SHAC
Day Camp
Program

V.1.0

Table of Contents

Overview

(Guide for Day Camp Chairs and Program Directors)

Day Camp is an organized program conducted by the council under certified leadership. Day Camp is "the camp that comes to the boy." Sites are located in districts around the council convenient for maximum participation by Scouts (Camping and Outdoor Program Guide, page 6). Day Camp has a direct impact on Sam Houston Area Council's Strategic Plan and on District and Council Journey to Excellence (JTE) goals:

Cub Scout Camping: Increase the percentage of Cub Scouts attending day camp, family camp, and/or resident camp

Cub Scout Advancement: Increase the percentage of Cub Scouts earning rank advancements.

Youth Retention: Improve retention rate of traditional members.

Membership/Youth Growth: Increase number of registered youth.

Projects developed are based on Scouting literature (i.e., Cub Scout Handbooks, How-To Book, Webelos' Leader Guide) in order to be age appropriate, advancement based and easily implemented by current and future camp Program Directors delivering the program across the Council. Each Day Camp should offer a minimum of the following for each rank:

Six to Ten 45 minute Craft/Skills Sessions (or equivalent time equaling approximately 270 minutes)

Two (2) Field or Indoor Sports as permitted by facility

Shooting Sports (Archery, BBs, Wrist Rockets) as permitted by facility.

The 270 minutes of Craft and Skills that are to be offered are outlined in this document. Choose the number of Craft and Skills Sessions based on the amount of time your camp has to deliver the program. The delivery and instruction method is left up to the individual camp as long as it covers the outlined achievements for that specific rank along with the Projects/Crafts during the sessions.

Field Sports offered are left up to the discretion of each Camp depending on facilities available. Shooting Sports (i.e., BBs, Archery, Wrist Rockets) are highly encouraged as Cubs may only participate in these activities at a District/Council event but again, are left up to the discretion of the Camp depending on facilities available. If a Camp needs to fill more time, use the provided program aide materials to enhance the topic in the advancements listed, but do not add or change from what is listed.

WOLF PROGRAM

Wolf Elective Adventure: Air of the Wolf

Complete 1-4

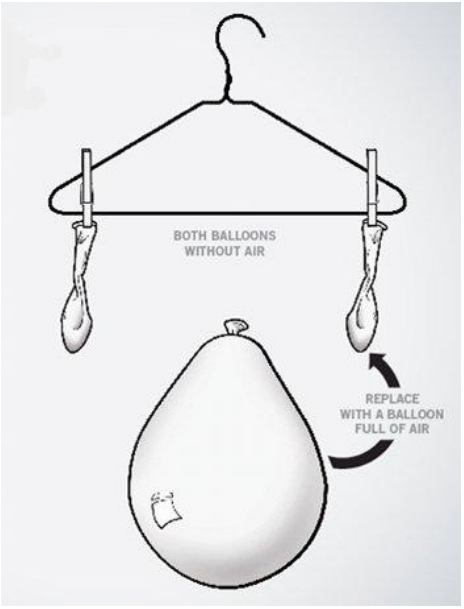
Crafts

paper airplane
musical instrument
homemade kite or kit (S&S GP1010)
rain gutter regatta (Scout Shop 612513)
balloon powered boat

Requirements and what you will need

1. Do the following investigations:

a. Conduct an investigation about the weight of air.



Do you need proof that air has weight? Try this simple experiment and see for yourself how much air can weigh.

Materials

- 1 clothes hanger
- 2 balloons (both the same size)
- 2 clothes pins

Procedure

Find a place to hang the clothes hanger where it can swing freely.

Clip one clothes pin to each end of the hanger, checking to ensure that the hanger balances evenly.

Blow up one of the balloons and tie it closed.

Clip each of the balloons (one inflated, one empty) to opposite ends of the hanger. Is the hanger still evenly balanced? Why is one end heavier than the other?

b. Conduct an investigation about air temperature.

When heated, air will expand. When cooled, air will compress. Hot air takes up more space than cold air, as this experiment demonstrates.

Equipment needed:

- A balloon
- A plastic soda bottle (a 2-liter will work well)
- Duct tape
- A soup pot
- A stove
- Water

Pour some water into the bottle. Three inches or so will be plenty.

Pull the balloon over the mouth of the bottle. The balloon should be deflated at this point. Wrap a strip of duct tape around the balloon-bottle connection, to make sure the seal is close to airtight.

Fill the soup pot with water. An inch or so will be plenty.

Put the bottle in the soup pot. Put the pot on the stove.

Turn on the stove. You should have something that looks like this:

The air inside the bottle is cool - the balloon is deflated

Wait for the water in the pot to heat up. As it does, the water in the bottle will heat, too. The balloon will eventually inflate:

The air inside the bottle is hot - the balloon is inflated

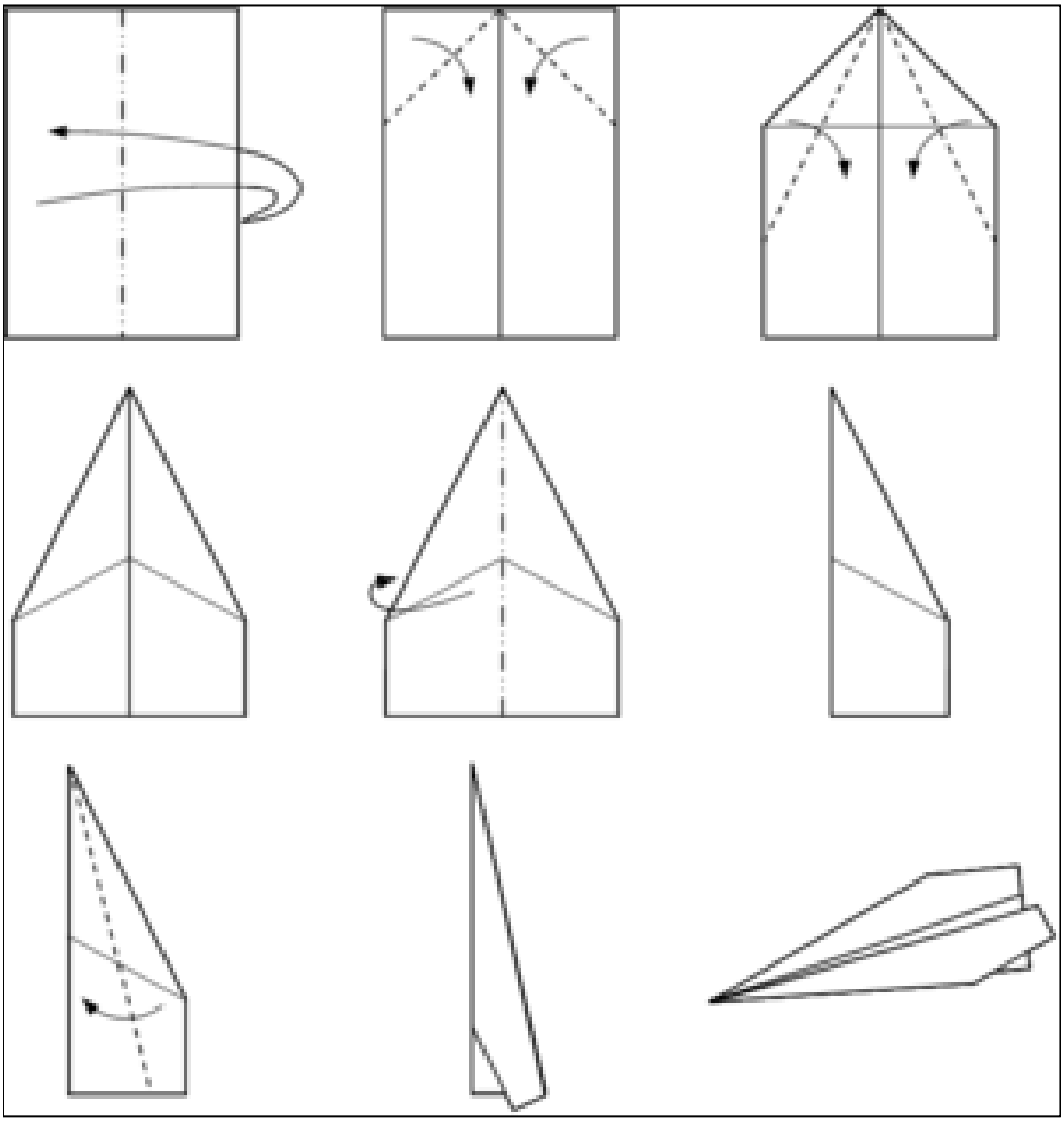
What's happening? This science experiment demonstrates how air, when heated, will expand. It expands because air molecules move around a lot more when warmed up. Since they're moving around more, they bounce around and off each other, and take up more room. We see this as the balloon expands.

