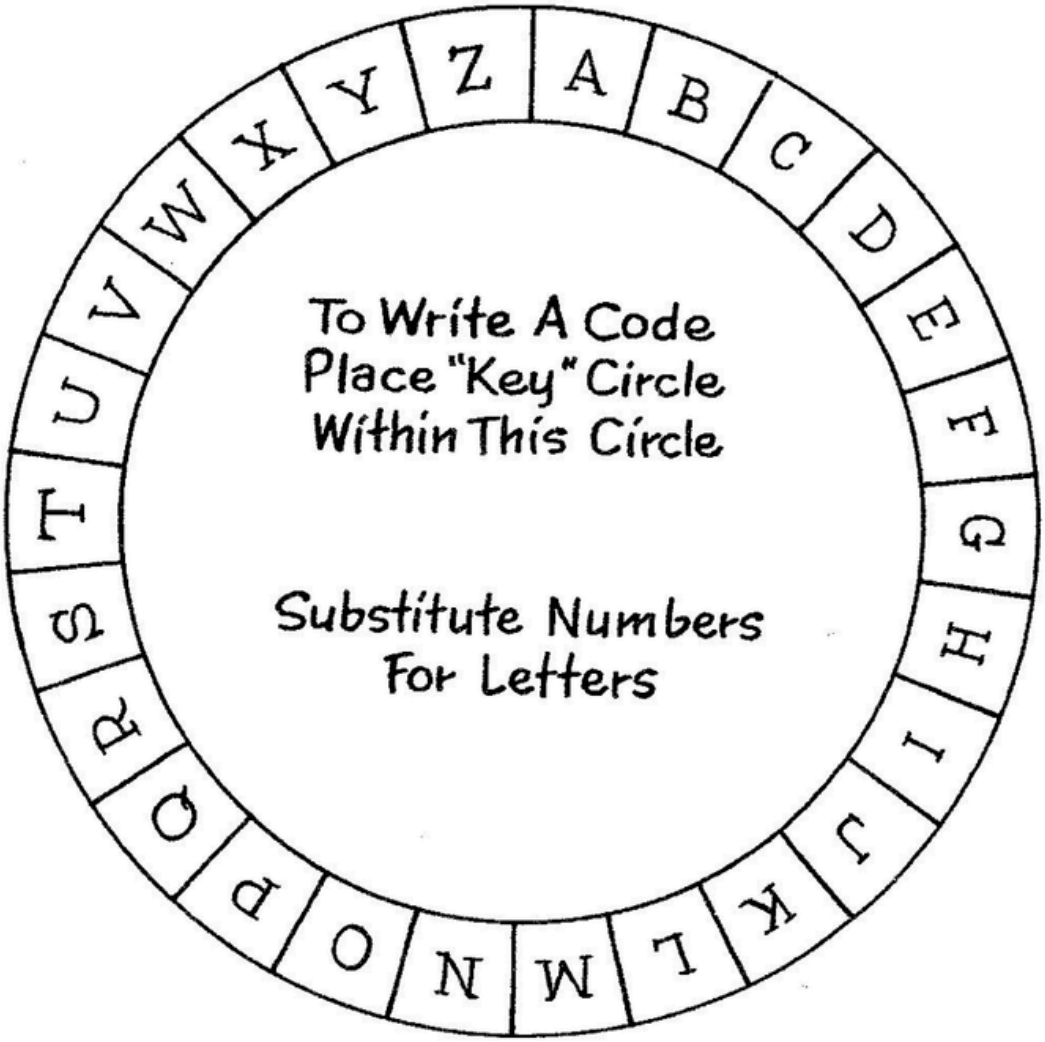
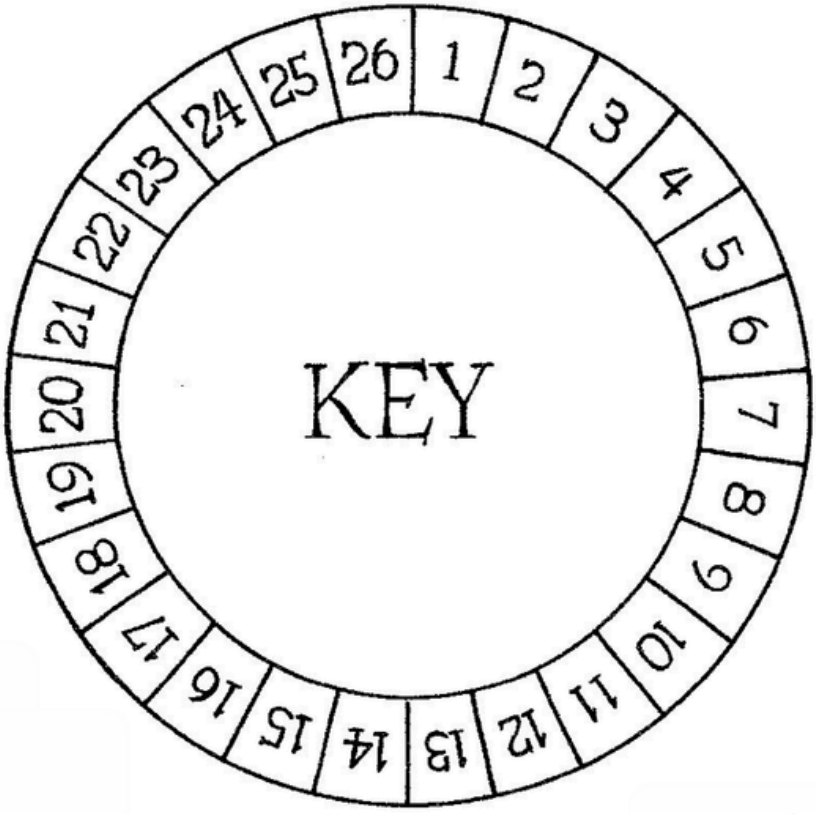
MUSEUM
GROUP
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
CIPHER WHEEL: sciencemuseumgroup.org.uk/resources


A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
To Write A Code
Place "Key" Circle
Within This Circle
Substitute Numbers
For Letters

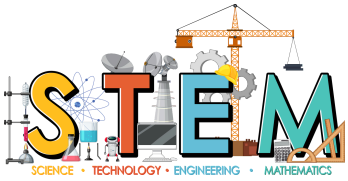

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
KEY

Codes & Ciphers

Give the Scouts 2 of these pages. One to write out their code. The other to translate their friend's code.

Letter	Binary	Letter	Binary
A	■□■■ ■■■□	N	■□■■ □□□■
B	■□■■ ■■□■	O	■□■■ □□□□
C	■□■■ ■■□□	P	■□■□ ■■■■
D	■□■■ ■□■■	Q	■□■□ ■■■□
E	■□■■ ■□■□	R	■□■□ ■■□■
F	■□■■ ■□□■	S	■□■□ ■■□□
G	■□■■ ■□□□	T	■□■□ ■□■■
H	■□■■ □■■■	U	■□■□ ■□■□
I	■□■■ □■■□	V	■□■□ ■□□■
J	■□■■ □■□■	W	■□■□ ■□□□
K	■□■■ □■□□	X	■□■□ □■■■
L	■□■■ □□■■	Y	■□■□ □■■□
M	■□■■ □□■□	Z	■□■□ □■□■

ASCII Alphabet in Binary

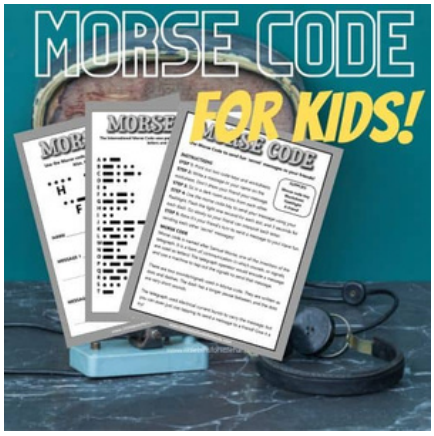


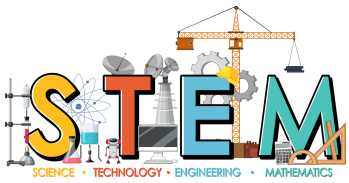
Codes&Ciphers

Morse Code

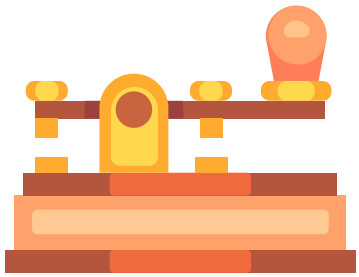
Fun Morse Code Activities

https://littlebinsforlittlehands.com/morse-code-for-kids/





Video about Samuel Morse Alfred Vail the Inventors of Morse Code

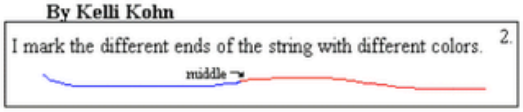


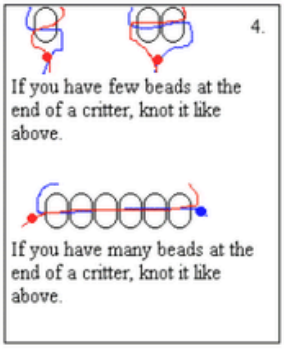
https://www.youtube.com/watch?v=ORIDAmGf_yQ

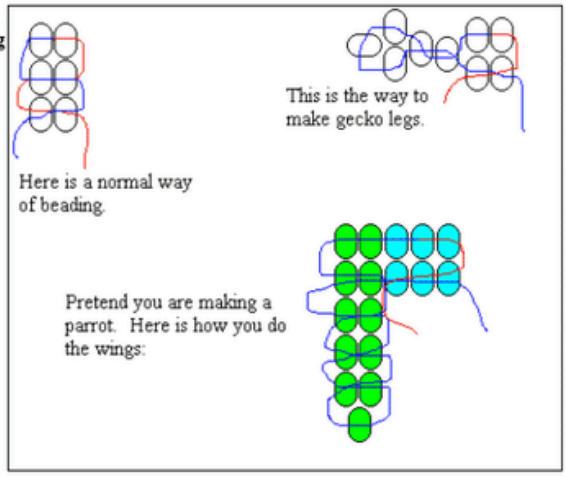
How to Make a Bead Critter

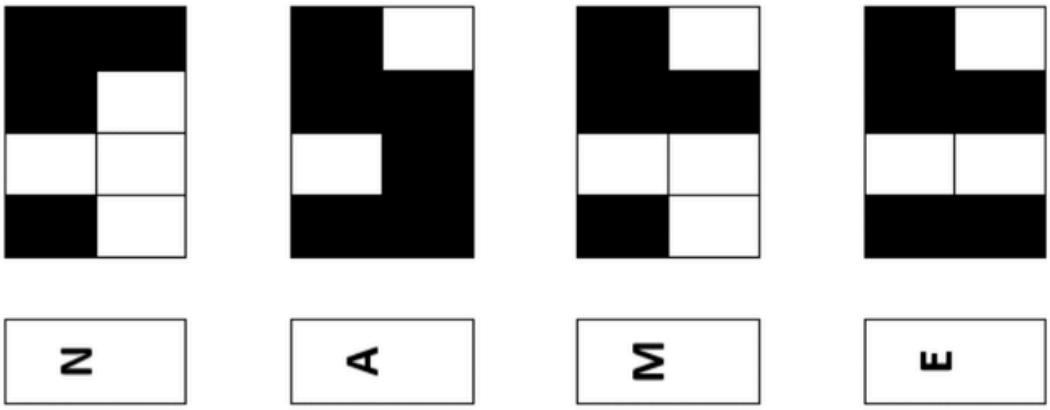
By Kelli Kohn

1. First, collect the materials you need.
2. Find the halfway point of the string, cord, wire, etc.
3. Start stringing on beads. (Look at the pictures to the right showing different ways of doing this.)
4. At the end of the critter, tie a knot.



