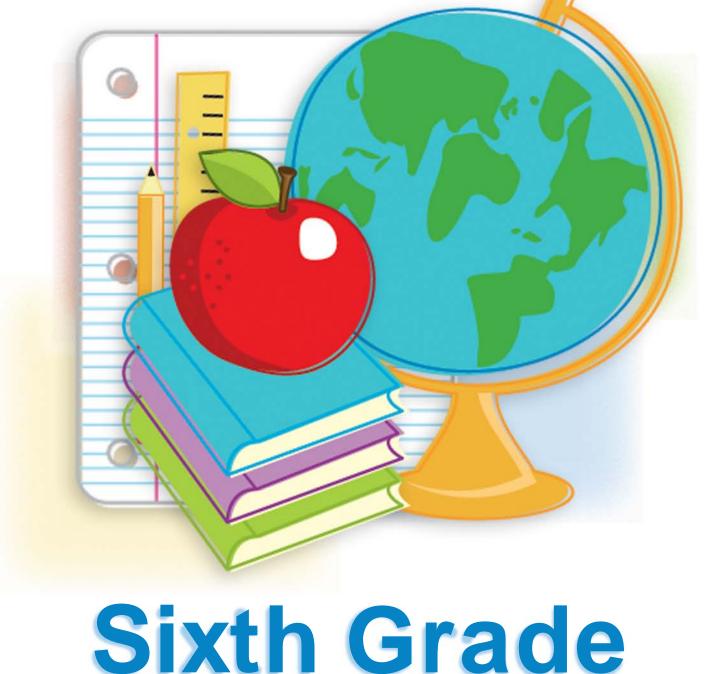
Back-to-School Activity Guide



About This Guide

Are you concerned that over the summer your child will forget everything he or she learned in the fifth grade? This packet of fun activities and skill-builders will help prepare your child for the new school year. Each activity has been selected to draw on prior knowledge and is a sneak peek of what he or she will learn in the sixth grade. Enjoy these worksheets with your son or daughter during the summer months, and once it's time to go back to school, your child will feel well-rested and equipped for the upcoming year.

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Sixth Grade: What Will They Learn?

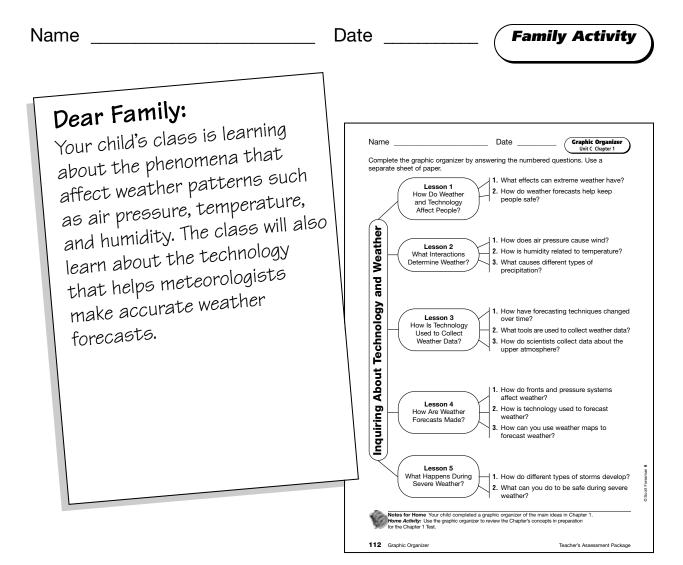
In many schools, sixth grade marks an enormous transition for students: the end of elementary school and the beginning of middle school. Emphasis will be placed on increasing your child's proficiency in the basic skills. Your child will have more than one teacher because teachers are becoming subject specialists. Find out what else your child will learn this year.

- Identify major chronological events in history, as well as find the areas studied in history on maps and globes.
- Understand our legacy from ancient and early civilizations.
- Understand and perform all operations for rational numbers.
- Write, simplify, and manipulate expressions and equations in all areas of problem solving, including ratios, proportions, geometry, statistics, and probability.
- Use all stages of the writing process (organizing, drafting, revising, and editing.
- Write essays, reports, letters, stories, and poems.
- Set up and conduct simple scientific experiments.