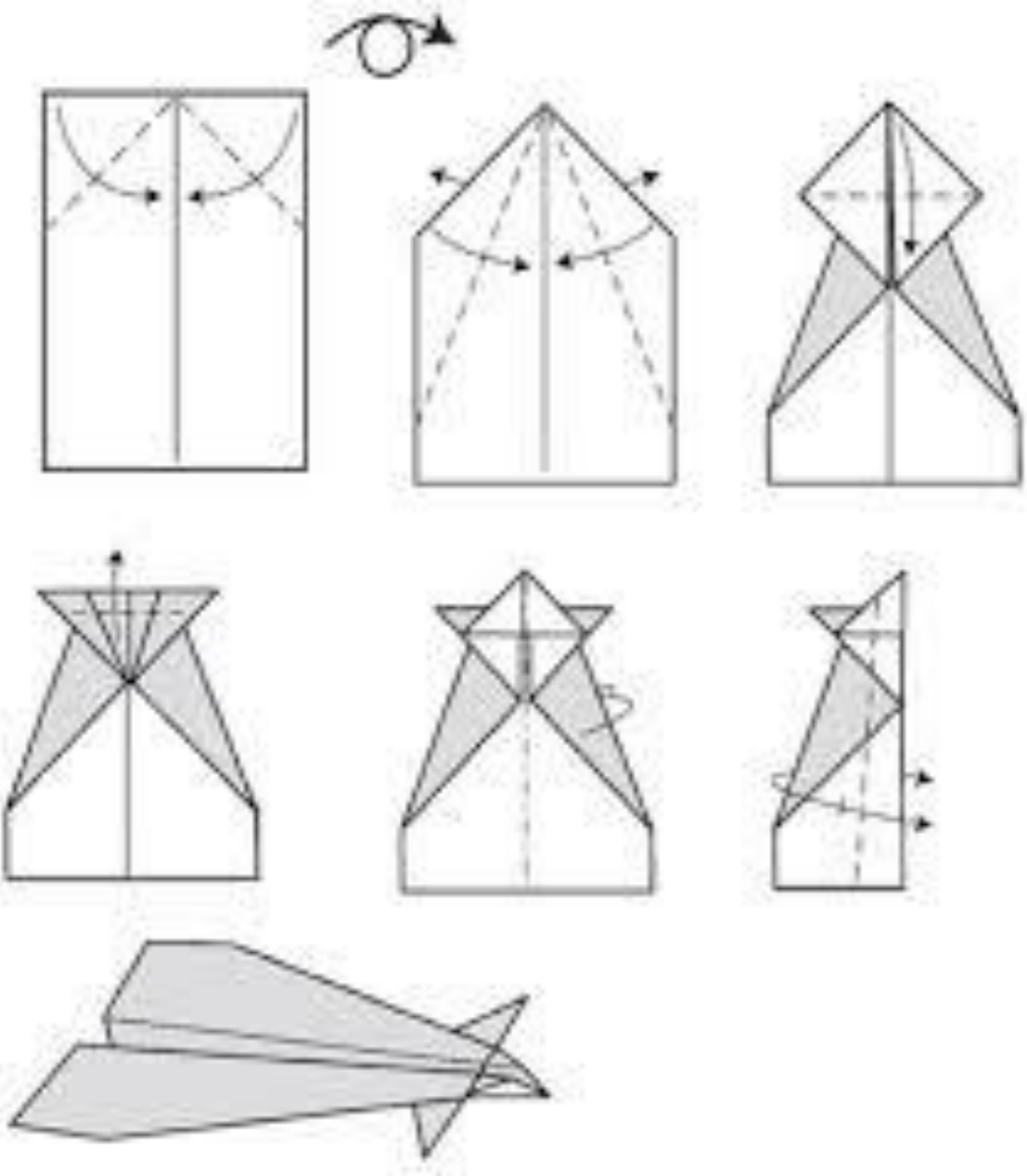
To see the opposite of this effect, take the bottle-balloon invention off of the stove. Place it in a container full of ice, or stand it up in a freezer. The balloon will shrink back down and deflate, and the bottle itself might compress inward as the air gets colder!

c. Conduct at least one of the following investigations to see how air affects different objects:

i. Make a paper airplane and fly it five times.

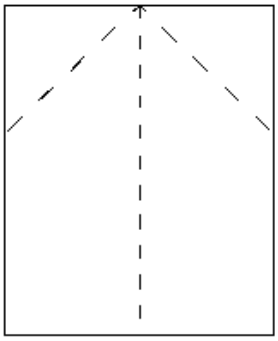
Make a change to its shape to help it fly farther. Try it at least five times.



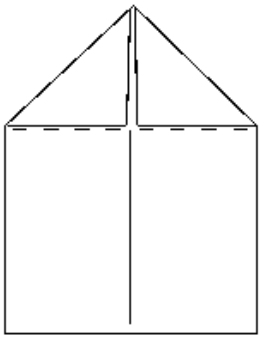


The EAGLE

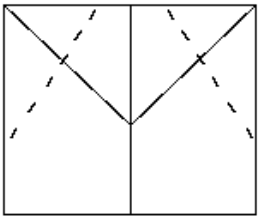
This is a very stable plane. It can fly straight with little adjustment. Curve the elevators up for loops.



Fold an 8.5 x 11 inch sheet of paper in half lengthwise and open back up. Fold the top corners down to the center.

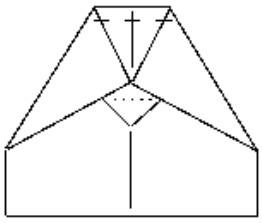


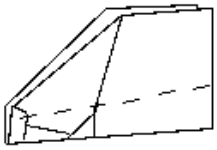
Fold the top down.



Fold the corners in to the middle.

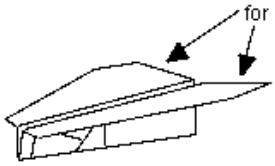
Fold the little point up, fold the top 0.5 inch down, and fold the airplane in half away from you.





Now fold the wings out at an angle as shown.

Bend elevators up just slightly for better performance.



ii. Make a balloon-powered sled or a balloon-powered boat.

Test your sled or boat with larger and smaller balloons.

Material:

- Rectangular plastic container
- sharp knife/craft knife
- drinking straw
- balloon
- sticky tape
- small elastic band
- scissors
- blu tack/sticky tack

First use your knife to make a small hole in one end of your container just big enough for your straw to fit through.

Cut your straw in half and attach the balloon to one end using sticky tape and the elastic band. It should be secure enough that you can use the straw to blow up the balloon without it leaking around the sides.

Thread your straw through the hole in your 'boat' making sure the balloon end is on the inside.

Use your blu tack to secure the straw on each side so it is watertight. You could also use Plasticine (clay)for this.

One balloon powered boat ready for the water!

Using the straw blow up the balloon and then kink or put your finger over the end so the air doesn't escape.

Place your boat in the water, let go of the straw and off it goes :-)

iii. Bounce a basketball that doesn't have enough air in it. Then bounce it when it has the right amount of air in it.

Do each one 10 times. Describe how the balls bounce differently when the amount of air changes.

iv. Roll a tire or ball that doesn't have enough air in it, and then roll it again with the right amount of air.

Describe differences in how they move.

2. Do the following:

a. With other members of your den, go outside and record the sounds you hear.

Identify which of these sounds is the result of moving air.

b. Create a musical wind instrument, and play it as part of a den band.

Simple wind pipe

Supplies: Straws, tape, scissors

1. Simply lay out a line of sticky take with the sticky part facing UP.
2. Lay each of the straws on the sticky tape.
3. Fasten the straws with the tape.
4. Cut one end of the straws on a diagonal.
5. This will give the straws various lengths.

Simple Harmonica

You need:

- 2 popsicle sticks (large works the best, but small works fine too!)
- 3 rubber bands – 1 wide one and 2 thin ones
- 2 strips of paper (about 3/4" x 3")
- tape

Steps:

1. Place the 2 popsicle sticks together.
2. Wrap the paper completely around each end of the stick. Tape the paper into position. (The tape cannot touch the popsicle sticks.)
3. Slide out 1 popsicle stick, leaving the paper and other popsicle stick in place.
4. Place the wide rubber band lengthwise across the one popsicle and paper strips.
5. Place both popsicle sticks together. Put a thin rubber band around each end.
6. ***Enjoy***!

c. With an adult, conduct an investigation on how speed can affect sound.

This is also known as the Doppler Effect. (from mocomi.com)
When fire sirens or police cars are rushing somewhere you can hear them approach. They do not have to follow normal traffic rules and can run past traffic signals. Since they must reach the scene without any delay, they use their sirens to tell people to move out of the way. Sirens on vehicles are normally two long notes that continuous move from one frequency to the next. Have you noticed that these two notes seem farther apart when the source is far away and quicker when the source is next to you?

This is because sound travels in waves. When the source is stationary the waves will reach you at the intervals in which they produced. Imagine an insect sitting in the middle of a pond. The waves created from the disturbance of the insect will reach the shore uniformly. Now imagine that the insect is moving left while creating the same disturbance. Now since the bug is moving, each disturnance is being created from a different location.

The effect of the sound getting quicker and louder as the source approaches you is known as the Doppler effect. It is not caused because the beat is changing or the volume getting louder. The frequency of the waves reaching you get higher as the source approaches, it is equal at the instant it is right next to you, and lower after it passes.

People are so in tune with the sirens of police cars and fire trucks that they know to slow down or move out of the way when one approaches. Even though they have their siren to warn people, these rescuers still slow down at junctions and stop if necessary, even though they have the right of way.

Swing a small siren on a long string. Have the boys listen carefully to the different pitches the siren produces when it is going away from them than when it is approaching.

3. Do the following:

a. Explain the rules for safely flying kites.

- **Never fly your kite around power lines.**

Power lines can be deadly. A jolt of electrical juice flowing through your body to the ground can be a life threatening ordeal. Stay well away from power lines.

Never fly your kite during an electrical storm.

Remember Ben Franklin? Electricity going through two lines completes a circuit that goes right through the heart. You can bet that it wouldn't feel very good -- if you live through it.

Never fly a kite over or near people or animals.

Flying kites over people or animals can startle them and can give people the impression that kite fliers are irresponsible. Yes, we all know that dogs are great fun to watch chasing your kite but sooner or later the wind is going to drop while you're flying and the dog will get your kite... Fly high in the window until people and animals are clear the area.

Never fly your kite near an airport.

In most places around the world, flying near an airport is against the law. Most places in North America prohibit kite flying within 3-5 miles of an airport. If you're not sure if a flying location is acceptable, contact the airport administrators and ask them.

Wear eye protection on sunny days.

Long exposure to the sun's UV rays can cause permanent damage to unprotected eyes. Always wear sunglasses when flying on sunny days even if you're not directly facing the sun. And don't forget to apply sunscreen to protect your skin as well.

Always stand on solid ground

Loose gravel and wet grass can be very slippery and hazardous. A fall while holding a kite in the air could cause personal injury. Wear appropriate footwear for the ground conditions -- at Kites on Ice in Madison, Wisconsin, flyers wear crampons to keep them from sliding.

Stay down wind from sidewalks and paths.

Always make certain that you've got at least twenty feet behind you in case you need to back up when the wind drops. It could be disasterous if you accidentally backed in to a passing cyclist or pedestrian. It could also cause possible confrontations as Ray once found out.

Make sure that your flying area is clear of obstacles.

Obviously, you'll want to make sure that there is nothing in front of you that might damage your kite if you crash in to it. Also check the area around you for items or holes in the sand or ground that could cause you to trip or fall.

Never fly your kite over or near a roadway.

b. Make a kite using household materials.

Easy kite made from construction paper and a wooden dowel.