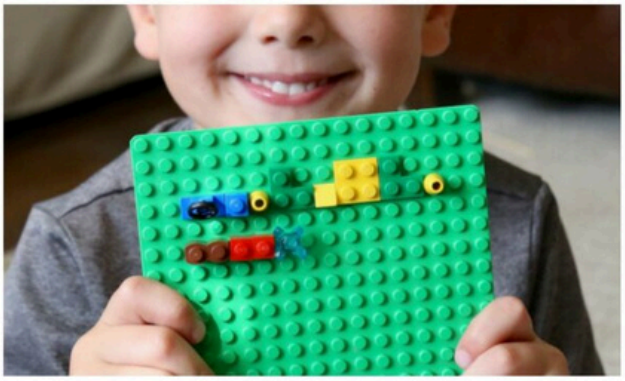




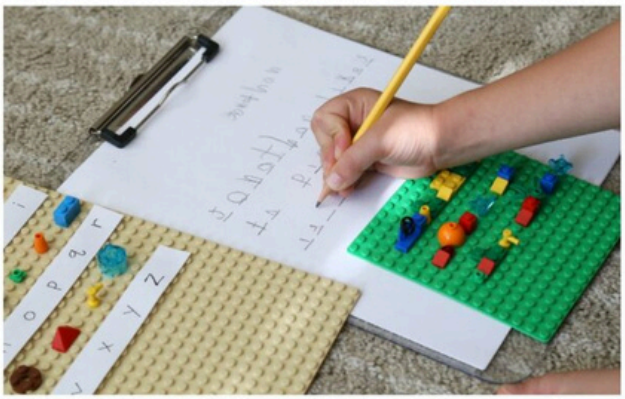


Letter	Binary	Letter	Binary
A	■□■■ ■■■□	N	■□■■ □□□■
B	■□■■ ■■□■	O	■□■■ □□□□
C	■□■■ ■■□□	P	■□■□ ■■■■
D	■□■■ ■□■■	Q	■□■□ ■■■□
E	■□■■ ■□■□	R	■□■□ ■■□■
F	■□■■ ■□□■	S	■□■□ ■■□□
G	■□■■ ■□□□	T	■□■□ ■□■■
H	■□■■ □■■■	U	■□■□ ■□■□
I	■□■■ □■■□	V	■□■□ ■□□■
J	■□■■ □■□■	W	■□■□ ■□□□
K	■□■■ □■□□	X	■□■□ □■■■
L	■□■■ □□■■	Y	■□■□ □■■□
M	■□■■ □□■□	Z	■□■□ □■□■

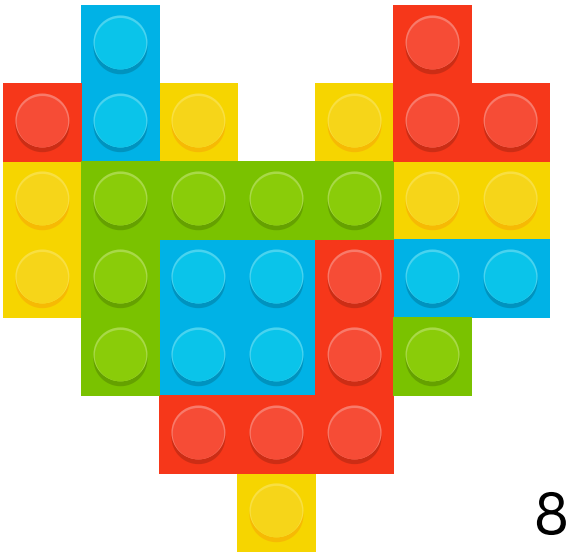
ASCII Alphabet in Binary



LEGO Secret Codes



Secret Codes! Write Coded Messages with LEGO Bricks



Experiments

Pen Races

Supplies:
4 different brands of black markers - White coffee filter paper/paper towels
Clear drinking glass - Pencil - Clothespins - Scissors - Water - Masking tape

Have Scouts write their name and den on a strip of masking tape and put it on one of the glasses
Cut a rectangle out of the coffee filter - the width of which must fit into your drinking glass and the top must stick out.
Using a pencil, draw a line about 1 inch from the bottom of the filter paper.
Place on small dot with each of the 4 markers on the the line. Do not put the dots close together but spread them out.
Put the filter paper in the glass
Clip a clothespins to each side of the paper (end of clothespins touching) and rest them on top of the glass to keep the paper from sliding down.
Adjust the clothespins so the filter paper just touches the bottom of the glass
Lift the paper and clothespins out of the glass and lay on the side.
Put an ¼ inch of water in the glass
Place the glass where it won't get bumped
Slowly and carefully, lower the filter paper back into the glass. The clothespins will stop it from slipping down.
Don't touch the experiment or it will go crazy.
Wait 5 minutes and see what has happened. Check again in another 5 minutes.
Will different dots do different things?
What did you see?
Once any changes have stopped, take the filter paper out of the water.

Science:
Most black markers are made from colored pigments or dyes and water
The water carries the pigments up the filter paper.
As the water dries, the pigments stay on the paper.
You will see different colors based on the colors used to make the black marker by different manufacturers.
The pigments will travel up the paper at different speeds depending on how large the pigment molecule is and how much they are attracted to the paper.

Experiments

No Touch Needed Twirling Top

Supplies:

Thin sheet of paper (origami paper works best)
Straight pin with a flat head
Pencil with an eraser
Scissors (if paper isn't precut)

Cut your paper into a 3x3 inch square
Fold the square diagonally one way and then unfold it.
Fold the square diagonally the other way.
Gently push in on opposite sides of the paper to make the center rise about ½ inch higher than the sides.
Push the straight pin into the eraser end of the pencil. Leave 1 inch of the pin sticking straight up.
Sit down and hold the pencil between your knees
Set the paper square on the top of the pin. It must be right in the center of the peak where the two folds come together.
Cup your hands on each side of the paper. Hold them about 1 inch away from the underside of the paper. Hold them still and do not touch the paper.
Do not move your hands or knees. What a minute and watch what happens to the paper.

Science:

The warmth from your hands heats the air around them.
The heated air rises.
The rising air makes the finely balanced paper twirl.

Experiments

How does a fire extinguisher work?

Supplies:

Candle,
Tall glass jar/drinking glass
Short birthday cake candle
Baking powder (not soda)
Matches
Spoon
Vinegar

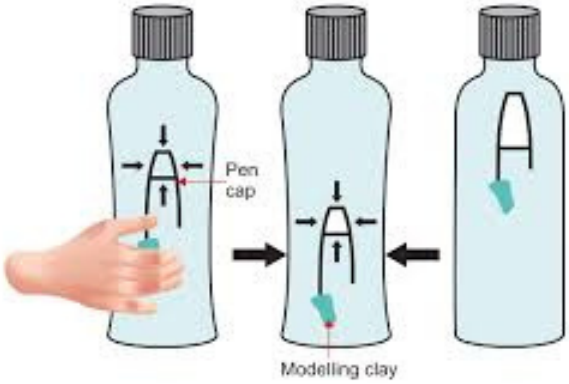
Caution:
Do this experiment in a large, well ventilated area with little wind.

Get an adult to light the candle
Drip some wax in the bottom of the glass jar. Blow out the candle
Stick the candle to the wax so it stands upright. Keep the tip of the candle away from the rim of the jar. Your jar must be taller than the candle.
Put heaping spoonfuls of baking powder into the jar.
Relight the candle.
Gently pour in some vinegar. Avoid pouring vinegar on the candle flame. There should be enough to make the powder fizzle and pop.
Observe what happens.

Science:
Mixing the powder and vinegar makes carbon dioxide gas
Unlike in oxygen gas, flames do not easily burn in carbon dioxide gas.
Carbon dioxide is heavier than oxygen so it will sink to the bottom of the jar. As more carbon dioxide is produced from the mixture of the baking powder and vinegar, the more oxygen it pushes out of the jar. When enough gas is made, it will reach the level of the flame. The candle will go out since it no longer has enough oxygen to continue to burn.

Experiments

Pen Cap Submarine



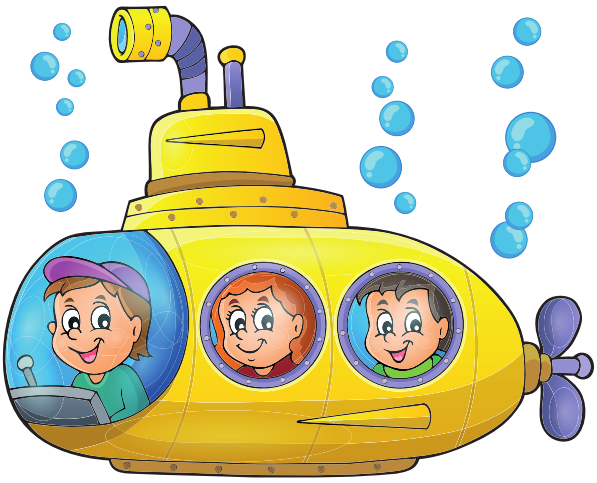
Supplies:

Small Clear Plastic Soda Bottle
Modeling clay
Plastic pen cap
Water

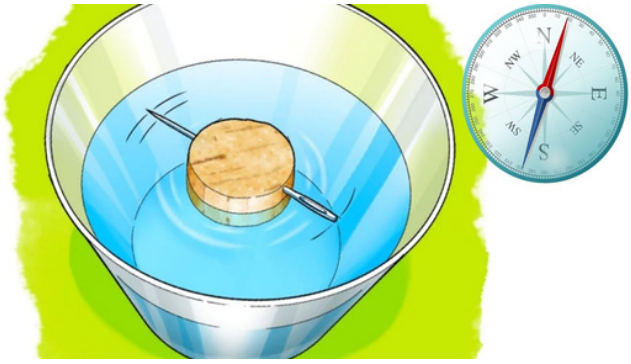
Fill the bottle with water
Put a piece of modeling clay on the arm of a plastic pen cap
Put the cap in the bottle so that it floats
Put the lid on the bottle. It must be tight so that air doesn't leak from the bottle.
Squeeze the sides of the bottle.
What do you think will happen?

Science:

When you place the pen cap into the bottle, there is a small air pocket inside the pen cap.
When you squeeze the bottle, you make more pressure inside of the bottle.
This forces water up into the pen cap displacing the air.
The added water, makes the pen cap weigh more than it did with the air and so it sinks.
A submarine works in a similar way. It has tanks that can be filled with either air or water depending on whether they want to go deeper or raise up to the surface. Water makes them heavier, air makes them lighter.



Experiments



Homemade Compass

Time: 15 minutes
Supplies:

1 needle, paper clip or thin nail
1 kitchen magnet (the stronger the better)
1 shallow dish or cup wider than the metal object you plan to use
1 cork
Scissors
Scientific Compass

Magnetize your needle by stroking it in one direction with your kitchen magnet. Do this about 20 times and then put the original magnet away.
Using scissors, cut a circle about ¼ - ½ inch thick from one end of the cork. Ask an adult if you need help.
Push the needle through the middle of the cork piece (running horizontally through the cork) so that it sticks out evenly from both sides. When you hold it up it should look like a circle with a needle through it.
Fill the cup or container half-full of water and place the cork in the water so that the needle floats at the top.
This is your compass. Place it on any flat surface away from other magnets and see what happens. Place the scientific compass next to it to see how accurate your compass is.
You can also place another magnet near your compass and see what effect this has on your compass.

Science:

The earth creates a magnetic field that runs between its poles. This field will cause other magnets that are free to rotate (and not affected by other closer or stronger magnets) to line up so they're parallel with the Earth's magnetic field.