- Understand the concepts of gravity, motion, energy, chemical compounds, the ecosystem, fossils, heredity, weather, and the classification of matter.
- Compose reports by using word-processing skills.





The terms shown on the right are the vocabulary words your child will be using in class. By practicing, he or she should be able to pronounce the words and explain what the terms mean.

Home Project

Here is a project that will help your child understand the most important concepts about weather. The project is easy, fast, and fun.

Activity

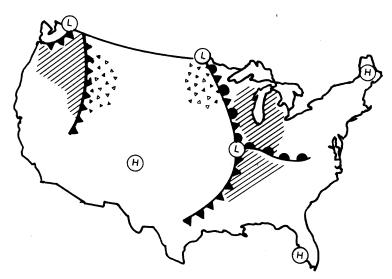
Find out how weather maps can help you learn about weather. Not only do weather maps show the daily weather forecast, they also include information that can help you forecast the weather yourself.

Vocabulary

air pressure humidity relative humidity dew point barometer anemometer psychrometer Doppler radar air mass front tornado hurricane meteorologist forecast

Name

For 3 days in a row, collect the weather maps from your daily newspaper. With your child, determine how weather fronts are represented on the maps. For example, if your paper is printed in colored ink, blue triangles might be used to point in the direction a cold front is moving. Red circles might be used to show the direction of a warm front. Have your child use a plain sheet of paper to trace the weather map each day for 3 days. Next, show your child how to overlay these tracings, so that you can see the movement of the fronts over the 3 day period. Ask your child whether the fronts appear to be moving from the west to the east. Most weather in the U.S. moves west to east, but not always. Have your child predict the next day's weather based on the movement of the fronts.



Visit the Web

You and your child may enjoy visiting the following websites.

NOAA National Data Center @www.nndc.noaa.gov/phase3/educationaccm.htm

Suggested Reading

Your child may enjoy the following topic-related literature.

Drylongso by Virginia Hamilton (Harcourt Brace, ISBN 0-15-201587-6)

Snow Watch: Experiments, Activities, and Things to Do with Snow by Cheryl Archer. Information on snow, snowstorms, and activities to investigate snow. (Kids Can Press, ISBN 1-55074-190-X)

Simple Weather Experiments with Everyday Materials by Muriel Mandell. Over 60 experiments exploring weather. (Sterling Publications, ISBN 0-8069-7295-3)

The Nature Company Discoveries Library: Weather by Sally Morgan; David Ellyard, Consulting Editor. Discusses what weather is, what causes it, and how weather is forecast. (Time Life, ISBN 0-8094-9370-5)

BUILDING TOOTHPICK BRIDGES

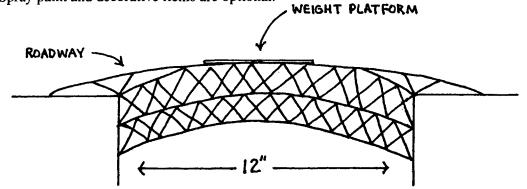
Grades 4-8

- total group activity
- \boxtimes cooperative activity
- independent activity

- concrete/manipulative
- ⊠ visual/pictorial
- ☑ abstract procedure

Why Do It: To involve learners with a hands-on applied geometry problem-solving experience.

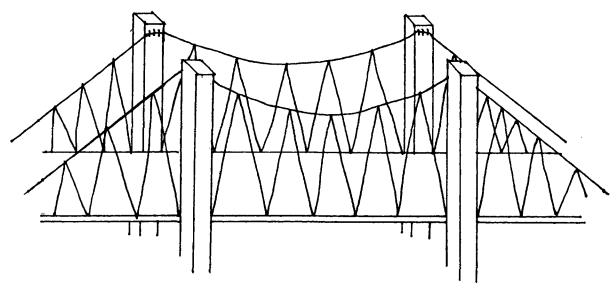
You Will Need: One box of wooden toothpicks for each group (or individual) and any type of fast drying glue. Spray paint and decorative items are optional.