1. **8.5"x11" cardstock**.

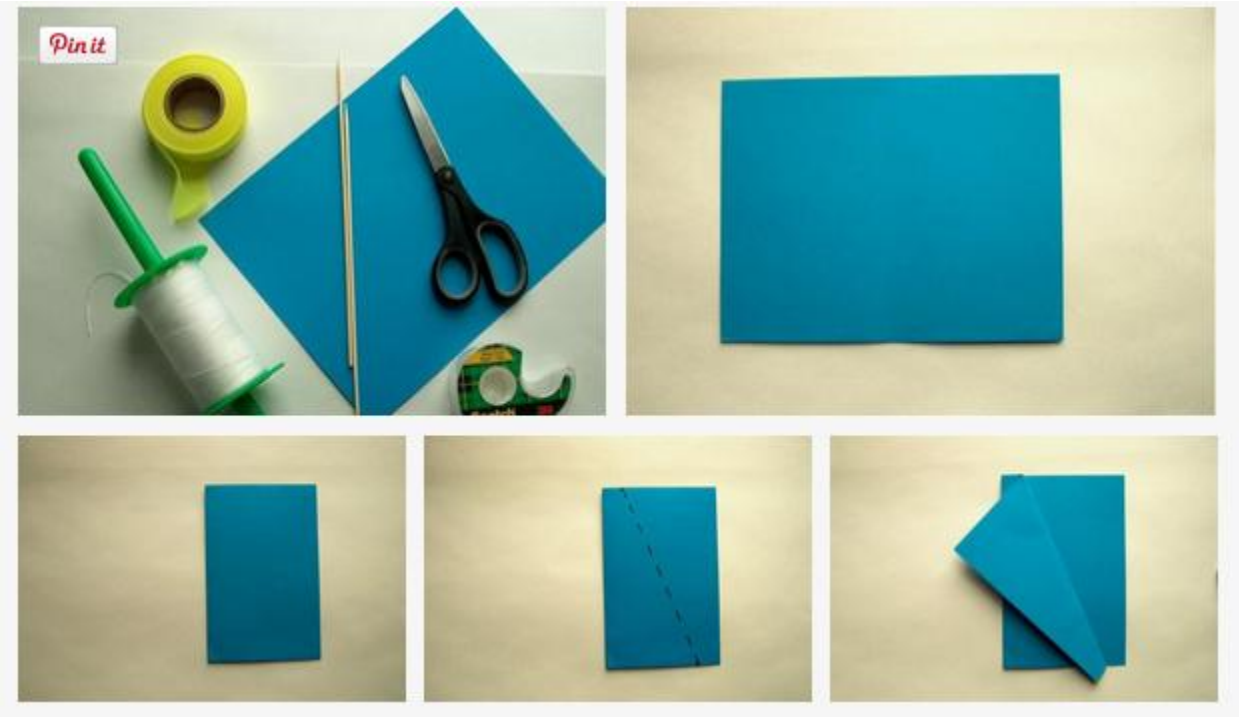
2. **A wooden skewer**. A straight drinking straw works too.

3. **Kite string**. You can find this at a lot of department stores. If not, almost any strong but light string would work. Quilters' string is about the right thickness. Yarn may be too heavy, sewing thread too light. Fishing line is light but strong.

4. **Ribbon**. Most wide ribbon would work fine. I like using surveyors tape (available at hardware stores) because it's made of plastic, which is lighter (for a longer tail!) and durable. Surveyors tape comes in bright fluorescent colors that kids like.

5. **Scissors or hole punch**.

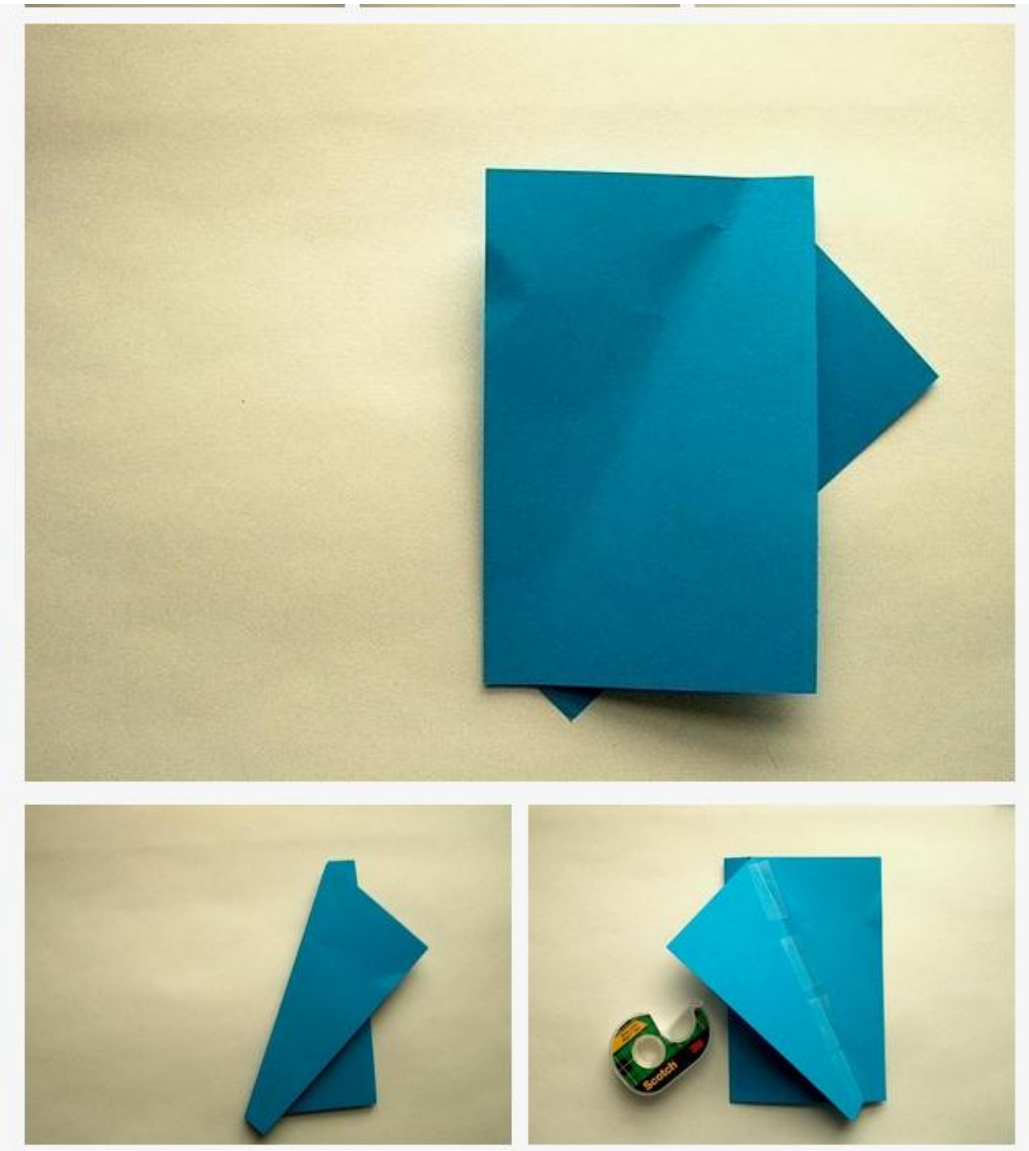
6. **Tape**.



Step 1 – Fold paper in half.

Step 2 - Mark a point on the top of the paper about one inch from the fold. Mark a point on the bottom of the paper about one inch from the open side. Imagine, or draw, a line connecting these two dots.

Step 3 - Fold the top corner of the paper down along the line that you've just created.



Step 4 - Next, flip the paper over and fold the other side down to match the side you just folded.

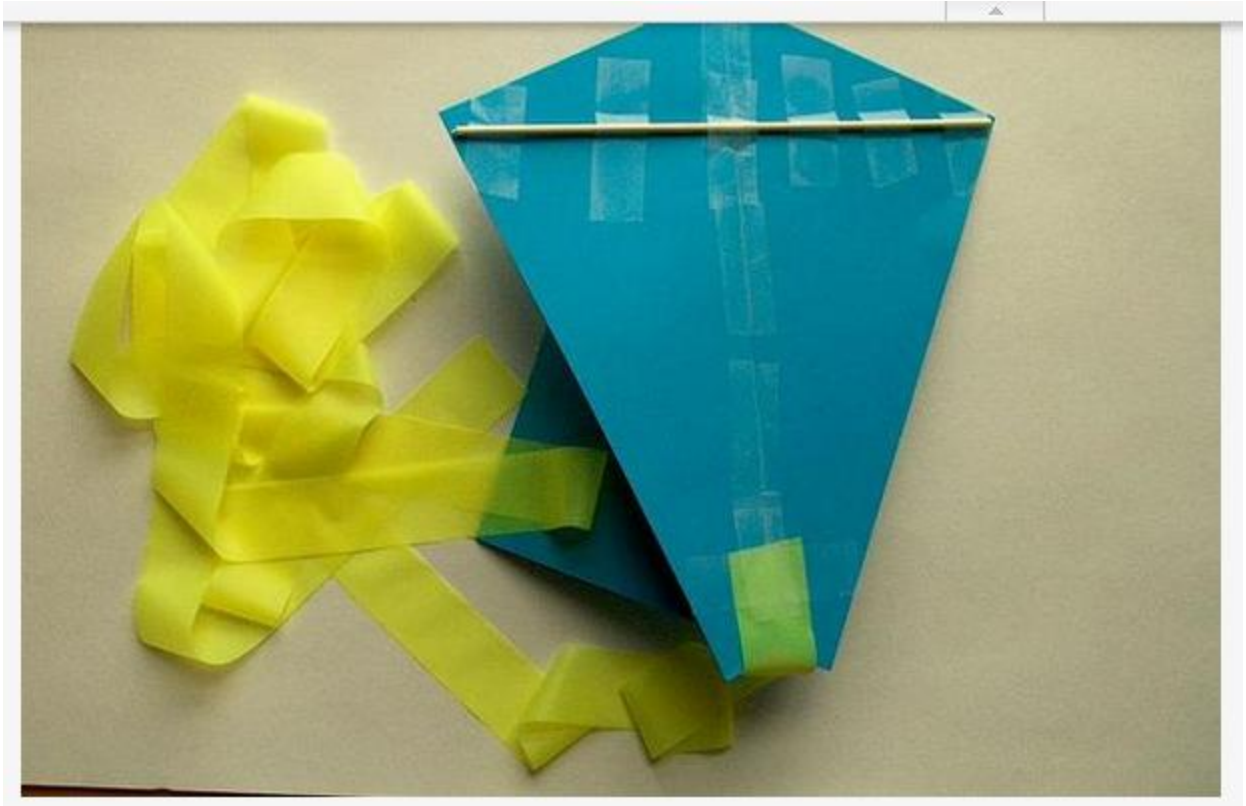
Step 5 – Flip back over so it looks like Step 3 again and tape along the seam.