Experiments

Pop-Up Ball

Supplies:

Large glass jar with a wide mouth
Uncooked rice
Small rubber ball

Fill ¾ of jar with rice
Put the ball in the jar and push it down so that it is buried in the rice
Before doing the next step, tell the Scouts what they are about to do. Have them tell you what they think is going to happen.
Place the jar on the table and shake the jar back and forth.
What happened?
Why do the Scouts think it happened?

Science:

In a mix of items in a jar, there are spaces in between the pieces.
When you shake the mixture, the smaller items - the grains of rice, rearrange themselves.
Gravity will force the smaller items downward
As the grains move down, they need more space. Since they are small, they are able to fill the larger space below the ball.
As the space below the ball is filled, it is forced to move higher.
As the ball moves higher, more grains move below it to fill the space.
Pretty soon the ball has no where else to go but to the top of the pile.

KNOTS AND PARACORD

Knots:

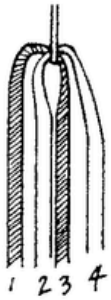
Projects using knots are creative ways for Cub Scouts to learn by repeating and following patterns. Careful planning and an adequate number of helping hands will ensure that each individual can learn what to do. Select projects suited to the interest and ability of the Cub Scouts.

have FUN with Braiding

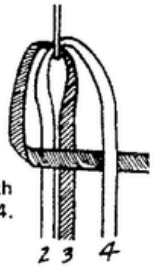
The Cobra Braid

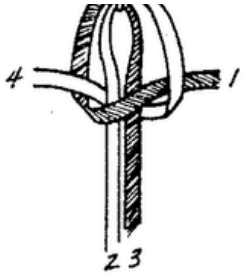
STEP 1. Put 2 laces into hook as shown. Pull outside strands 1 and 4 until they are twice as long as the inside strands 2 and 3.

NOTE: All braiding will be done with the long, outside strands.

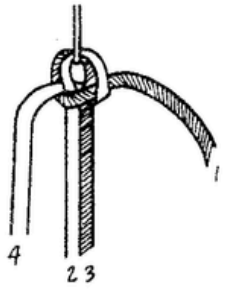


STEP 2. Bring 1 over both 2 and 3, and then under 4.

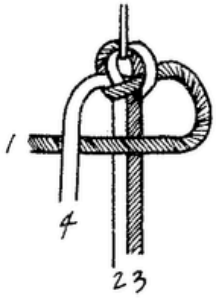




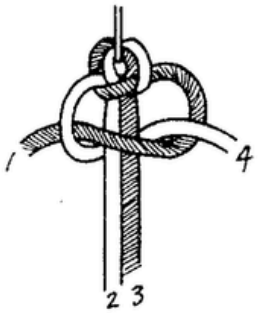
STEP 3. Bring 4 behind both 2 and 3, and then up through the gap between 1 and 2.



STEP 4. Pull both strands 1 and 4 tight.



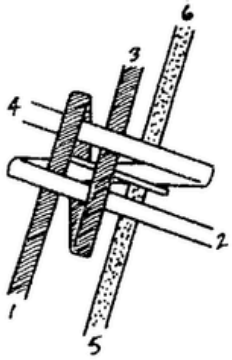
STEP 5. Bring 1 back over both 2 and 3 and then under 4.



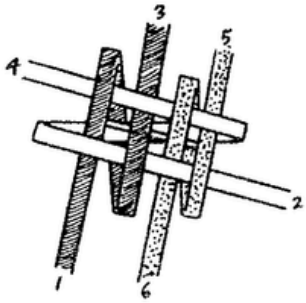
STEP 6. Bring 4 behind both 2 and 3, and then up through the gap between 1 and 3.

The Spiral Braid

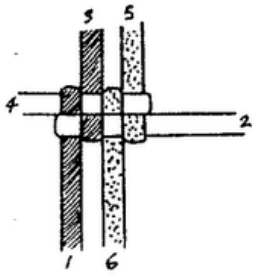
STEP 1. Follow steps 1 thru 5 for The Round Braid or The Square Braid to begin.



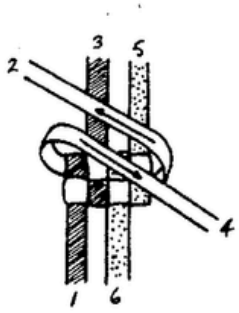
STEP 2. Add another strand, marked 5 and 6, as shown.



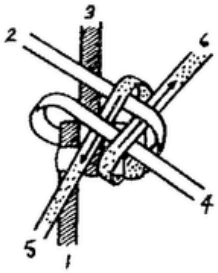
STEP 3. Fold 5 over 2 then push through loop formed by 4. Fold 6 over 4 then under 2.



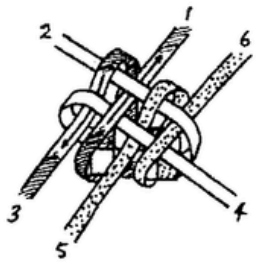
STEP 4. Pull all strands tight.



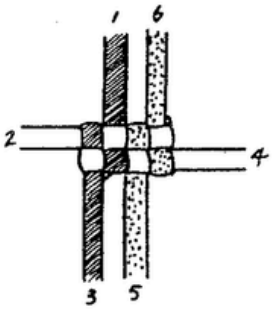
STEP 5. Fold strands 2 and 4 over diagonally forming two new loops, as shown.



STEP 6. Fold 6 over 4 then under 2. Fold 5 over 2 then under 4.



STEP 7. Fold 3 over 2 then under 4. Fold 1 over 4 then under 2.



STEP 8. Pull all strands tight. Repeat steps 5 through 8 until desired length is reached.

KNOTS AND PARACORD

Paracord Survival Bracelet | Instructables.com

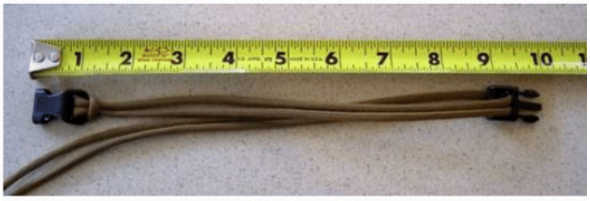
1. Materials: 1 foot for each inch of bracelet

2. Measure wrist

KNOTS AND PARACORD

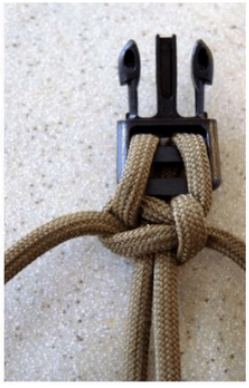
3. Find center of cord; attach to buckle

4. Find the bracelet length.



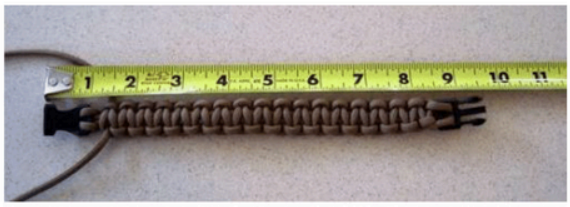
5. Make the knots: Steps A, B, C, D

A B C D

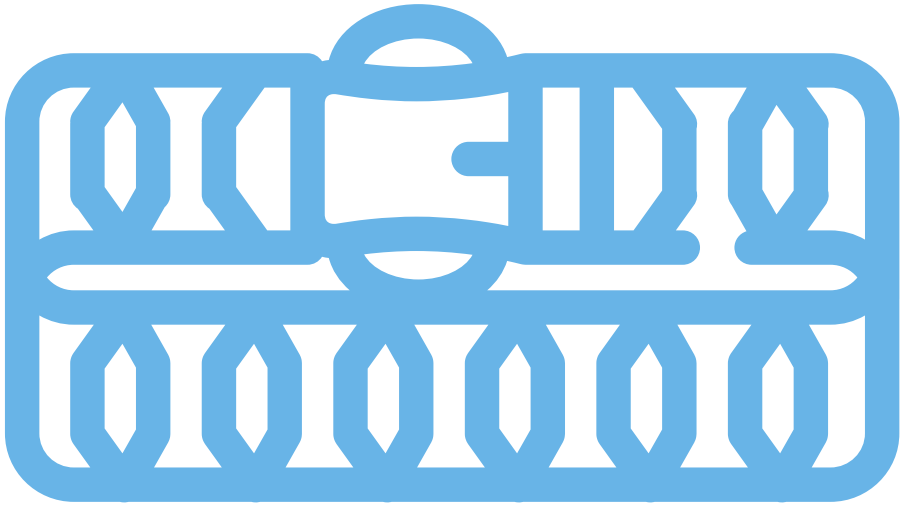


KNOTS AND PARACORD

6. Continue making the knots



7. Trim the excess cord and melt the ends

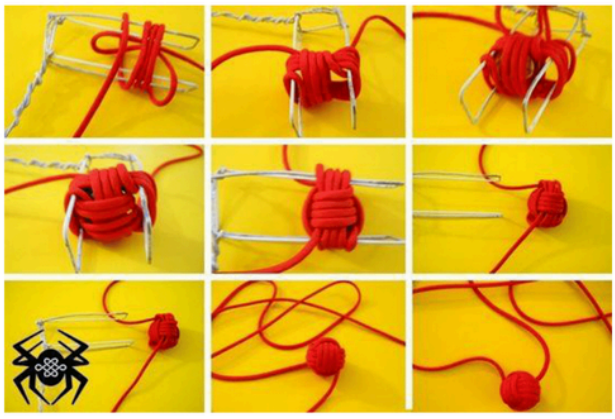


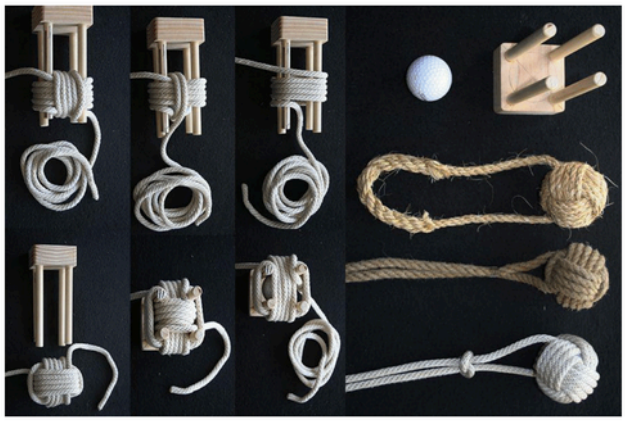
KNOTS AND PARACORD

Monkey Fist (Advanced)

https://www.pinterest.com/pin/6874351662

https:/pin.it/bNzImqn





KNOTS AND PARACORD

Monkey Fist Knot (advanced) https://www.pinterest.com/pin/68743516624/

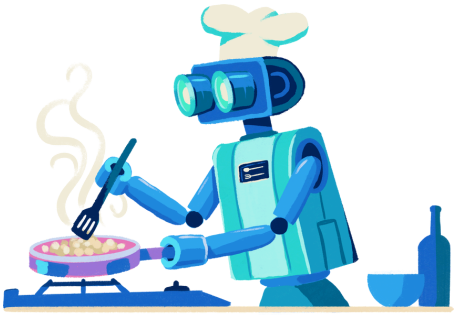
Nautical knot with rope – Monkey's fist https://monsterscircus.com/2013/09/diy-monkey-tricks/

Supplies: Rope approximately 5-6 meters and a bead or ball 40 mm.

1. Wrap the rope around 4 of your fingers.
2. When you have 5 wraps, remove your fingers and wrap it 5 times around the three lengths right where your middle and ring finger were.
3. How many wraps you choose to wrap is going to decide the size of your knot – Just make sure that your wrapping is going to cover the center (the bead) fully – remember to place the bead in the center of your wrapping.
4. Make 5 more turns by passing the end of the rope inside the first set of turns but outside the second set.
5. Tighten your rope and make it firm.