How to Do It: Let the participants know that their next math job requires them to apply geometry by building "strong" model bridges. Their bridges may be constructed of toothpicks and glue only, they must span a 12-inch space, and they must support at least 5 pounds. The bridges and related research work will be started during class time, but it will likely require some homework time too. The learners may work together in groups of up to 4 people, or they may work independently. The bridge-building rules and suggestions are as follows:

- Reference books and materials may be used to obtain information and illustrations of different types of bridges (arch, cantilever, suspension, etc.).
- Use a maximum of 1 box of wooden toothpicks (750 count) per bridge.
- Any kind of glue may be used, but only on the joints. There must be a non-glue area completely around each toothpick.
- The bridge must be functional. (There must be space to drive a toy car across it.)
- The support structure may be built above and/or below the roadway, but may not touch the floor or ceiling.
- The bridge must be at least 2 toothpicks wide.
- The length of the bridge must be exactly 12 inches between the supports, but the roadway may extend to a greater length (see diagram).
- A weight platform, measuring no more than 2 inches × 4 inches, must be built into the roadway near the center of the bridge. In this area toothpicks may be overlapped and designed to either have weights set on it or suspended from it. The bridge must support at least 5 pounds.
- Only whole toothpicks may be used during construction. Any protruding segments may be trimmed off.
- The bridge may be spray painted and/or decorated with flags, etc.

Example: This suspension bridge has its main support structure above the roadway (as contrasted with the bridge shown on page 186).

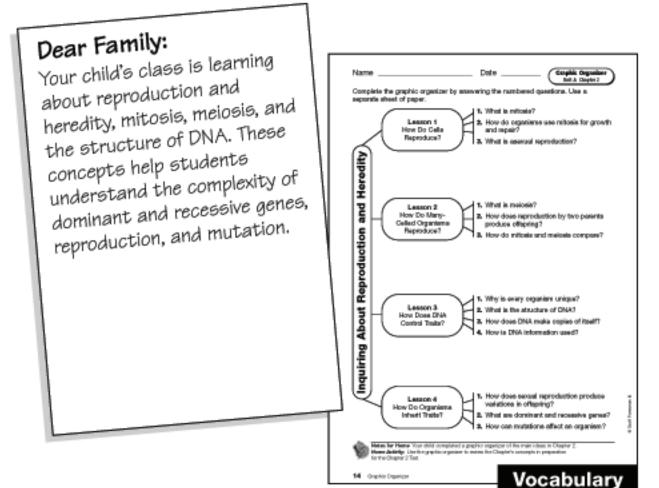


Extensions:

- 1. Students might draw pictures and note the special features of the following bridges:
 - drawbridge
- suspension bridge
- truss bridge

- cantilever bridge
- arch bridge

- covered bridge
- pontoon bridge
- other bridges
- 8. Learners might research the history of bridges and prepare a written and/or a verbal report.
- 3. Some participants might be interested in comparing and contrasting important bridges. They might make a table noting the longest, highest, longest single span, oldest covered, most expensive, etc.



The terms shown on the right are the vocabulary words your child will be using in class. By practicing, he or she should be able to pronounce the words and explain what the terms mean.

Home Project

Here is a project that will help your child understand the most important concepts about cell division. The project is easy, fast, and fun.

Family History

In class, your child learned that certain traits are inherited through a dominant gene, while others are inherited through two recessive genes. Conduct a family history survey to learn about traits in your family: tongue rolling, attached ear lobes, freckles, and a trait of your choice. Think of a trait that seems to run in your family. mitosis cell division asexual reproduction sexual reproduction sex cell meiosis fertilization zygote trait DNA gene base heredity inherit dominant gene recessive gene purebred hybrid mutation

C Soott Foresman 6

Help your child fill in the chart below. Put a check mark in the box to indicate traits each family member has.

Who has the trait?	Tongue Rolling	Freckles	Your Trait:
Mother			
Father			
Child			
Siblings			
Other Relatives:			

Genetic Traits

After you fill in the chart, discuss the traits with your child. Being able to roll your tongue comes from a dominant gene. If you can't, you must have two recessive genes for the trait. What does the family history tell you about what genes each person in the family must have? Freckles are caused by two recessive genes. Did anyone in your family inherit recessive genes for freckles?