Step 6 - Lay a skewer across the kite, as shown, and tape it in place. Cut the skewer down to size.

Step 7 - Flip the kite back over and straighten the “spine”

Step 8 – Mark a spot about a 1/3 the way down the spine and put a piece of tape over this spot to reinforce on both sides.

Step 9 – Use scissors or a hole punch to make the hole in which you will tie the string (S&S GA406 – Pack of 12 for less around $15)



Using S&S Kite – Pack of 12 – GP1010

YOUR KIT CONTAINS:

- Kites with Tail
- Sticks
- Kite String
- Markers
- Tablecloth

YOU WILL NEED:

- Ruler
- Scissors

4. Build a rain gutter regatta boat.

If your den or your pack has a kite derby, space derby or rain - gutter regatta, participate in the fun. Or build a kite or rain - gutter regatta boat with your family. Explain how air helps the vehicle move.

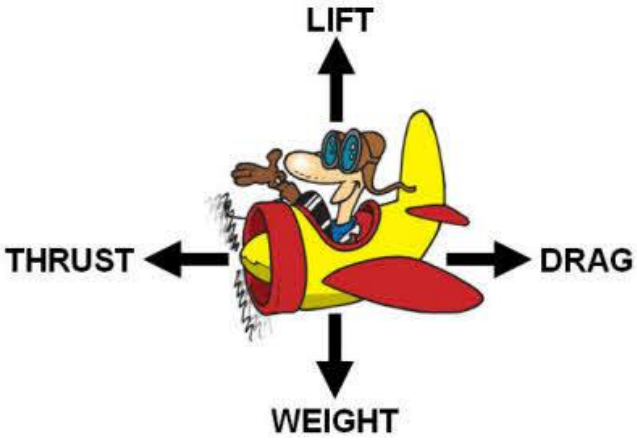
- Racing Trimaran Kit: Scout Shop, Item 612513
- Sandpaper, fine grade
- Sandpaper, medium grade
- Pencil
- Wood Glue
- Paint. Use acrylic paint or permanent markers, not tempera paint
- Screwdriver
- Straws (cut in half), one per boy
- Raingutters and Saw horse
  or
  Raingutter Regatta Inflatable Raceway, Item 612687 and two 6' Tables
- Water
- Hose or bucket
- Stickers, optional
- Towels or mop to clean up water spills, optional
- Optional The Scout Shop sells heavy-duty inflatable vinyl raceway which requires only two 6' tables placed end-to-end. Each lane holds approximately 4 gallons of water. Item 612687.

Other Supporting Material

How Airplanes Fly

Airplanes fly because they are able to generate a force called Lift which normally moves the airplane upward. Lift is generated by the forward motion of the airplane through the air. This motion is produced by the Thrust of the engine(s).

The figure below is a simple diagram of the four forces acting on an airplane – Thrust, Lift, Drag and Weight. Drag is the force produced by the resistance of the air to the forward motion of the airplane. Swish your hand rapidly side-to-side and you will feel that resistance on your hand.



Weight is the force created by the pull of gravity toward the center of the earth. You will feel the effect of this force if you jump up from the floor. Your weight will force you back down. When the Thrust produced by the engine(s) is greater than the force of Drag, the airplane moves forward. When the forward motion is enough to produce a force of Lift that is greater than the Weight, the airplane moves upward. While any part of the airplane can produce Lift, the most Lift comes from the wings.

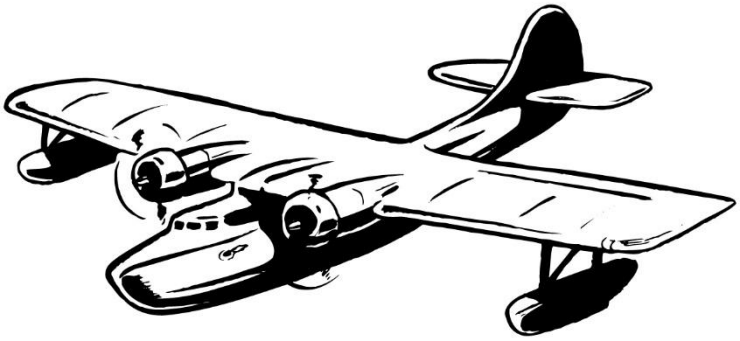
How is Thrust Generated?

There are two basic types of airplanes - propeller driven planes and jet planes.

Propeller Driven Planes - Propeller driven airplanes use a propeller that is turned by some type of engine. Propellers are shaped just like the wings, and also generate lift, except that the lift is forward instead of up and is called thrust. Each propeller is made up of two or more blades. The first propellers were made of wood, but now most propellers now are made of metal. The F4U Corsair is a propeller driven aircraft.

Jet Planes - Jet planes do not have propellers. Instead, they have jet engines that move the airplane forward through another physical principal discovered by Sir Isaac Newton (1642 - 1727). This is Newton's Third Law of Motion - "For every action there is an equal and opposite reaction." You can think of a jet engine as a tube in which a liquid fuel (like the fuel diesel trucks use) is burned at high pressure with air from a compressor. The resulting heat forces the gases out of the back of the tube at high speed. In accordance with Newton's Law, an equal force is applied in the forward direction, moving the engine (and the plane it is attached to) forward.

These are simple explanations, and the real systems are complicated machines that are designed by specially trained engineers.

 Military jet	 Commercial jet plane
 Twin engine airplane	 Helicopter
 Space Shuttle	 Hot air balloon
 Propeller Plan	 Sea plane

Wolf Elective Adventure: Code of the Wolf

Complete 1-4

Crafts
Leatherworking - Marble bag
Rekenrek
Rain gauge (S&S GP1594)

Requirements and what you will need

1. Do two of the following:

a. With the members of your den or family, make a game with simple materials that requires math to keep score.

Making the Marble Bag

- six inch square piece of soft leather scrap
- leather lacing (2 ft.) per boy
- pony bead
- marbles
- Large Nail for punching holes
- Hammers
- 6" circle pattern
- pencil

Instructions: Trace and Cut leather into a 6 inch circle. Punch holes about every 2 inches, using the hammer and nail. Sting leather lacing through holes. Insert both ends of lacing through pony bead and tie lacing ends together. Gather folds into a marble bag.

Playing a game of marbles:

Simple Rules for Ringer (A Marbles Game)

There are house rules and other variations which can be added. These are very simple rules to make it easy for Cub Scouts to learn the game. Traditionally, there are two players, but you can let up to six beginners play together.

Lagging. The first person to shoot in a game of marbles is determined by lagging:

1. Draw a line on the ground.

2. The players shoot at the line from 10 feet away.

3. The player closest to the line goes first.

The Game

1. Draw a ring (a large circle – usually about 5 to 10 feet across) and put 13 marbles in it. The marbles should be in a cross and spaced 3 inches apart.

2. Each player shoots in turn from outside the circle, trying to hit a marble out of the ring while keeping his shooter inside the ring.

3. If the shooter has a miss, his turn is over and he picks up the shooter.

4. If the shooter has a hit but the shooter also rolls out of the ring, he keeps the marbles that rolled out, is awarded one point and his turn is over.

5. If the shooter has a hit and the shooter stays in the ring then player is awarded two points, and shoots again from the place where the shooter stayed.

6. On each new turn a player shoots from anywhere outside the ring.

7. The person who collects the most marbles (or has the most points) is the winner.

b. Play a game of "Go Fish for 10s."

Material
A deck of cards with the face cards removed (Only play with Ace through 10)
2 to 6 players

Objective

Players try to form pairs that add up to 10 (9/1, 8/2, 7/3, 6/4, 5/5, 10/Ace) .When they do, the two cards are immediately placed on the table face up. Play continues until all books have been made. The player who makes the most books wins.

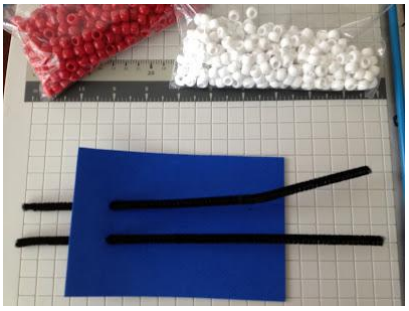
If there are three or more players, each player is dealt five cards. If there are only two players, deal 7 cards to each. The remaining cards are placed in a pile between all the players.

Starting with the player to the left of the dealer, each person takes a turn asking another player if they have a certain rank of card (e.g. "Phoebe, do you have any nines?"). If asked for a rank he has in his hand, a player must hand over all of the cards of that rank. The asker then gets to take another turn. If a player has no cards of the requested rank, he responds, "Go fish." The asker then draws a card from the pile. If he happens to draw the card he was requesting, the asker shows the card to the group as proof and takes another turn.

d. Make a rekenrek with two rows, and show Akela how you would represent the numbers 4, 6, 9, and 14.

Materials list:

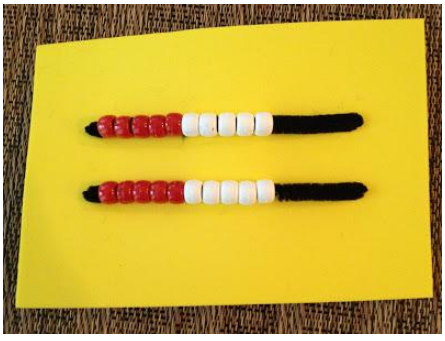
- 12 x 18 foam sheets. Each sheet makes 9 rekenreks.
- Red and white pony beads (6 mm x 9 mm). Each rekenrek uses 10 beads of each color
- Black chenille stems (pipe cleaners).