Day Camp "COOKING"

Cooking is both Invention and Science



Ask your Scouts how they think Cooking is Invention:

Some possible answers

Adding different ingredients together for the first time

Cooking vs cooling vs drying all change the make up of food

Trying to cook new ingredients. You may choose to have a few weird looking foods and have the Scouts try to figure out why the first person to try them chose to do so.

Ask your Scouts how they think Cooking is Science

Cooking food changes the molecular structure of the food.

Think vegetables - a raw carrot is crunchy, a cooked carrot is soft. Heat has rearranged its molecules so that their connections are not as strong

Certain substances can change the molecular structure of the food

Salt

Acids such as vinegar

Baking soda

Baking Powder

Yeast

Ask you Scouts if they have ever invented a new food for their family to eat

Duck ala banana

Orange fish

Pomegranate pancakes

There is a whole field of cooking right now called Molecular Gastronomy. This is the movement incorporates science and new techniques in the preparation, transformation and presentation of food. Some examples are:

Serving food with different flavored smokes pumped into covers over the food. The person removes the cover just before eating the food

Freezing different foods such as ice cream using liquid nitrogen - have you ever eaten Dippin' Dots. These were made by pouring liquid ice cream very slowly into liquid nitrogen.

Using chemistry and physics to change one food to taste like another

Day Camp "COOKING"

Fizzing Lemonade

In this simple science experiment, we mix a base with an acid to get a chemical reaction.
This chemical reaction produces carbon dioxide (CO_2) which are the bubbles you find in commercial fizzy drinks. Neat!

You will need:

- 1-2 lemons
- 1 teaspoon of bicarbonate of soda/baking soda* (*please read our safety note about ingesting bicarb of soda at the bottom and watch that the scouts stick to the recipe*)
- cold water (at least equal to the amount of lemon juice)
- 1-2 teaspoons of sugar (to taste)
- juicer
- glass
- spoon
- measuring spoon

How to make Fizzing Lemonade

- Squeeze (and strain) the juice of one lemon into a glass
- Add 1 teaspoon of bicarbonate of soda (*we added it by the 1/2 teaspoon to see multiple reactions)*
- Give it a stir to really get the reaction happening!
- Add some sugar to water to taste and add to lemon mixture. (*There should be more frothing but not as big as the first reaction. Why do you think that is?*)
- Taste your lemonade! (What can you notice? What can you feel on your tongue?)

What's happening?

When the lemon juice (acid) and the bicarbonate of soda (base) mix, they form a chemical reaction known as an **acid-base reaction**. This is the same sort of reaction that you get when you mix bicarb soda and vinegar, such as in the classic erupting volcano experiment. The reaction produces as gas called carbon dioxide (CO_2) which creates bubbles when formed in a liquid like in this fizzing lemonade experiment. This process is called **carbonation**.

Handy Tips:

Play around with the quantities. Add more lemon for a greater citrus taste, add more bicarb of soda for greater fizz, add more water to dilute, add more sugar to make it sweeter. What is your perfect combination?
Extend this activity by:

- Having scouts write a hypothesis about what they think is going to happen.
- Can they identify which ingredient is an acid and which is a base?
- Draw or write about the process and result

Mix it Up. Try this experiment using a variety of different fruit juices and see the different results produced. Which fruit had the biggest reaction? (*Baking powder is not the same as baking soda* and should not be used as a substitute.)
Safety first. Like many things, baking soda/bicarb of soda is *not safe to be ingested in large quantities* so please supervise young children. It is safe for them to consume a small amount such as this fizzing lemonade experiment.

Source: https://www.learnwithplayathome.com/2014/09/how-to-make-fizzing-lemonade-edible.html

Edible Jello Slime

The original and BEST edible Jello slime recipe! Only 3 ingredients and it changes color when you mix it!

Prep Time 5 mins
Total Time 5 mins

Ingredients

- 1/2 cup corn starch
- 1/2 large package sugar-free gelatin 1/2 of 1.55 ounce package
- Water

Instructions
Combine cornstarch and sugar-free Jello powder in a medium mixing bowl.
Begin adding water to dry ingredients, 2 tablespoons at a time. Stir until a paste begins to form.
Continue to add water little by little until the silly putty clumps together instead of sticking to the bottom/sides of bowl. Finish mixing by hand and play!

Source: https://thesoccermomblog.com

Edible Cherry Limeade Slime Recipe

Edible Cherry Limeade Slime is super easy to make and completely edible! This edible slime is such a fun activity for kids! Use the base recipe to make a variety of different edible punch and soda-flavored slimes.

Ingredients for Edible Soda Slime Recipe
3 Tablespoons gelatin
1/2 Tablespoon cherry limeade drink crystals (may be one or two packets depending on your brand)
3-5 Tablespoons water, as needed
1/2 cup cornstarch
Tip: you can use Knox-brand gelatine or for a cheaper route, hit up your local bulk store for plain gelatine powder.

Kitchen Tools That are Helpful

- Non-slip mixing bowls
- Fork, for mixing
- Measuring cups and spoons
- Storage containers, to store slime

How to Make Edible Cherry Soda Slime
In a large bowl, combine the plain gelatin and drink crystals. You can either add the water or the cornstarch next – some people will find one easier than the other so do what works best for you. The person I got this recipe from prefers adding the cornstarch first and adjusting the amount of water, but I like having more control over the cornstarch. Either way, mix all ingredients until well combined and then knead for at least 2 minutes.

The slime should be stretchy and cohesive, without being sticky or goopy/messy. If it's too sticky, add more cornstarch. If it's not stretching well and is resembling a hard dough, add a bit more water.

This slime turned out super stretchy, with a hybrid play dough-slime consistency that was less messy and stringy than traditional slimes. The slime does dry out due to the cornstarch, but if you knead in some water, it will stop flaking and come back into a cohesive slime. If your slime is too dough-like and tough, knead in more water to get a more slime-like consistency.

Source: https://www.inthekidskitchen.com/edible-cherry-limeade-slime/

Day Camp "COOKING"

Invent Your Own Granola

Granola is a great trail food when you hike. It gives you a good source of energy and does not need refrigeration so it will not spoil in the heat of your hike.

Provide Scouts with a multitude of measuring devices, bowls, and ingredients and have them invent their own personal flavor of granola. You can have them do this individually in smaller camps or as a den in larger camps.

If you have an oven available at your facility, you can cook the granola there or you can bag the mixed ingredients and take them home to cook that evening or use a large Dutch oven to cook them at camp.

Basic Recipe (https://www.thekitchn.com/granola-recipe-258376)=

½ cup neutral oil, such as sunflower or grapeseed

½ cup honey or maple syrup

½ teaspoon ground cinnamon

½ teaspoon salt

3 cups rolled oats

1 cup nuts (beware of nut allergies and maybe substitute seeds instead of nuts)

1 cup dried fruit

Heat oven to 300 degrees F and line a baking sheet (with sides) with parchment paper.

Whisk together oil, honey, salt and spices.

Add oats, seeds, nuts, coconut and wheat germ. DO NOT ADD DRIED FRUIT.

Spread the mixture onto the baking sheet.

Bake 20 minutes, stirring halfway. Granola is ready when golden brown and the nuts are toasted. It will feel warm to the touch, but will dry as it cools.

Remove from the oven, add dried fruit and then tamp it down flat again (if you want clumps of granola) and let it cool.

Cool completely before storing.

Store in an airtight container.

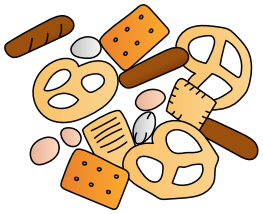
Suggestions for additions

Wheat Germ Chia Seeds Poppy Seed Sunflower Seeds Pumpkin Seeds Dried Edamame Almonds Walnuts Pecans Hazelnuts Macadamia Nuts Pinon (Pine) Nuts Cashews Peanuts Dried Apples Dried Apricots Dried Peaches Dried Mango Dried Banana Dried Pineapple Prunes Raisins Dried Cranberries Dried Cherries Dates Coconut Different Spices such as: Nutmeg Chili Powder Curry Powder Mace Vanilla Rosemary Go the savory route: Bacon bits Cheese

Day Camp "COOKING"

Invent your own GORP

GORP is trail mix that includes lots of different yummy parts –



Part Protein (nuts/seeds)

Part Carbohydrate (pretzels/goldfish)

Part Fruit/Veg (dried)

Set out multiple items from each category

Give each Scout a sandwich sized Ziploc bag

Instruct the Scouts that they must choose at least one item from each category

Restrict the amount of each item they can put in the bag (i.e. one scoop)

Once they have made their choices, have them seal the bags and take on a hike or to other activity.

Possible GORP items

Protein - Nuts (be careful of allergies), Seeds, Edamame (dried)

Carbohydrates - Pretzels, Goldfish, Cheerios, Fruit Loops

Dried Fruit - Apricots, Peaches, Bananas, Apples, Pears, Raisins, Prunes, Dates, Mangos

Dried Veg - Okra, Peas, Carrots

OUTDOOR COOKING

Box Oven

The Box Oven The cardboard boxes typically used to hold 10 reams of 8½×11 or 8½×14 paper will make very nice box ovens. Line the inside of the box and lid with aluminum foil. Use a sponge to dab some glue around the inside and the cover to hold the foil in place. Make two holes in the cover to let the combustion gases out, and make a few holes around the sides near the bottom to let oxygen in. Make a tray to hold the charcoal using one or two metal pie plates. You can either make feet for a single pie plate using nuts and bolts, or bolt two pie plates together bottom to bottom. Cut two coat hangers to make a rack to hold up the cooking pan. Poke the straight pieces of coat hanger through one side and into the other. Two pieces will usually do fine. Put several lit briquettes on the pie pan, put your cooking pan on the rack, and place the cover on top. The first time you use this box oven, check it a few times to make sure that enough oxygen is getting in and that enough gases are escaping to keep the charcoal burning.

Fun things to make at Day Camp are:
Cookies - (using pre done cookie dough makes it easier), Smores, Hot Dogs.

Great Video on how to create a box oven

OUTDOOR COOKING

Solar Oven

Solar Cooking Solar cooking is gaining in popularity due to the excitement around STEM programs. There are two different ways to cook in a solar cooker. The first way is to refocus the oven to follow along with the sun's rays every 25 to 30 minutes. This allows for food to be prepared the same way it would with a classic stove or oven. The solar oven can also be used as a slow cooker similar to a Crock-Pot. It is possible to prepare food, put it in the solar oven, point the oven where the sun will be, leave, and come back to a savory, slow-cooked dinner.

https://www.sciencebuddies.org/stem-activities/solar-oven

COOKING SAFETY

Cleanliness

- Personal cleanliness while cooking
- Always wash your hands before handling any food, even to get items out of the cooler or storage tub.
- Wash your hands again after you sneeze, cough, or wipe your nose on them. No one wants that in their food.
- If you have to sneeze or cough, do it away from the food.
- Wash your hands when you are finished handling meat or eggs. Uncooked, these items can cause foodborne illnesses if not handled properly.
- General cleanliness while cooking
- Always clean your prep area before you start cooking. Remember, you are outside where the wind blows, critters inspect your area when you are not there and your friends may have used the table to play cards, carve sticks or clean out their backpacks.
- Wash your vegetables and fruits before cutting or adding them to the dish.
- When cutting up food remember the following order:
  - Fruit and Veg #1
  - Meat #2
- Always clean the cutting board with soap and water after using it to cut up meat.
- If metal cans have been sitting out, wipe off the top of the can before opening to prevent dust and dirt from getting into your meal.
- If you wash your prep dishes while your food is cooking, you will have fewer dishes to wash after the meal (this is especially helpful if it is the evening meal, and it will be dark after you eat).
- Cleaning up after cooking
- Wipe out/scrape dishes, pots, and pans as much as possible before you place them in the wash water. Otherwise, you will be replacing your wash water fairly often and this can be tough if your water is limited.
- The temperature of your wash water is less important than your rinse water. You can wash dishes in cold water; however, it does make it difficult to remove grease from dishes.
- Use biodegradable dish soap that is specifically designed to not harm the environment. Such soap can be found at outdoor equipment stores, organic stores, and even your local grocery or box store.