Suggested Reading

Your child may enjoy the following topic-related literature.

The Tarantula in My Purse by Jean Craighead George (HarperTrophy, ISBN 0-06-446201-3)

DNA Is Here to Stay (Cells and Things) by Frances R. Balkwill. Multicultural characters help students explore genetics and DNA. (Carolrhoda Books, ISBN 0-87614-763-5)

From Flower to Fruit by Anne O. Dowden. An examination of the reproductive cycle of flowering plants. (Ticknor & Fields, ISBN 0-690-04402-X)

Ingenious Genes: Microexplorers by Norbert Landa, Patrick A. Baeuerle. Explains the science of genetic engineering. (Barrons Juveniles, ISBN 0-7641-5063-4)

Summer Reading Suggestions



Anne Frank and Me by Cherie Bennett

After suffering a concussion while on a class trip to a Holocaust exhibit, Nicole finds herself living the life of a Jewish teenager in Paris during the Nazi occupation.

The Blue Sword by Robin McKinley

Harry, bored with her sheltered life in the remote orange-growing colony of Daria, discovers magic in herself when she is kidnapped by a native king with mysterious powers.

A Diamond in the Dust by Caria Joinson

Despite her mother's objections and the love of an older classmate, 16year-old Katy is determined to find a better life for herself beyond her family's poverty and sorrow in the Illinois coal mining town where they live.

Diary of a Wimpy Kid by Jeff Kinney

In this laugh-out-loud "novel in cartoons," seventh-grader Greg Heffley chronicles the horrors of middle school, his escapades with best friend Rowley, and the ups and downs common in most families. This is the first book in a five-part series.

Empress of Elsewhere by Theresa Nelson

There are many mysteries behind the grandiose exterior of Grandmother Monroe's mansion, in which Jimmy and his younger sister, Mary Al, have been cajoled to baby-sit a capuchin monkey that keeps escaping – which is more than J.D. can do.

Fire Bringer by David Clement-Davies Enjoy the retelling of the Paiute legend about the Coyote helping an Indian boy bring fire to his tribe.

Getting Near to Baby by Audrey Couloumbis Although 13-year-old Willa Jo and her Aunt Patty seem to be constantly at odds, staying with her and Uncle Hob helps Willa Jo and her younger sister come to terms with the death of their family's baby.





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WHAT IF?

1. Summarize your "What If" idea briefly by completing the following sentence: WHAT IF_____

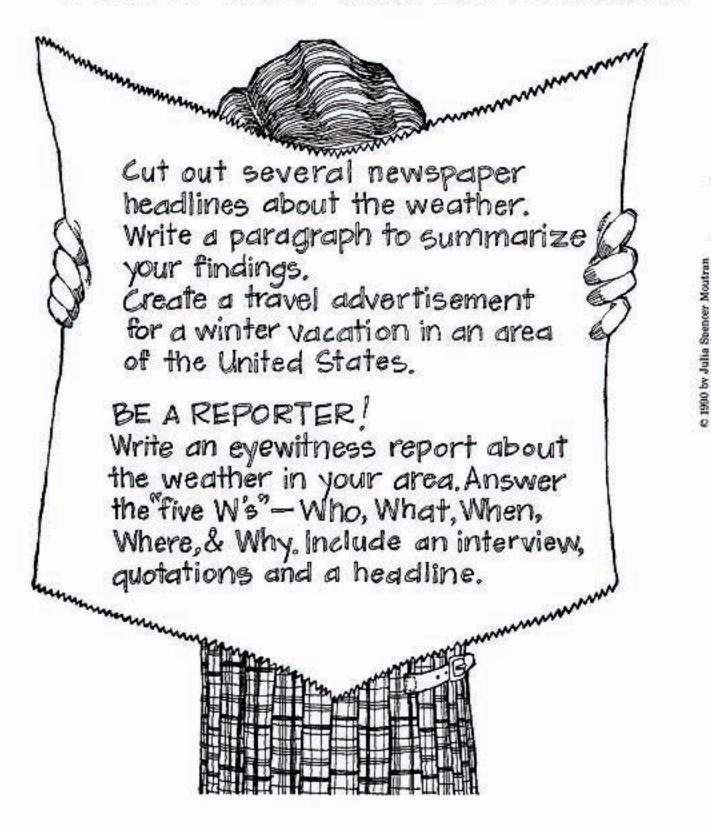
2. Where does this story take place?_____