Cut each foam sheet into nine 4" x 6" rectangles. Use a ruler to make 4 small marks where you will poke the pipe cleaners through. They are 1" in from the sides and 1" apart.
Poke the ends of the pipe cleaners through on one side and fold them down.


Thread 5 red beads on each pipe cleaner and then 5 white beads. Poke the other ends of the pipe cleaners through to the back side. Twist the ends of the pipe cleaners together

Finished Product



About a Rekenrek

The rekenrek, or arithmetic rack, was designed by Adrian Treffers, a mathematics curriculum researcher at the Freudenthal Institute in Holland, to support the natural development of number sense in children. Each row is made of five red beads and five white beads. This allows students to make mental images of numbers. Using 5 and 10 as anchors for counting, adding and subtracting is obviously more efficient than one-by-one counting. This tool provides learners with the visual models they need to discover number relationships and develop a variety of addition and subtraction strategies, including doubles plus or minus one, making tens, and compensation, thereby leading to automaticity of basic facts.

Finding Different Ways to Make a Given Number: Initially use only the top row of beads. Begin by sliding the red beads to the left and the white beads to the right on the top row of the rekenrek. Choose a number to build. "Let's see how many ways we can build 6 by sliding beads from each side to the middle. What if I slide 4 red beads from the left and 2 white beads from the right. Does that make 6 beads? Can you think of another way to make 6? Record the different ways 6 can be built. This activity should be repeated many times using different numbers from 1-10. Once children are confident using the top row, combinations can be found using both the top and bottom rows. Children can record the different ways they find to build the given number.

e. Make a rain gauge or some other measuring device, and use it.

Make a Rain Gauge

Materials:

- Rain Gauge Kit, S&S Kit GP1594, 1 box per 36
- Glue Dots (work better than double sided tape included in kit)
- Scissors
- Old newspapers or magazines
- ruler
- permanent markers (optional and they work better than the paint provided)
- double sided tape to attach pattern to aluminum foil
- copies of patterns, 1 per boy (3 options)

Leader Hint: On day one of camp, set up a camp weather station. Every day record the rainfall and if you want to add more measurements in case it doesn't rain also record temperature and air pressure. Remember that this elective is about numbers and not about the weather.

Kit includes: plastic tubes, jumbo craft sticks, double-sided tape, aluminum sheet, embossing tools, assorted glass stains. Prep time: 10 min. Project time: 45 min.

PREP INSTRUCTIONS: Cut the aluminum sheet into 18 pieces that measure 12" x 8." Cut each of these in half to create 36 pieces that measure 6" x 8". This should be done by an adult. Have the Dragon Fly wings pre-etched.

INSTRUCTIONS:

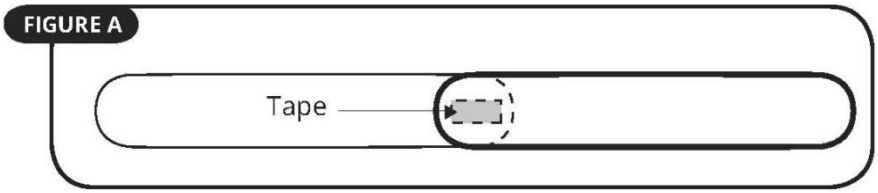
1. Select one of the patterns and lay it over a 6" x 8" piece of aluminum. Using the embossing tool trace over the lines of the pattern. Cut out the aluminum pieces. Make sure to round all corners and be careful of the sharp edges while cutting.

2. Place your aluminum pieces on top of an old newspaper or magazine. Using the embossing tool make a design on

your bug parts by gently pressing the tool into the aluminum. Make sure not to press to hard or you will go right through the metal.

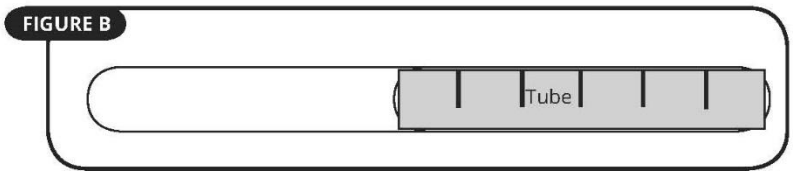
3. Using the glass stain decorate the recesses in your design. Let dry.

4. Select two craft sticks and attach one to another with a small piece of double sided tape (see Figure A).



5. Using two small pieces of tape attach the plastic tube to the craft sticks (see Figure B).

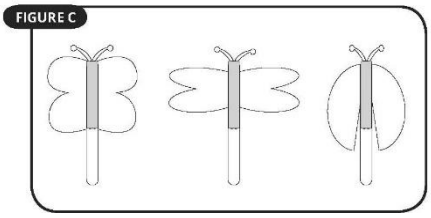
6. Using the glass stain make marks every inch up the tube from the bottom (see Figure B). Optional: use a permanent marker to make the lines and number them accordingly. Let dry.

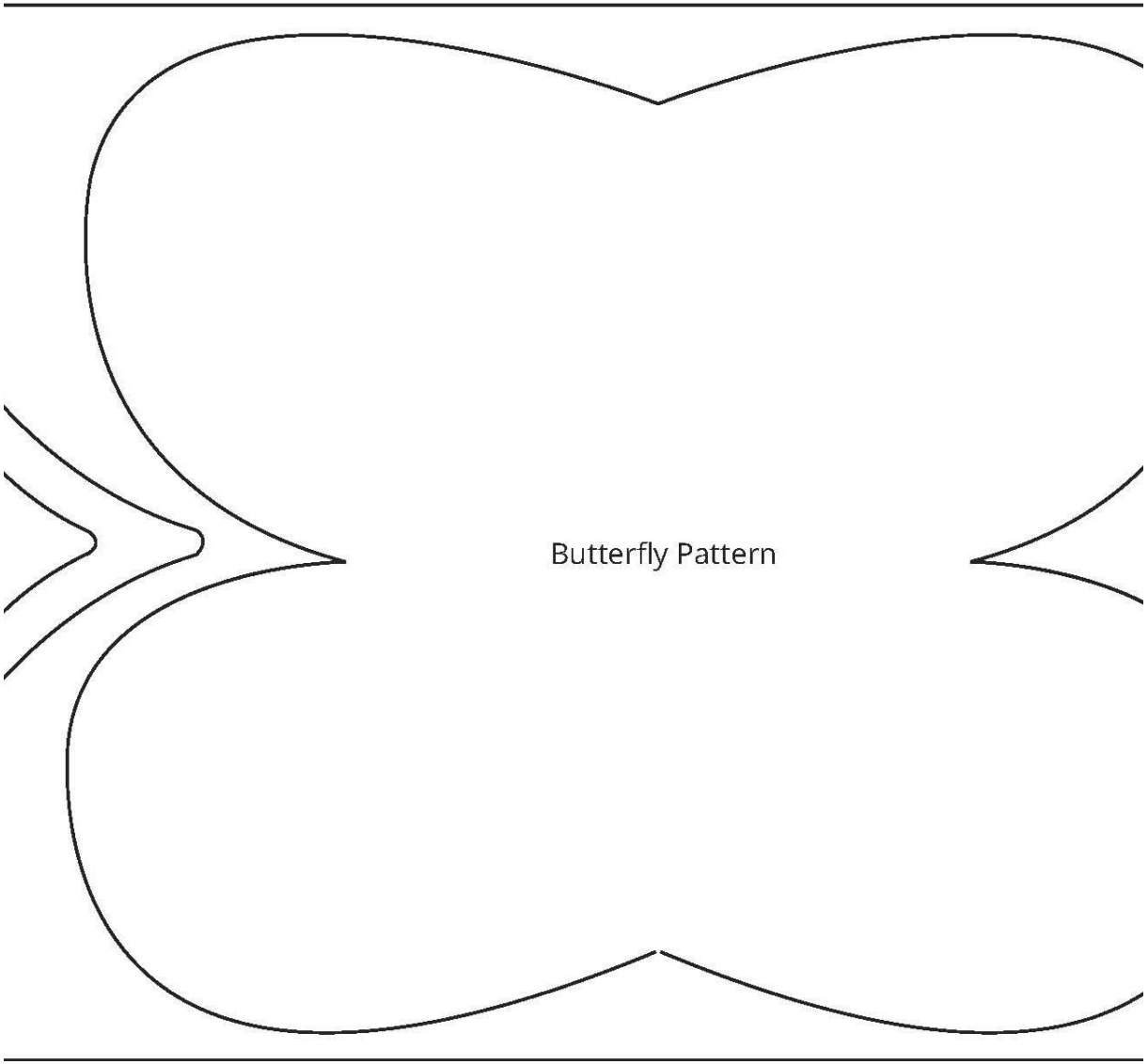


7. Using small pieces of tape attach the bug wings and antennae to the back of the craft stick to form your chosen bug (see Figure C for placement). Warning: Allow completed rain gauge to dry for at least 48 hrs before placing outside.

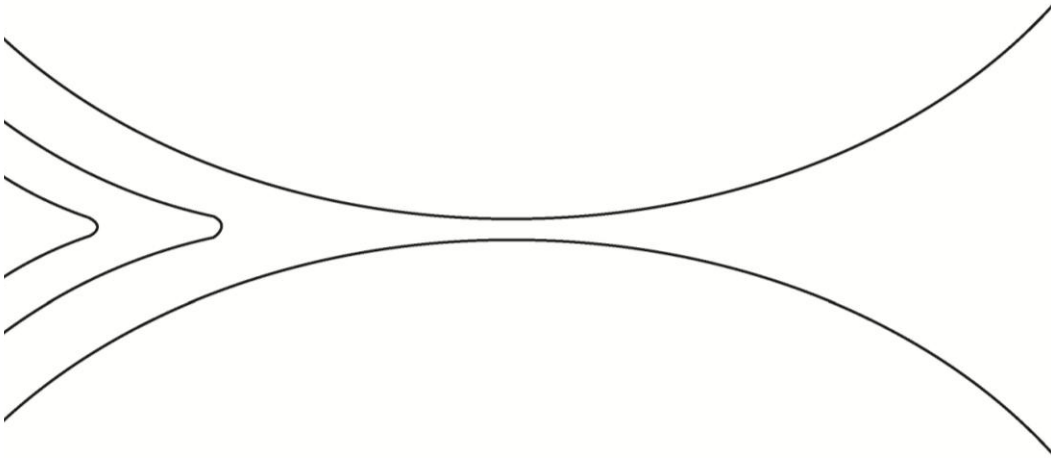
Note: It's easier to paint or use marker to color the aluminum foil first and then cut it out.