COOKING SAFETY

Cleanliness (Continued)

- Rinse water should be between 130-160 degrees which is fairly hot and most of us can't take that temperature with our bare hands. Use rubber gloves if possible. If not, consider placing dishes upright on a dish drainer and pouring the hot water over the tops of the dishes, and then grabbing the edge and dipping to remove any excess soap.
- Have a third pan or tub with lukewarm water and a few drops of bleach or a sanitizing tablet. Dip your dishes through this pan before you set them to dry. This will ensure that any bacteria missing in the wash process is dealt with.
- Let dishes air dry on a plastic sheet or in a dish drainer.
- To dispose of dishwater, first strain the water through paper towels or in a food strainer to remove small bits of food. Place these in the trash. Carry wash and rinse water away from camp and at least 200 feet away from any water source. Give it a good fling to disperse the water over the greatest area.
- If staying for an extended period of time, dig a sump hole away from camp and at least 200 feet away from the water source. Make the hole 1 foot across by 2 feet deep. Place a piece of screen over the hole to catch food particles. Place particles in the trash. Pour water into the hole each time you clean up. When breaking camp, refill the hole with the dirt you removed and replace the ground cover.
- Pack out your trash. Do not bury trash or food particles – animals will almost always find them. Human food is not healthy for wild animals. Also, if the animals begin to associate an area with easy to obtain food, they will return and potentially create a problem between campers and the animals.
- If possible, remove as much packaging from your food as possible before going camping and especially backpacking. This will limit the amount of trash you will need to carry out at the end of your trip. And in the case of backpacking, will lessen the weight of your pack.
- Proper clothing Be sure not to wear loose clothing while preparing food and while around a campfire.
- Loose sleeves can easily dip into food contaminating it or dip into the fire and catch fire, causing injury to the person.
- Jackets should be zipped before approaching the fire to make adjustments.
- Be aware that some clothing is more flammable than others while some will melt when exposed to heat.

Cooking FIRST AID

Basic Cooking First Aid

Cuts:

- Stop bleeding by applying pressure with a clean absorbent cloth
- If bleeding soaks through, apply a second cloth on top of the original one to preserve clotting.
- If bleeding continues, raise the cut above the victim's heart.
- Once bleeding has stopped, clean cut
- Apply antibiotic ointment
- Apply band-aid or other dressing
- If bleeding does not stop within a few minutes, you will need to seek further help from trained medical personnel. Keep applying pressure until medical help is obtained.

Prevent cuts by:

- Keeping knives sharp
- Store knives separately from other utensils preferably with knife covers (You can make an easy knife cover by folding a piece of cardboard over the knife and taping the long ends. It will easily slide on and off.)
- Never try to catch a falling knife
- Use the proper utensil for the task (Don't use a knife to open a can)
- Always cut items on a proper cutting surface and not in your hand
- Learn how to properly use a knife by earning your Whittling Chip

Burns/Scalds: (Superficial – minor burn)

- These burns affect only the top layer of the skin
- Move the victim to safety away from the source of the burn
- Cool the burn – run under cold water or apply a cold compress
- Let the wound dry and then apply a loosely fitting, sterile gauze pad and bandage.
- If the burn covers more than 20% of the body, immediately seek medical help.
- Partial thickness and Full thickness burns – The day camp staff medical should be consulted for burns of partial or full thickness

Choking

- Learn the signs of choking
- Hands crossed over on neck is the universal sign of choking
- Use 5 quick blows to the back or the Heimlich maneuver to help someone who is choking to remove the obstacle from their airpipe.

CAMP PIZZAZZ

Pizzazz elements are all those extra things that bring the theme to life. They are the things that make your camp standout. This is where creativity and memories meet. Here are a few places to look to add pizzazz to your camp:

- Partycity
- Dollar Tree
- https://www.namebadgeproductions.com/
- https://www.etsy.com/
- https://www.partyglowz.com/
- Ultimate Camp Resource
- Pinterest
- The Dollar Tree
- Amazon
- Etsy
- Walmart
- Target

COSTUMING

Even though Day Camp itself is lots of fun, adding costume elements can enhance the experience for everyone from your Scouts to your staff.

Staff could wear Lab Jackets, Goggles, Fun Wigs etc

Found on californiacostumes.com, darknightarmory.com, Thomas Edison Muckers Blog and Pinterest

Bandanas - Consider providing each den with a different colored/styled bandana to make them unique. Bandanas can also be a fun way to provide additional activities for the Scouts during breaks or program time.

- Have a “fun sock” fashion show at your closing program one day.

CAMP DECORATIONS

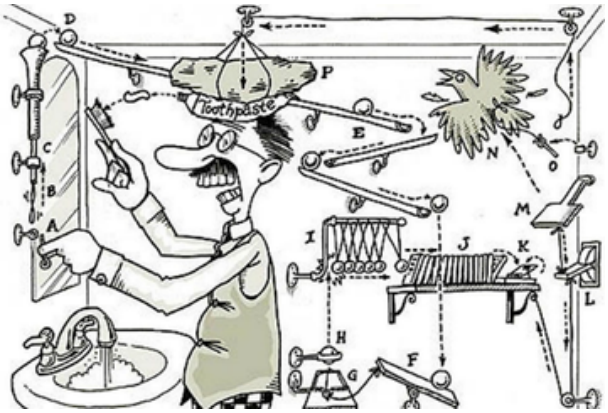
You want the theme to be easily recognized from the moment Scouts and families enter camp. One of the easiest ways to do this is through the decorations you use at promotional events, meetings, and camp. Here are some ideas from Pinterest that you may want to incorporate:

PHOTO BOOTH

A photo booth is a fun activity to do during family time at camp. Provide costumes, backdrops, and other props. This creates a fun souvenir to capture camp memories. You can also use it for Family Day and have families take their pictures.

Here are some fun and easy photo booth ideas:

Invention Convention Scene:



Set up a scene and have Cubs and Dens take their picture.

Photo Props:

PHOTO BOOTH

Make or purchase easy Invention props. Remember that it is a FUN idea to let the kids take silly photos too!

Individual Inventor Scene:

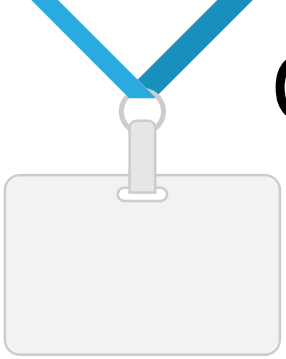
Make or purchase a photo cut out for individual Cubs to take pictures. These would be GREAT pictures for Thank you's for leaders and parents.

Picture Frames:

Make Large Frames for the Cubs to put their faces in. Decorate the frames with Invention Convention fun.

OR Have Cubs make picture frames for the Cubs to put their faces in or to put their pictures in.

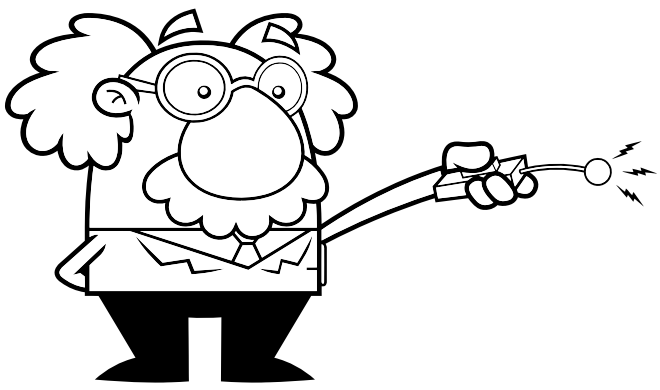
Camp Name Tags



Name tags make a fun souvenir from your amazing camp. Have everyone leave their name tags at camp at the end of each day. This helps to quickly see who is missing at the beginning of camp. They are also very helpful for station leaders, staff, and volunteers to learn campers' names. Then on the last day, send them home with the scouts.

Wooden Circles can be found easily on Amazon. Scouts can write their names and decorate with items you provide. This can also be used to "add a bead" onto if you use a bead system for your program stations

Again, check Amazon for wooden pieces that you could hot glue a pin back to. Some of the pin backs come with adhesive backing that can be used instead of glue.



Ceremonies

OPENING CEREMONY - INVENTION CONVENTION

Materials: Cubmaster and six Cub Scouts holding cards with their assigned letter and a picture of the invention on front and script on back.

Cubmaster: This month's theme is "Invention Convention." And we have something to tell you about some genius inventors.

Scout: "G" is for Gutenberg. He invented movable type for printing, so that we can have books, papers, and magazines to read. He was resourceful in applying what he learned from others.

Scout: "E" is for Edison. He gave us many electrical ideas, but perhaps his greatest was the light bulb to help light up our world. He was resourceful in using over 1,000 different materials before finding the one that worked.

Scout: "N" is for Newton. He discovered gravity and worked with electricity. He was resourceful, using that apple for inspiration.

Scout: "I" is for Irving. He was a genius with his pen. He wrote many stories, which young and old have enjoyed for ages. He was resourceful in learning about where he lived.

Scout: "U" is for Urey. He made his discoveries in chemistry and nuclear power, which will be used for many generations. He was awarded the Nobel Prize in 1934 for his discoveries.

Scout: "S" is for "Scouting," which helps every boy develop genius in his very own way. Cub Scouts are always resourceful when they do their best.

Cubmaster: Now let us salute the genius that is in every boy by standing and saying our pledge to the flag of our country.

Source: Agave District Roundtable-Grand Canyon https://www.grandcanyonbsa.org/

Ceremonies

Opening Ceremony Cub Power

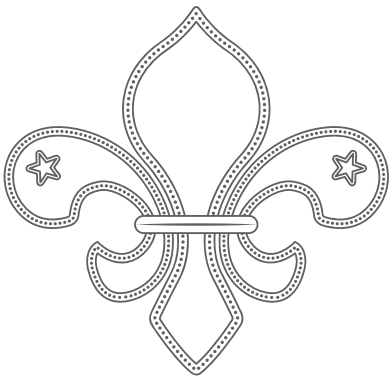
Have the Cubs make up 8-1/2 by 11 sheets with the letters spelling out "CUB POWER" using really "electrifying" colors. Tape the boys' lines to the backs of the pages.

C - Cub Scouts are the brightest.
U - You will see tonight.
B - Because we really can,
P - Power up the night.
O - Outdoors, indoors, anywhere
W - We will have great fun.
E - Everyone will know
R - Really! Cub Scouts are Number One!

LEADER: Let's start our fun off tonight with the Pledge of Allegiance. [All stand, salute, and say the Pledge.] At the very end of the Pledge, the Den can shout out "Cub Power" (like people shout "play ball" at ball games).

Closing Cubmaster's Minute

As we retire our flags this evening, let us remember all of the people who have helped to shape this great land—the scientists and engineers, the farmers and the factory workers, the writers and artists, the men and women of our country who gave of their talents, resources, and hard work to make this land what it is today. The fabric of our society is interwoven with all of their contributions, both great and small.



DEN YELLS!

Yells are aimed at letting off steam. They also help develop and maintain den spirit. In making up a den yell, remember to make it simple and rhythmic. Yells should end in a word or phrase that the scouts can shout. Remind your campers that all Den yells must be positive and reflect the values of Scouting - no put-downs or trash talk allowed. All Den yells must be approved by the Camp Director BEFORE being presented to the rest of the Camp.

- Look out, Camp! Here we come! Den _____is on the run!
  Clap your hands, Stomp your feet, Den_____ can't be beat!

- We are the (Insert den rank example Tigers), we couldn't be prouder!
  If you can't hear us now, We'll yell a little louder!
  (repeat twice, louder each time)

- 1,2,3,4
  Which Den do you cheer for?
  Which Den can you hear more?
  Tigers! Tigers! Tigers! Tigers! (Other ranks can be used)

- Leader: Everywhere we go (Cubs repeat each line)
  People want to know
  Who we are,
  Where we come from
  So, we tell them
  WE ARE DEN 2! (Or WE ARE THE BEARS! Or WE ARE CUB SCOUTS!)
  Mighty, mighty Den 2! (or whatever you said in the line above)
  and if they can't hear us
  We'll shout a little LOUDER!

- Some short and sweet examples:
  Den 1 – is Lots of Fun!
  Den 2 – nice to meet you!
  Den 3 – If you're lost, then follow me!
  Den 4 – Looking for more!
  Den 5 – is alive!
  Den 6 – in the mix!
  Den 7 – the great Den 7!
  Den 8 – is really great!

Cheers & Applauses

Carpenter cheer: Pretend to be holding a hammer in one hand and a nail in the other. Start pounding the nail with the hammer while saying, “Bang, bang, ouch!”

Stamp of Approval cheer: Stamp feet on the ground, getting louder and louder.

Invention Cheer: I’ve made it, I’ve made it. Don’t know what it is, but I’ve made it!

Mad Scientist Cheer: Hold an imaginary test tube up in one hand and pour into it with the other hand. Shake it then shout “BOOM”! Then say – “That was exciting!”

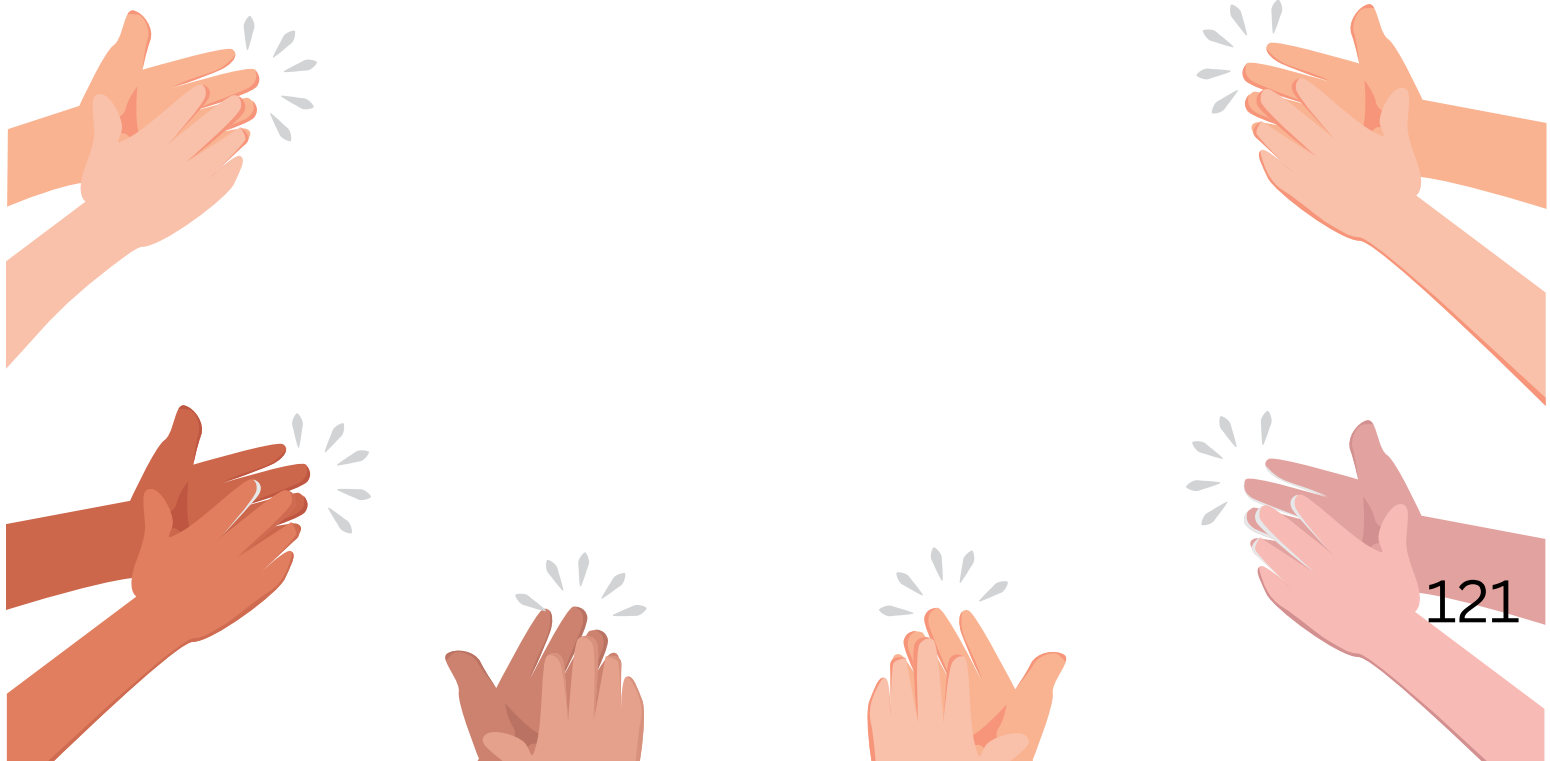
Ben Franklin Cheer: Hold both hands out in front of you as if flying a kite. Jerk back suddenly while saying, "Zap, Zap, Zap."(Lightning). That was enlightening!

Telegraph applause: “Clickety, clickety, clack, click, clickety, clack.”

Light Bulb applause: Put hands above head like a light bulb and say, “Blink, blink, blink.”

Genius applause: Look surprised and say, “Boy! Look what I discovered.”

Ford Model T applause: Crank with hand and make a sound like a motor turning over



Jokes and Riddles

Source: Great Salt Lake Council

1. Why did Benjamin Franklin discover electricity? He couldn't use his electric blanket without it.

2. How surprised was Benjamin Franklin when lightening hit the key on his kite. He found it shocking.

3. Why does lightning strike people? It doesn't know how to conduct itself.

4. What has one foot on each side and another foot in the middle? A: A yard stick.

5. Cub picks up ringing cellphone, and says, "You don't say, you don't say. you don't say. " Who was that? I don't know. They didn't say!

6. WHAT WATT? Source: Great Salt Lake Council

Shopper: Have you any four-volt, two-watt bulbs?
Clerk: For what?
Shopper: No, four-volt, two-watt.
Clerk: Two what?
Shopper: Yes!
Clerk: No.

Run Ons!

What would you call a telephone with feet? A walkie-talkie

Why does a telephone make a good referee? Because it makes good calls

What's a vacuum cleaner's favorite sport? Rugby

What's an X-ray machine's favorite food? Ribs

What do you do if your coffeemaker is depressed? Try to perk it up

What did the light bulb say to the generator? "I really get a charge out of you!"

How do you pick out a dead battery from a pile of good ones? It's got no spark!

Why do transformers hum? They don't know the words.

What did the baby light bulb say to the mommy light bulb? "I love you watts and watts!"

SONGS

"The Invention"
(sung to the tune of "The Farmer in the Dell")

I had a genius kit,
Thought lots about it,
I laid the pieces side by side,
And examined them bit by bit.
A nut, a bolt, a screw,
A piece of wood too,
A leather scrap, some furry nap,
And a little bottle of glue.
A needle and some thread,
A nail without a head,
A piece of fire, a bit of wire,
And this is what I said:
"I don't see how this mess,
Can really quite express,
My urge for building something grand,"
But now I must confess:
I sewed and nailed and glued,
Until the thing I viewed,
Was something grand, you understand,
A mechanical dog that mooed.
BSA February Invention Convention Program Helps 2013-2014

Be a Genius
(sung to the tune of "Are You Sleeping")

Be a genius, be a genius,
Do your best, do your best.
Make a Cub invention, make a Cub invention .
Genius does the rest! Genius does the rest!
BSA February Invention Convention Program Helps 2013-2014

SONGS

Our Invention
(sung to the tune of: Frere Jacques)

First we build it, then we test it.
Does it work? Does it work?
Shouldn't it be moving?
Shouldn't it be stirring?
Doesn't work, doesn't work.
What to do now? How to fix it?
Will it work? Will it work?
Tinker with the wires,
Checking the connections,
Doesn't work, doesn't work.
Stop and think now. What is missing?
This might work! This might work!
Looking for the button,
Switching on the power,
Now it works, now it works!
Source BSA Roundtable guide 2013-2014

Loop
Genius Night
(sung to the tune of: "All Around the Mulberry Bush")

A block of wood, a piece of wire.
Or junk that seems the seediest:
Just put it all together now.
Whoops, you're a genius.
You never know the size or shape.
From biggest to the teeniest:
But put it all together now.
Whoops. You're a Genius.
Source Baloo's Bugle

The Invention

Cast: Four or more Scouts
Scene: A Room
Scout 1 is sitting on a chair (representing a bed). Toys and clothes are scattered all over the "room."
He is deep in thought. Several other scouts who have come over to see Scout 1 enter the scene..
ALL: Hi! What are you doing?
Scout 1: Just thinking.
Scout 2: Thinking about what?
Scout 1: My invention.
Scout 3: Are you inventing something?
Scout 1: Sure! I want to be famous like Alexander Graham Bell or Thomas Edison.
Scout 4: What are you going to make? Maybe we could help.
Scout 1: Really? Do you all want to help?
ALL: Sure!
Scout 1: OK. (Stands up) First of all, I need a box. There's one in my closet. (Scout 2 goes offstage
to get a box.) Then I need two toy airplanes. (Scout 3 picks them up.) And I need some kite string.
(Scout 4 gets it.) (Continue with this until all the toys have been picked up by the scouts (switch up items to be picked up if you'd like to.),
Scout 1: Last I need some rags. We can use my clothes for that. (They pick up the clothes.)
Scout 1: (Looks around the room.) Well, that just about takes care of it.
Scout 2: Takes care of what?
Scout 1: My invention! I just invented a way to get the room cleaned before my mom gets home!

Source – 2013 Pack Meeting Plans Invention Convention

INVENTORS

Make a card with the letter and a picture of the item. Have the information on the back in LARGE print

Cub # 1: I—IODINE-- Iodine has many uses. It is a disinfectant and a nutrient added to salt to prevent diseases. It was discovered by accident. In 1811 Bernard Courtois was extracting sodium and potassium compounds from seaweed ash. Once the compounds were gone, he added sulfuric acid. A violet cloud erupted from the mass. The gas condensed on metal objects in the room.

Cub # 2: N—NYLON-- Wallace Carothers is considered to be the father of man-made polymers. In 1928 Dupont opened a research lab to try to make a fabric that would replace silk. Japan was the source for silk for this country and trade relations were breaking apart. World War II was about to break out. They were able to create nylon by 1934 and nylon stockings were pretty, durable and very desirable.