Patterns:




Butterfly Pattern

Ladybug Pattern



2. Do one of the following:

a. Identify three different types of shapes that you see in nature.

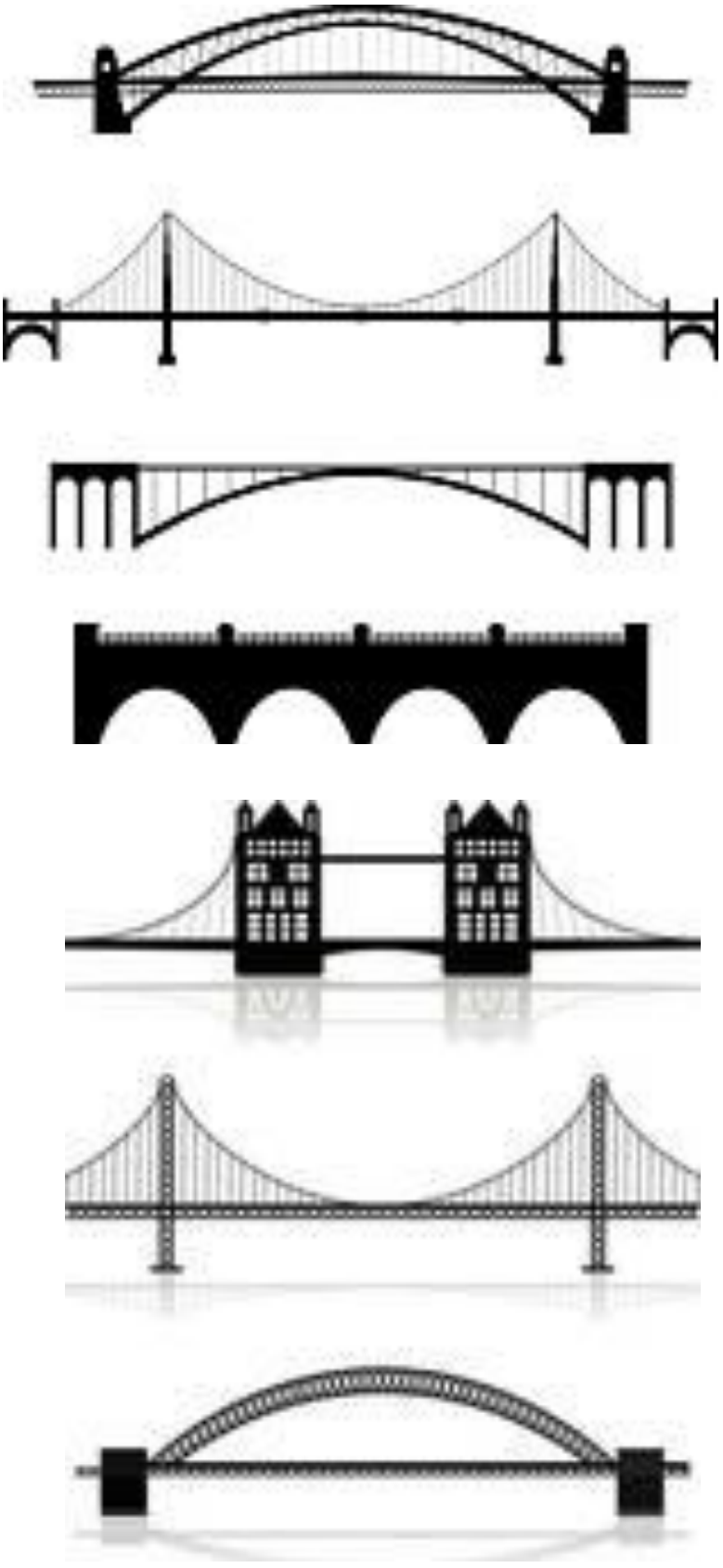
Materials:

- paper
- crayons, or chalk/charcoal
- leaves

You can use different types of leaves and discuss the difference in their shapes – long and skinny, round, heart-shaped, etc.

Instructions: Put a leaf, vein side up, on a smooth surface, and cover it with a piece of thin writing paper. Hold the paper firmly in position and gently rub the crayon over it. The crayon strokes should all be in the same direction, with just enough pressure to bring out the details of the leaf. Leaf Rubbings can be decorated or framed.

b. With other members of your den or family, identify two shapes you can see in the construction of bridges.



c. Select a single shape or figure. Observe the world around you for at least a week, and write down where you see this shape or figure and how it is used.

Give each boy a shape and have them record where they see that shape throughout the week.

3. Do one of the following:

a. With your den, find something that comes with many small, colored items in one package.

Count the number of items of each color in your package. Keep track of each color. *(Could use the marbles or pony beads.)*

Then:

i. Draw a graph showing the number of items of each color.

ii. Determine what the most common color is.

iii. Compare your results to the other boys'.

iv. Predict how many items of each color you will find in one more package.

v. Decide if your prediction was close.

b. With your den or family, measure the height of everyone in the group and see who takes more steps to walk 100 feet.

c. Have each member in your den shoot a basketball. Count the number of shots it takes to make five.

Graph the number of shots it takes for each boy using these categories:

- 5
- 6 – 10 shots
- 11 – 15
- 16 – 20
- more than 20.

4. Do one of the following:

a. Use a secret code using numbers to send a message to one of your den members or your den leader.

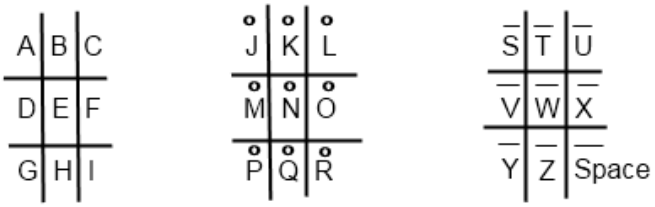
Pair up with another boy and create a code where each letter is represented by a number. Send a message to your partner and then have that person send a message back to you. Be sure you both use the same code numbers.

b. Send a message to another member of your den or your den leader using the pig pen code or another code that changes letters into special *shapes.*

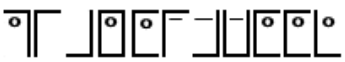
Have the boys create a pigpen code or use the one here. Have boys practice sending and receiving.

:

Pig Pen Code



Example: TABLE = 

 = PIANO STOOL

Other Supporting Material –

Create your Graphs

Color in the number of blocks for that category.

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

Record the Rain Fall and Temperature

Name: _____

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Time							
Rainfall							
Temperature							

Record the Rain Fall and Temperature

Name: _____

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Time							
Rainfall							
Temperature							

Wolf Elective Adventure: Finding Your Way

Complete 1-5

Requirements and what you will need

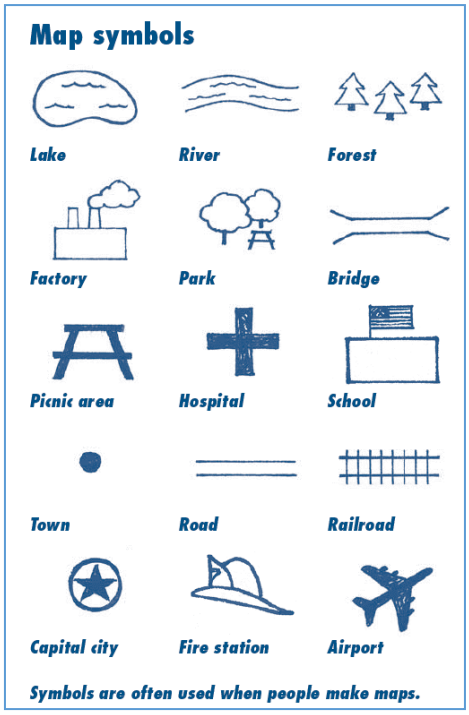
1. Do the following:

a. Using a map of your city or town, locate where you live.

Have maps of the city (1 or 2 per den) on the table and have the boys look at them to find different things. Maps can be bought from bookstores or print then from an on-line source.

b. Draw a map for a friend

Draw a map for a friend so he or she can locate your house, park, a school, or other locations in your neighborhood. Use symbols to show parks, buildings, trees, and water. You can invent your own symbols. Be sure to include a key so your symbols can be identified.