Cub # 3: V—VACUUM CLEANER-- James Murray Spangler, a janitor in a Canton, Ohio department store, deduced that the carpet sweeper he used was the source of his cough. He tinkered with an old fan motor and attached it to a soapbox stapled to a broom handle. Using a pillowcase as a dust collector on the contraption. He formed the Electric Suction Sweeper Company. William Hoover, a cousin in-law, went into business with him and they renamed it. Sluggish sales were given a kick by Hoover's 10 day, free home trial, and eventually there was a Hoover® vacuum cleaner in nearly every home.

Cub # 4: E—ELASTIC-- Thomas Hancock invented a machine called a masticator, which shredded rubber scraps. In 1820 he patented elastic fastenings for gloves, shoes, and stockings. In 1821 he joined forces with Charles Macintosh and they produced rubber imbedded raincoats. The raincoats improved when vulcanized rubber was invented by Charles Goodyear.

INVENTORS CONT. NEXT PAGE

INVENTORS CONT.

Cub # 5: N—NEON-- When electricity was discovered scientists moved towards various types of lighting. George Claude applied an electrical discharge to a sealed tube of neon gas in 1902. He formed a company called Claude Neon and introduced neon gas signs to the United States in 1923 when he sold a sign to a Packard car dealership in Los Angeles. They paid $24,000 for two signs. Neon quickly became a popular feature in outdoor advertising.

Cub # 6: T—TELEVISION-- Philo Farnsworth was born in Beaver City, Utah. They moved to Rigby, Idaho and at 14 years old, while plowing a potato field back and forth he got the idea that electron beams could scan images the same way. At 15, with only 2 years of High School, he gained admission to BYU. He credited his High School
teacher for helping him succeed.

Cub # 7: O—OXYGEN TENT-- John Emerson, born in New York, disappointed his father when he did not want to attend an Ivy League college but instead wanted to buy a machine shop and tinker with his ideas. His mother financed the purchase, and he came up with a device for tissue respiration. In 1931 he came up with the oxygen tent. He is best known for the iron lung, which
during the polio epidemic in the 1930s saved many lives.

Cub # 8: R— RUBBER-- Explorers found the South American natives using a sticky substance that bounced. They brought it to Europe, but it had a big problem, the instant its temperature changed it deteriorated and became rotten and smelly. Charles Goodyear became obsessed with trying to
solve the rubber dilemma. He tried everything until in 1839 he accidentally spilled rubber mixed with sulfur on a hot stove. He was awarded the patent for Vulcanization and happily spent the
rest of his life obsessed with inventing practical uses for rubber. When he died he was $200,000 in debt.

Cub # 9: S—STAMPS-- The first official mail office was opened in England in 1516. Nearly 300 years later [1835] Sir Rowland Hill suggested that letters under an ounce should be carried for a uniform fee of 1 Penny and used a stamp. Until this time the receiver paid the fee on receiving the letter. The United States started using stamps in 1845.

Source: Great Salt Lake Council Pow Wow Book

The Robot Inventors

Characters: 6 Scientists in lab jackets (white shirts, collars turned inside out, put on backwards), 7th Scientist is dressed in the same manner and wears a top hat, scout dressed in cardboard robot costume.

Setting: Table, covered with old sheet reaching to the floor in front. Fishbowl or other round glass bowl, test tubes, flasks, etc. are on the table. One of the six is reading a book plainly marked "HOW TO INVENT A ROBOT" while another looks over his shoulder. Another is stirring in a large bowl with a large wooden or cardboard spoon. Scientist #7 is offstage. Cardboard robot is hidden behind table.

SCIENTIST 1: It doesn't seem to be working.
SCIENTIST 2: I can't understand it.
(Scientist #7 enters from stage left carrying top hat)
SCIENTIST 7: I've got it! I've got it! A friend of mine just told me how to do it. (He places the hat on the table) You just say, "Abra-Ca-Dabra l-2-3!" reach in and....
SCIENTIST 4: Wait a minute. What did you say your friend's name was?
SCIENTIST 7: Magisto the Magician. He says he's pulled a robot out of a hat lots of times,
SCIENTIST 5: That's RABBIT not ROBOT!
(They chase Scientist 7 offstage, waving book, spoon, etc. Scientist 6 starts to join them but stops and looks at hat)
SCIENTIST 6: (shrugging shoulders) It just might work! Abra-ca-dabra l-2-3! (He takes hold of hat with left hand, tips it towards himself at edge of table, pretends to reach in hat, but really reached behind table and pulls up the robot who has been hidden) hey, you guys! It worked! Now I'll just push this button....
(pretends to push button on front of robot)

ROBOT DROPS TO ALL FOURS, HOPS OFFSTAGE SHOWING A BIG FLUFFY BUNNY TAIL.

Source: Longhorn Council

To Build or Not to Build

Two actors drive into a lumberyard.

One saunters up to a clerk and says,
"Howdy. We need us some of them four-by-twos."

The clerk says, "You mean two-by-fours, don't you?"

Actor: "Maybe. Hold on. I'll go check," and heads out back to the truck. A minute or so later the actor ambles back in and says, "Yep. That's it, I meant two-by-fours."

Clerk: "Fine... How long do you need them?"
The slightly confused actor pauses for a minute, scratched their head, then says, "Well now I'd better go check again."

After a little bit, the actor returns to the clerk and says, "A long time. Ya see, we're going to build us a house."
Surce: Longhorn Council

TIPS AND HINTS

Here are some tips and hints that didn't quite fit in anywhere, but that will help your camp be successful and fun:

Be Extra Prepared

Do your best to communicate everything that families need to be sure to have a camp. This could include lunch, refillable water bottle, hat, etc. Then make sure you have extra of whatever is on your list at camp. There will be Scouts and families that forget in the rush out the door. So have extra food, refillable water bottles, hats, etc. We also recommend having an extra pair of pants for the Scout that is too excited with what they are doing to make it to the bathroom on time. Also, have extra feminine hygiene in your medical supplies for those surprises that may happen.

Birthday Recognition

One fun thing that can be added to Opening Ceremonies is birthday recognition. Look through your registration before camp begins and identify adults and Scouts who have birthdays during or within a couple of days of camp. Below are some ideas for celebrating birthdays during your camp:

- Have something special to give them at camp. This can be a decorated lanyard, a button, a gift card for the trading post, etc. During Opening Ceremonies, ask them to come forward and sing a camp version of Happy Birthday. Present the adult or Scout with their birthday "gift.
- Work with the scout's family in advance providing them with a list of items available in the trading post that the scout could bring money to purchase on their special day.
- Celebrate Everyone's Birthday! Divide up the months of the year per the days you are having camp. At the camp's opening each day, have the scouts with birthdays for the months called, step forward and be recognized by singing happy birthday to them. Happy Birthday Dear Scouts...Happy Birthday to You!

Example:

Monday	June, July & August Birthdays
Tuesday	September, October November Birthdays
Wednesday	December, January, and February Birthdays
Thursday	March, April, May Birthdays

KNOW YOUR SCOUTS

When you are checking in Scouts, pay attention to the Scouts that may need a little extra attention. This may be a Scout with an invisible disability such as ADHD, autism, or sensory issues. This may be the timid Scout that is nervous about attending. This may be a Scout with a physical or developmental disability. Keep these Scouts on your radar throughout camp.

Support den leaders and station leaders as needed to help everyone have a good experience.

As you walk around, interact with as many Scouts as you can. This can be as simple as a 'high five' or sitting with them at lunch. The Scout will feel like someone sees them. The parents/guardians will know you truly care for the Scout. You have the potential to be that leader who deeply impacts this Scout's life. That's when you know all the hard work was worth it.

PRE-CHECK IN DAY

If possible, have a pre-check in day where Scouts, families, and volunteers can bring medical forms, YPT certificates, pick up camp T-shirts, and get den and volunteer assignments. If your pre-check in location provides an opportunity to hold swim checks during precheck, this can help save time on the first day of your camp opening.. Having a pre-check in day eases some of the chaos of that first day of camp. It's much easier to check in 40 people the first day of camp than 150.

CAMP DIRECTORS' NOTEBOOK

A 5 x 7 hard-top notebook fits perfectly in Scout pants pockets and can be invaluable.

When the director is organized, the camp runs smoothly. You won't be as frazzled and most importantly, you'll be able to HAVE FUN!
In this notebook, keep all your emergency numbers, the address of your camp, daily schedules, a map of your camp, and to-do lists. Write down any Scouts that are absent from opening ceremonies so follow-up calls can be made. Write down the names of your dens. As you walk around, make notes of things that are going well and ideas for improvement for next year.

PROMOTION TIPS

-Get a Membership Total Report list from Staff Advisor with contact information for Cubmasters and Committee Chairs. Split the list between everyone on your committee to set up a time when someone from your committee can come to a Pack meeting and promote Day Camp. Blue and Gold Pack Meetings are ideal for personal visits because more families will be attending.
-Face-to-face (Pack meeting) promotion should be no more than 5 minutes. Come in costume, have LOADS of excitement and energy, have a fun and quick activity or game for the Scouts to do, and share a few of the fun things that will be happening at camp. This will get them excited to come to camp. Briefly explain what Day Camp is, and what the theme is, and give dates, times, locations, and price. Let parents know about volunteering and adult to Scout ratios.
-Bring a registration packet to give to the Cubmaster or Committee Chair. They may be able to pass it off to a parent who is willing to coordinate registration, carpooling, and other things for the Pack.

The registration packet should include:

- A letter to the Pack Coordinator outlining the adult to Scout ratio for camp, important dates such as when pricing changes (if it does), volunteer orientation and training, pre-check day, and a registration link.
- A link to Youth Protection Training with a note that all volunteers need YPT training.
- Contact information for the Camp Director, Program Director, and Staff Advisor.
- Sample of the information needed to register for camp. Some Packs choose to have one person register everyone, instead of having each parent/guardian register their Scout. Having a sample of what that registration will look like helps make this process easier on them.
- Flyers for Scouts to give to friends as an invitation to Day Camp
- Flyers to give to Troops they may be affiliated with to get Den Chiefs
- A roster for them to fill out will help them know who is coming and that their Pack is providing enough adult volunteers.

REGISTRATION

-Have the grade and rank on the form. Parents don't usually know the rank. It would look something like this: Tiger/1st Grade, Wolf/2nd Grade, etc.
-Attach a PDF copy of the Parent Guide to your online registration. This a good way to begin early communication.
-On your volunteer registration, have a drop-down menu of possible volunteer assignments that match your day camp program; ask them to select their top 3 choices. This will make giving people assignments a little easier.

SCOUT MANAGEMENT

When Scouts are "acting up" at a station, it is usually because they are not engaged. A simple way to handle this is to give them something to do. Ask them to help pass out materials or help with a demonstration. Giving them something to do re-engages them.

If the den seems to be having trouble focusing, stop and do something physical. Don't worry about not finishing everything in the lesson. If they can't focus on what's being taught, they won't be learning. Don't single anyone out; everyone does physical activity together. Do 10 jumping jacks; jog to a point and come back; sing a song like "Head, Shoulders, Knees, and Toes" or "The Grand Ol' Duke of York." Once you have sung them fast, have the group sing them as slowly as they can. This will help them focus again.

There is often a time in the day when Scouts and adults are overstimulated, hot, tired, and ready to check out of the activities. When you see this happen with your adults, offer to step in for them for a few minutes so they can take a break, get a drink, and walk away. When you see this happen with your Scouts, encourage them to get a drink, allow them to step a few feet away from the group, and talk about whatever is on their minds. Be patient & let them decompress. The rest of the day will go more smoothly if you are flexible.

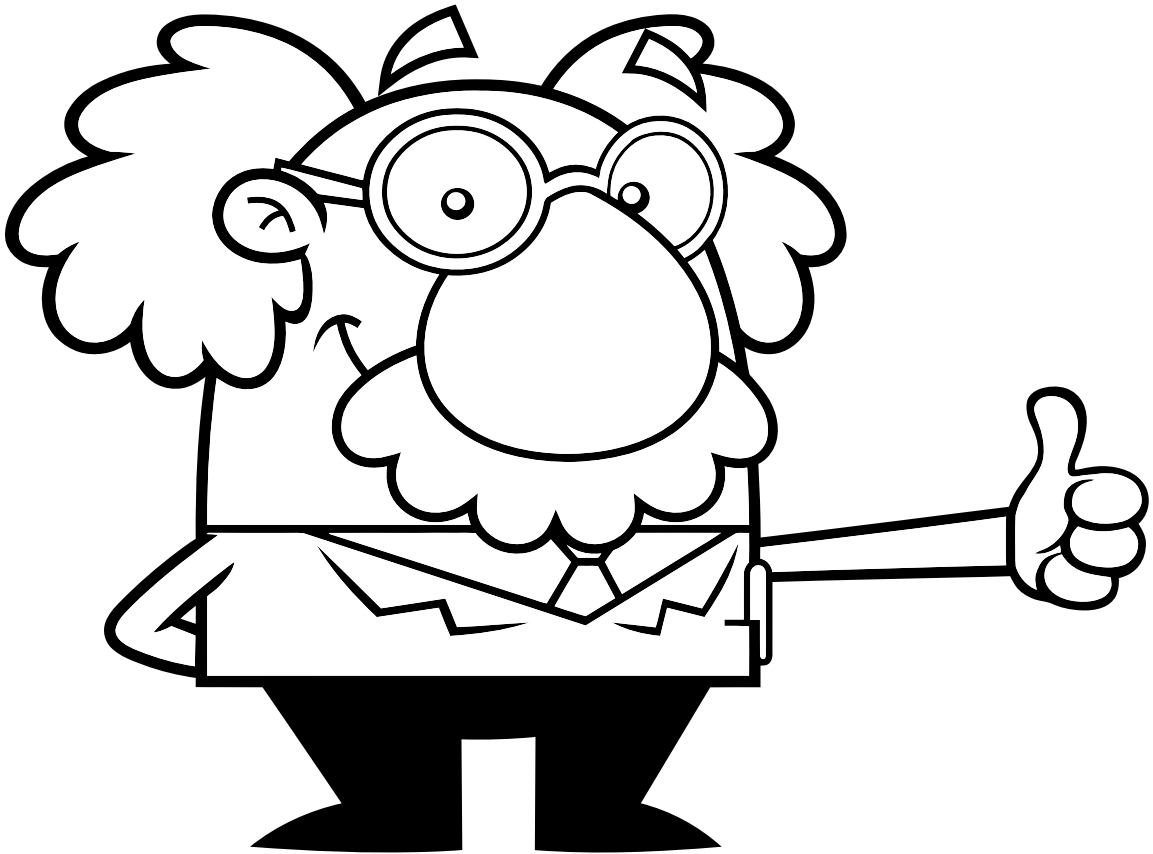
You may have noticed getting a drink was mentioned for both adults and Scouts. Water is the key to everything! Water helps regulate everything in our bodies: our moods, our digestive system, our nervous system, etc. One of the best ways to reset is to hydrate. An easy way to encourage someone to drink is to let them know you're thirsty and then ask them to drink water with you to the count of 10.

You may wish to share these tips with your den and station leaders in their orientation meeting. You may also want to put these tips in the program station plans and den leader binders.

VOLUNTEER ORIENTATION

Have theme-based decorations and costuming at the volunteer orientation meeting. This will build excitement and give them a taste of what is to come.
Have all the assignments for camp ready. As volunteers sign in, you can tell them their assignment. It is easier to address problems at orientation than at camp, i.e. they are assigned to be a station leader but are only willing to be a den leader.
Have a fun theme-based gathering activity for the volunteer to do. This builds excitement for camp and gives them something to take home.

Have samples of the camp program station plans and den leader guides available for volunteers to look at. This gives them an opportunity to become familiar with everything before camp. They can ask questions in a less frazzled environment. Let them know you will have the program station plans printed and ready at camp. Email a PDF of the program station plans and/or den leader guides after the meeting



TAKING CARE OF VOLUNTEERS & STAFF

If you take care of your volunteers and staff, they will take care of you!

They will let others know of this amazing camp their Scout attended and will recruit more people to come next year. They will be ready to return the next year. Some may even join your committee. Build relationships of trust with volunteers by doing what you say you are going to do. Do your best to remember names, especially if they are returning volunteers.

People feel important when they are remembered and greeted with enthusiasm. Take the time to listen to feedback and do what you can to incorporate it, as long as it's reasonable. Walk around camp and check in with them. See if they need help or if they are having fun. This touch will go far in building trust.

Be prepared. Have lesson plans and all materials prepared ahead. Having everything prepared beforehand is a lot of work for you and your committee. The benefit of having everything prepped is you know the program is ready to execute. You know that standards have been met. Your volunteers will be grateful they don't have to invent things to keep the Scouts busy or finish prepping samples before the first session begins. They will be more relaxed and confident because you sent them their plans, and you're prepared.

Here are some suggestions to help you take care of your staff:

- Know their Names: Learn your volunteer's name as soon as you can. Calling people by their name helps them realize that you are glad they are there with you.
- Name Tags: Be sure to give everyone a theme-related name tag- one that has first names LARGE enough for you to read.
- Chocolate Walk: Take pieces of chocolate around to your volunteers a little bit before camp is over and say thank you. Just a few small pieces of chocolate will lift their morale and they will notice that you have taken the time to find them and thank them.
- Gatorade: A small bottle of ice cold Gatorade on a hot day goes a long way!
- Ice Pops: Everyone loves an ice pop. A little bit of a sugar boost and a few minutes of cooling.
- 'Cool' off Chair: Just one or two chairs for volunteers in your office or the health officer's office. Let them sit, enjoy some cooler temperatures, have a snack, and talk to an adult will make a big difference. (Don't let the 'cool' off chair be used too much by the same volunteers.)
- "Be Prepared" Drawstring Bag: Have a bag of essentials for your volunteers that you give them at orientation. Include the training booklet with rules and important numbers, items to help with the theme and camp preparedness (cool glasses, visor, water bottle), a small and fun resource book with silly songs, funny jokes, and easy games for your volunteers to help entertain your campers. This bag will also help them to carry their items from station to station.

TAKING CARE OF VOLUNTEERS & STAFF

SAY THANK YOU: In the rush and chaos, sometimes we forget the "little things." Make a volunteer thank you that is presented at camp. When you thank them, let them know you are genuinely grateful for having them as an integral part of camp. This also gives you a chance to touch base with all your volunteers.

Certificate and 'Trophy': Be sure at the end of the week that you take time to acknowledge your volunteers in front of camp. A simple certificate with a thank you helps them know you appreciate them. Add a themed pin or some camping item as a 'trophy'.
Sample certificate provided later in the resource book.

Campers Picture: Take a picture of the entire camp and individual dens on Day 1 or 2. Make copies for your volunteers.

Poster: Have the campers make posters for their Den Leaders and other volunteers.

Thank You Card: Write a simple thank you card to your volunteers thanking them for sharing their time and talents with the Cubs.

Cheers and Yells: Make up a 'Thank you' cheer or yell and have the campers do say it for leaders whenever you want to recognize a volunteer.

Song: Have the Cubs sing a thank you song to your leaders.

Video: Shoot a video of a bunch of your Cubs saying thank you and why they like camp. Then add your thank you to the end of it. Send the video link to all of your volunteers.

Happy Camper Award: Make an award to give out at openings and closings. Choose a couple of leaders a day who are Happy Campers! (Give them a shout out, a certificate, a cheer, something to say Thank You!)

Family: It is also important that you thank the parents and families during 'Family Day'. Please thank them for sending their Cub Scout to camp and trusting you and your team with their child. Invite them to join you next year in the Day Camp FUN!
*Take a picture of each camper as they arrive at camp on Day 1 in your photo booth. Have the Cub decorate a frame for their family and add their picture to it for the last day.
*If you have made a video of day camp fun, you can share it at family day or just share the link to it for them to enjoy. If you are sharing a video with families, be sure that each Cub is shown in the video.

VOLUNTEER THANK YOU IDEAS

Candy Bar ideas: In the office having a tray full of snack sized chocolate will go a long way to help reduce stress and let your volunteers know you appreciate them and their service.

Milky Ways: You are Out of This World!

Mounds: We appreciate you Mounds and Mounds! Thank you!

Almond Joy: For ALL the Joy give, we thank you!

100 Grand: We think you are worth MORE than 100 GRAND!

Reece's Pieces: We would have fallen to Pieces without your help! Thank y

Extra Gum: Thank you for going the EXTRA mile and helping our Cubs!

Life Savors: You are a Life Savor! Thank you for ALL your help!

Swedish Fish: You are O-"FISH"- ally the BEST volunteer!

VOLUNTEER TREAT KIT

DUBBLE BUBBLE GI®1

For handling multiple tasks (some sticky)

LIFE SAVERS®

For making us a "wHOLE" lot better

STARBURST®

For the burst of energy you provide

TOOTSIE ROLL®

For the role you play in at camp

BIT-O-HONEY®

For the sweetness you provide

SKITTLES®

For the rainbow of cheerfulness you create here

VOLUNTEER THANK YOU IDEAS

"Volunteers do not necessarily have the time: They just have the HEART."

Elizabeth Andrew

"Good volunteers are like stars, you don't always see them but you know they are always there."

Heather French Henry

Attach to small heart or star ornaments or any small heart of star.

Stickers are a FUN way to show your volunteers that you think they are

Fabulous!!!

And a great way to brighten the day!

Volunteer stickers can be found easily and are inexpensive.

More than Words Can Say

You are Appreciated in

Every Way!!!

Thank you for helping at camp!!!!

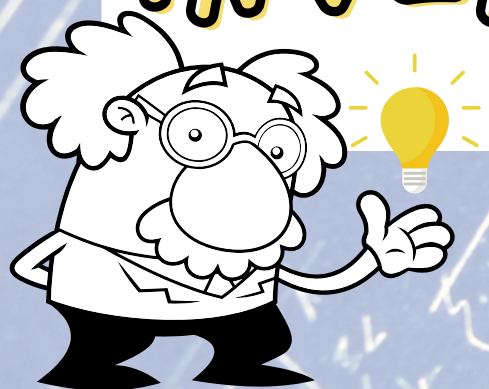
Attach to a small notebook for your volunteer to take notes with. Adding an inexpensive pen would be a nice touch.

CERTIFICATE OF APPRECIATION

PRESENTED TO

FOR INCREDIBLE SERVICE AT DAY CAMP 2025

INVENTION CONVENTION



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THANK YOU

First, to the Day Camp Directors, Program Directors, and Staff Advisors – A HUGE thank you for your dedication, hard work, enthusiasm, and countless hours to make Cub Scout Day Camp happen! The work that you do is important to the success of each Scout's Day Camp experiences.

Secondly, thank you to those individuals who contributed by sending in your ideas to dcathemebook@gmail.com to make this guide possible.

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Shea Goltzman, Stephanie Daniels, Linda Goff, Nancy Farrell, Dennis Kampa, Tia Lopez, John Van Dreese, and Linda Vaughn

Do you have questions, comments, or concerns about this resource book? Please email dcathemebook@gmail.com.

A Call for Help!

Please distribute the flyer on the next page to anyone who might be interested in helping to produce the 2026 Resource Book!
If interested, send us an email at the address above.
Join the Fun!!


We Need YOU!!!!
We are looking for songs, skits, crafts games and other program ideas to inspire the 2026 Cub Scout Day Camp Resource Book.
Please submit your ideas to:
dcathemebook@gmail.com
2026 Day Camp Theme:
Dinotopia
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