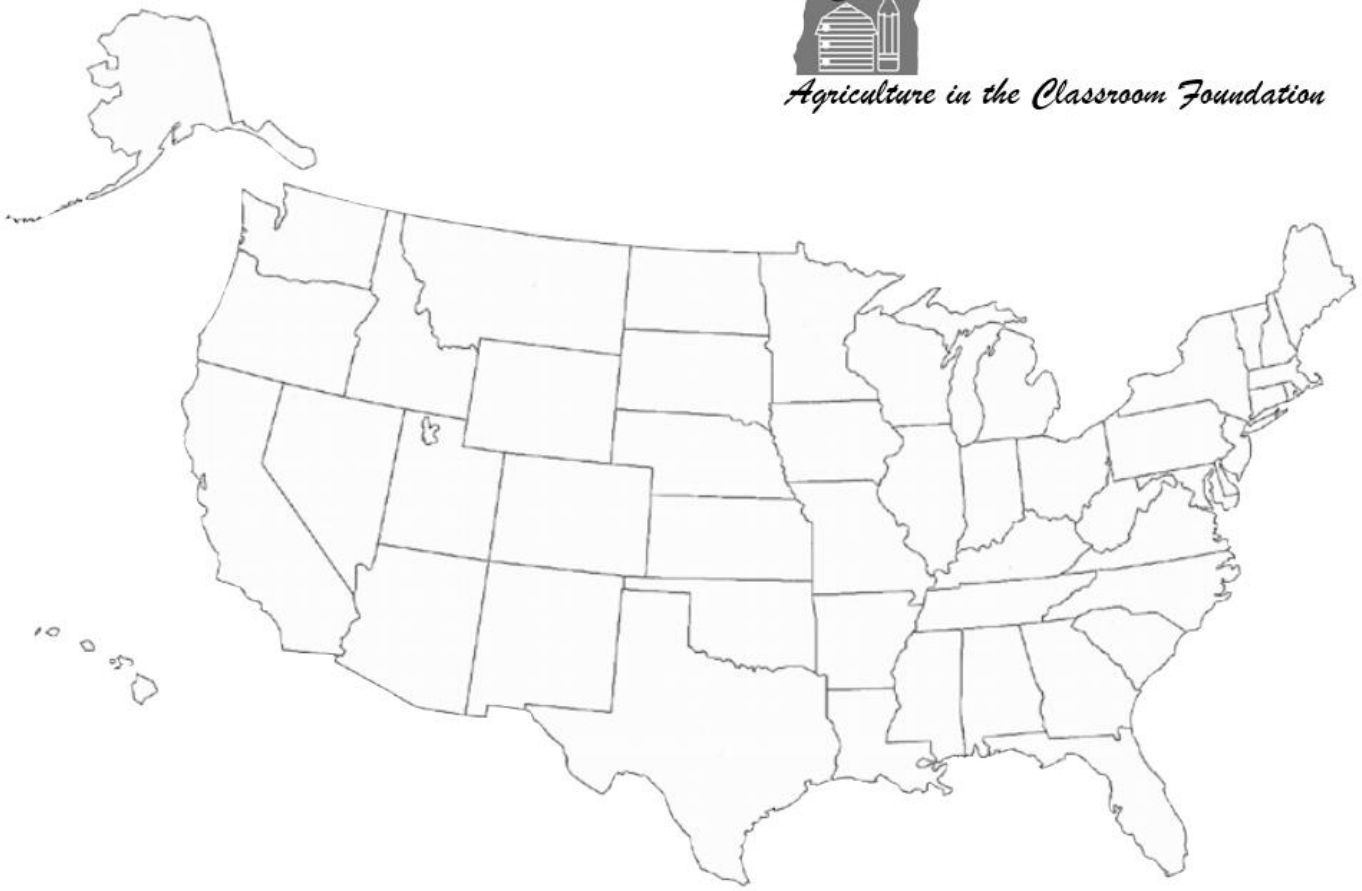


a

2. Pick a nutritious snack (careful to not "serve" a snack), and find where it came from. Locate that area on a map.

Oregon

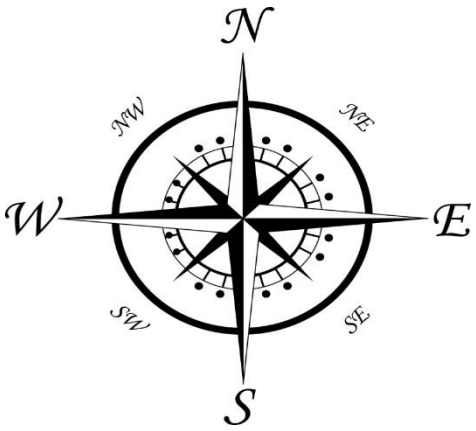
Agriculture in the Classroom Foundation



- [ ] Bananas: Florida, Hawaii
- [ ] Beans: Oregon, Florida, Wisconsin, New York, Michigan
- [ ] Beef: Texas, Missouri, Nebraska, Oklahoma
- [ ] Berries: California, Oregon, Maine, Washington, Wisconsin
- [ ] Chickens: Arkansas, Alabama, Georgia, Mississippi, North Carolina
- [ ] Chile Peppers: New Mexico, Arizona, California, Texas
- [ ] Dairy Products: California, Wisconsin, New York, Pennsylvania
- [ ] Onions: California, Oregon, Washington
- [ ] Oranges: Florida, California, Texas
- [ ] Peaches: California, South Carolina, Georgia
- [ ] Pears: Oregon, California, Washington
- [ ] Potatoes: Idaho, Washington, California, North Dakota, Maine, Oregon
- [ ] Sweet Corn: Minnesota, Washington, Wisconsin
- [ ] Soybeans, used in salad dressings and mayonnaise: Illinois, Iowa, Nebraska
- [ ] Tomatoes: California, Florida
- [ ] Wheat: Kansas, North Dakota, Washington, Montana and Idaho

3. Do the following:

a. Identify what a compass rose is and where it is on the map.



A compass rose, sometimes called a windrose, or Rose of the Winds, is a figure on a compass, map, nautical chart, or monument used to display the orientation of the cardinal directions—North, East, South, and West—and their intermediate points.

b. Use a compass to identify which direction is north. Show how to determine which way is south, east , and west.

- compass, 1 per boy
- Optional: Large Teaching compass www.fishersci.com (#S94191) for $27

www.ehow.com/how_4841689_teach-children-how-use-compass.html

How to Orient a Map Using a Compass

Understanding how to use a map and compass together is an important way to avoid getting lost while exploring nature. A map alone may not be enough to help you find your way if you don't know your exact location. By orienting the map to a compass you can quickly find your way home from even the deepest forest. Practice these skills first in a local park to make sure you understand how your compass works.

Materials:

- Compass
- Map

Instructions:

1. Begin by teaching children the four basic directions: north, east, south and west. An easy way to help children remember these is to use mnemonic device, such as "Never Eat Shredded Wheat" or "Never Eat Soggy Waffles." Show children how each letter in the phrase stands for a direction (the "n" in "never" represents "north"), and teach them that the order of the directions in the mnemonic device is the same as the rotation of a clock's hands.
2. Show children a basic map, and Introduce the compass rose (a one-dimensional representation of a compass typically featured in the corner of a map). The compass rose marks both the four directions and the four intermediary directions (northeast, southeast, southwest and northwest). Provide opportunities to practice reading intermediary directions on the map.
3. Show children a compass and explain that it will always point to the north. Allow children to practice turning their bodies in different directions and moving the compass to various locations, noting which direction the compass points each time.
4. Spread out the map in front of you. The map must be horizontal (flat to the ground) in order to orient it with a compass.

5. Find north on the map. Maps are generally printed so north is at the top of the paper, but this isn't always the case with trail maps.
6. Place the compass on the map so that the "N" on the compass is aligned with north on the map. Make sure the compass is held flat and level to the ground so its arrow moves freely.
7. Rotate the map and compass together until the compass arrow points north. The map is now oriented to the compass and ready to read.
8. Practice finding directions other than north. South is the easiest to find, since it's simply the opposite of north. If you want to go south, you just go the opposite of the way the compass is pointing. To find east, go to the right of the direction the compass points. To find west, go to the left of the compass arrow. You can play a "Which Way?" game in which you have children take three steps in one particular direction, then three steps in another direction, and so on, ending in a special predetermined location.
9. Once children are proficient at reading basic maps and using a simple compass, they can combine the two skills and begin using the compass to get from one location to another. This can be done by creating imaginary treasure hunts or embarking on trips to "mystery destinations" in the car, or through other fun practice games.

A Word of Caution: Compass readings are also affected by the presence of iron and steel objects. Be sure to look out for—and stay away from—pocket knives, belt buckles, railroad tracks, trucks, electrical lines, and so forth when using a compass in the field.

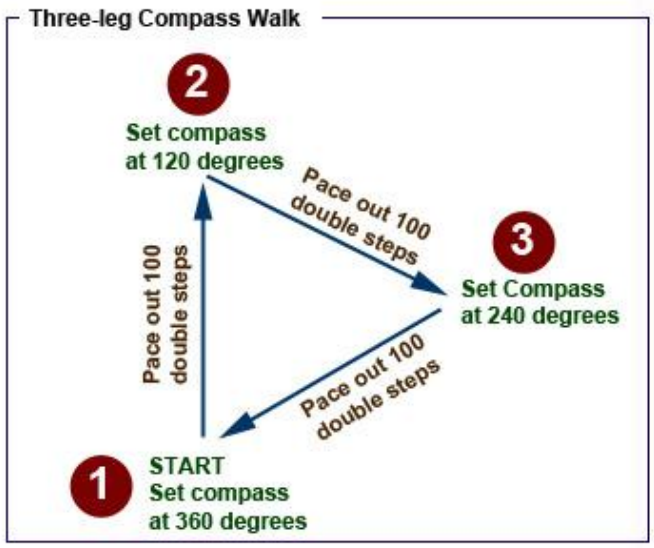
4. Go on a scavenger hunt using a compass, and locate an object with a compass.

Map and Compass Activities

http://www.isu.edu/outdoor/maplong.htm

Three-leg Compass Walk.

Of all map and compass exercises, the three-leg compass walk is one of the best -- and it can be done with nearly any age group. Start by having each student mark their location with a pencil or a small stick and setting their compasses to north (360 degrees). Once north has been set, they sight down the direction of travel arrow on the compass and pick out a landmark in the background. The landmark can be a tree, baseball backstop, a telephone pole, etc. The students then step out 100 paces. (These are double step paces. In other words, students should count each time their right foot touches the ground.) Everyone stops after 100 paces. The students are then directed to set their compasses to 120 degrees and they pace out another 100 steps and stop. Then everyone is directed to set their compasses to 240 degrees and pace out another 100 steps. At this point, they have completed walking a triangle and should end up fairly close to their starting point. The exercise quickly becomes a game among students to see how close they can come to their starting point.



Simple Orienteering Course.

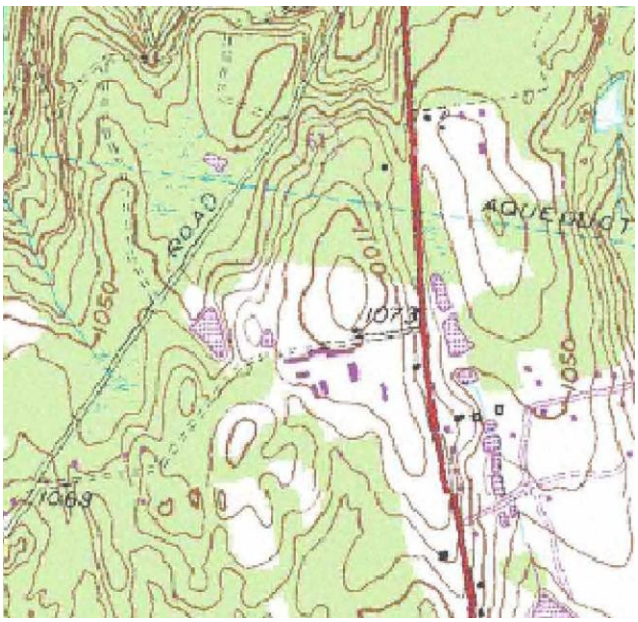
Begin with the basics and build upon them. This is particularly important when students are ready to go onto an orienteering course. Orienteering courses are simple to make. It's just a matter of tying orange surveyor's ribbon to trees or bushes at 7 or 8 locations and marking each location on a map. Using the map, students need to find each marked location (called a control point) and write down the number on the ribbon.

For younger children, you might want to consider placing a surprise at one more of the control points. Always start out with a very basic course. Use easy to find locations to attach your control points: the corners of buildings, a basketball post, the intersection of two trails, a hill top, etc. No matter what the age group, on the first course, students should not have to use the compass to find the points. Wait until your students have done one or more courses before including any control points which require the use of a compass. Start slow and let success build upon success.

5. Using a map and compass, go on a hike with your den or family.

Finding Your Way with Map and Compass

http://egsc.usgs.gov/isb/pubs/factsheets/fs03501.html



A topographic map tells you where things are and how to get to them, whether you're hiking, biking, hunting, fishing, or just interested in the world around you. These maps describe the shape of the land. They define and locate natural and manmade features like woodlands, waterways, important buildings, and bridges. They show the distance between any two places, and they also show the direction from one point to another.
Distances and directions take a bit of figuring, but the topography and features of the land are easy to determine. The topography is shown by contours. These are imaginary lines that follow the ground surface at a constant elevation; they are usually printed in brown, in two thicknesses. The heavier lines are called index contours, and they are usually marked with numbers that give the height in feet or meters. The contour interval, a set difference in elevation between the brown lines, varies from map to map; its value is given in the margin of each map. Contour lines that are close together represent steep slopes.

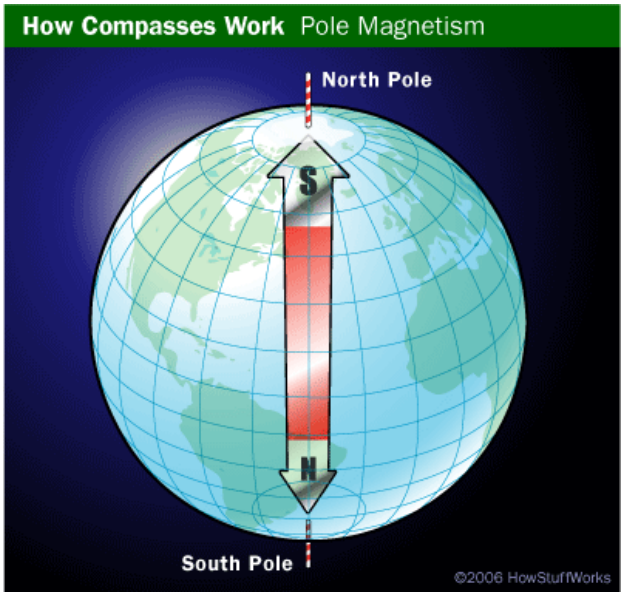
Natural and manmade features are represented by colored areas and by a set of standard symbols on all U.S. Geological Survey (USGS) topographic maps. Woodlands, for instance, are shown in a green tint; waterways, in blue. Buildings may be shown on the map as black squares or outlines. Recent changes in an area may be shown by a purple overprint. A road may be printed in red or black solid or dashed lines, depending on its size and surface. A list of symbols is available from the Earth Science Information Center (ESIC) (http://egsc.usgs.gov/isb/pubs/booklets/symbols).

From Near to Far: Distance

Maps are made to scale; that is, there is a direct relationship, a ratio, between a unit of measurement on the map and the actual distance that same unit of measurement represents on the ground. If, for instance, 1 inch on the map represents 1 mile (which converts to 63,360 inches) on the ground, the map's scale is 1:63,360. Below is a listing of the scales at which some of the more popular USGS maps are compiled.

Other Supporting Material

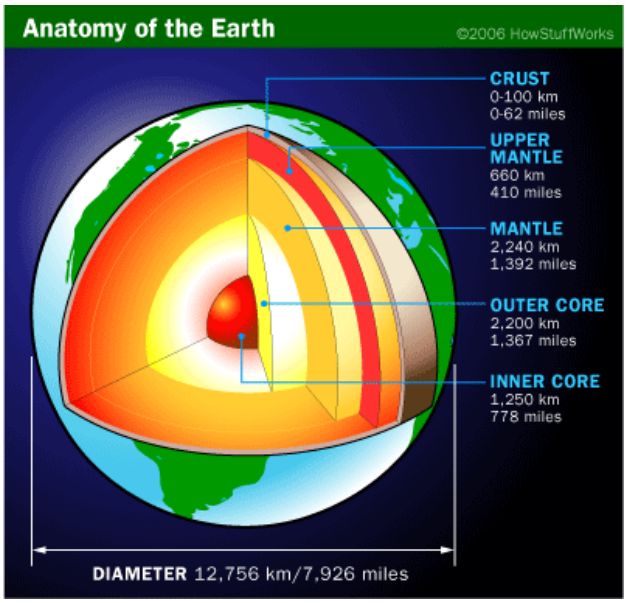
How Compasses Work http://adventure.howstuffworks.com/outdoor-activities/hiking/compass3.htm



No matter where you stand on Earth, you can hold a compass in your hand and it will point toward the North Pole. What an unbelievably neat and amazing thing! Imagine that you are in the middle of the ocean, and you are looking all around you in every direction and all you can see is water, and it is overcast so you cannot see the sun... How in the world would you know which way to go unless you had a compass to tell you which way is "up"? Long before GPS satellites and other high-tech navigational aids, the compass gave humans an easy and inexpensive way to orient themselves.

A compass is an extremely simple device. A **magnetic compass** consists of a small, lightweight magnet balanced on a nearly frictionless pivot point. The magnet is generally called a **needle**. One end of the needle is often marked "N," for north, or colored in some way to indicate that it points toward north. On the surface, that's all there is to a compass.

Earth's Magnetic Field



The reason why a compass works is more interesting. It turns out that you can think of the Earth as having a gigantic bar magnet buried inside.

The "big bar magnet buried in the core" analogy works to explain why the Earth has a magnetic field, but obviously that is not what is really happening. So what *is* really happening?

No one knows for sure, but there is a working theory currently making the rounds. As seen on the above, the Earth's core is thought to consist largely of molten iron (red). But at the very core, the pressure is so great that this superhot iron crystallizes into a solid. Convection caused by heat radiating from the core, along with the rotation of the Earth, causes the **liquid iron** to move in a **rotational pattern**. It is believed that these rotational forces in the liquid iron layer lead to weak magnetic forces around the axis of spin.

Wolf Elective Adventure: Grow Something

Partial – Only requirement 4

Craft - Terrarium

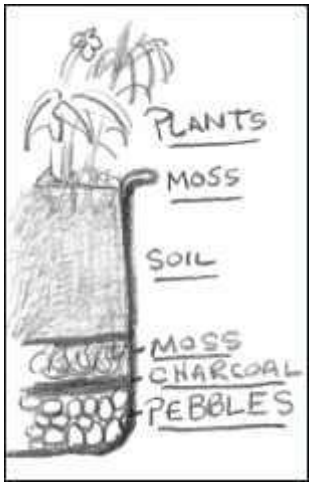
Requirement and What you will need

4. Make a terrarium.

Source: www.stormthecastle.com/terrarium/soda-bottle-terrarium.htm

Materials:

- One 2-liter bottle of soda (with cap)
- Potting Soil
- Handful of small stones or pebbles
- Marker
- Scissors
- Seeds
- Seedlings (small plants) this is optional if you want to start right out with plants in your terrarium
- Activated charcoal, optional
- Spaghnum moss, optional



Here is how you arrange the materials in your bottle from the bottom up: (*optional)

1. Pebbles
2. Activated Charcoal *
3. Spaghnum or Spanish Moss *
4. Soil
5. More moss *
6. Plants

An Explanation of why you build your terrarium like this.

Why Pebbles? The pebbles at the bottom allow excess water to flow to the bottom of the bottle. This will prevent

it from soaking the soil and making it muddy. As the temperature inside the bottle rises from sunlight the water will be drawn up into the bottle. It becomes like the earth with a nice cycle of water flow just like rain. Dew will even collect on the inside top of your bottle then slowly drip down onto the plants like rain.

Why the Activated Charcoal? If you put a thin layer of charcoal (1/2 inch) in your terrarium it acts as a filter purifying the water as it flows up and down. The plants and the bacteria in the soil can cause the inside of the terrarium to get very dirty and even to rot. You can purchase this kind of charcoal at an aquarium store or any well stocked pet store.

Why the Spaghnum or Spanish Moss? This simply acts as a screen to prevent your soil from settling down into the rocks yet it allows the water to flow smoothly.

Why the Soil? This is the nutrition for the plants. They will absorb the nutrients from the soil with their roots.

Why the Moss on the top of the soil? This is just to make it look nicer! It is totally optional.

Step 1: Draw a line around the bottle about six inches up. I use a neat little trick to make a nice straight line. I rest the marker on the top of an upside down coffee cup then I rotate the 2 liter bottle. It makes a nice straight line.

Cut the bottle along the line with a pair of scissors. You may need to start a small hole in the bottle before you can cut it with the scissors. Please ask a parent or adult to help you with this cutting of the bottle.

Place a handful of stones in the bottom half of the bottle. About 1-2 inches deep should be good.

If you have trouble fitting the two pieces together you can cut a slit about halfway down the bottom half of the bottle. This will help it close up a bit and make it easier to fit the top over it.

In a few days your seeds should germinate.

Taking Care of Your Soda Bottle Terrarium

There are two important factors you have to consider when it comes to your terrarium: the amount of sunlight it gets and the amount of water that is inside. Once the plants have sprouted you should make sure it gets sunlight but do not leave it in direct sunlight for the entire day. It is a closed environment and it can get very hot inside.

Water - Look carefully at the soil in the terrarium. It should look moist but not soaked or too dry. Beads of water should form on the top inside near edge and these will drip down the sides and continue to water the soil. If it appears to be too wet you can take the top off and leave it uncovered for a day or two.