3. When (year, month)?_____

Write your story below. First introduce your main character (use your description of a hero/ heroine). Then, tell where and when this is happening. This is just a first draft, so don't worry about handwriting, grammar, spelling, etc. Just get your story down on paper! Have fun! Write the title here (if you have one):______

(Use the back of this paper if you need more room.)

Winter Science Stories, Songs, & Poetry WRITING ACTIVITIES: USING THE NEWSPAPER

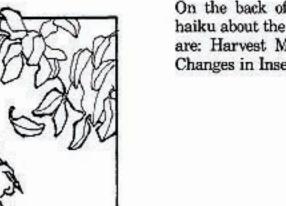


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WRITING FALL HAIKU

"Haiku" is a type of poem from Japan. It refers to the changes in nature during the seasons of the year. The verse does not have to rhyme. Here is a simple haiku that follows the pattern of five-seven-five syllables. There are five syllables in the first line, seven in the next, and five in the last.

> LEAVES SEE THE CHANGING LEAVES— GREEN, GOLD, RED AND BROWN, I SEE— BLOWING IN THE WIND.



On the back of this sheet, write your own haiku about the fall season. Some suggestions are: Harvest Moon, Equinox, Fall Weather, Changes in Insects and Animals.

Which Doesn't Belong?

-

Three terms or concepts in each group below have something geographical in common. A fourth in each group doesn't belong. Circle the unrelated term or concept.

Jordan	Syria	Zambia	Lebanon
* * * * * * * * * * * * * * * * * * * *	, , , , , , , , , , , , , , , , , , ,	*************	
Norway	England	Sweden	Finland
**************		***************	
Japan	New Zealand	Iceland	Spain
	•••••••••••	00000000000000000000000000000000000000	
Ethiopia	Namibia	Somalia	Kenya
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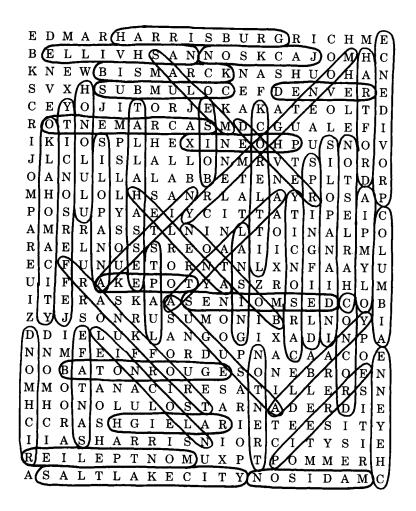
# **State Capital Word Search**

EDMARHARRISBURGRICHME B E L L I V H S A N N O S K C A J O M H C K N E W B I S M A R C K N A S H U O H A N S V X H S U B M U L O C E F D E N V E R E CEYOJITORJEKAKATEOLTD ROTNEMARCASMDCGUALEFI IKIOSPLHEXINEOHPUSNOV J L C L I S L A L L O N M R V T S I O R O OANULLALABBETENEPLTDR MHOLOLHSANRLALAYROSAP POSUPYAEIYCITTATIPEIC AMRRASSTLNINLTOINALPO RAELNOSSREOAAIICGNRML ECFUNUETORNTNLXNFAAYU U I F R A K E P O T Y A S Z R O I I H L M ITERASKAASENIOMSEDCOB ZYJSONRUSUMONIBRLNOYI D D I E L U K L A N G O G I X A D I N P A N N M F E I F F O R D U P N A C A A C O E O O B A T O N R O U G E S O N E B R O E N M M O T A N A C I R E S A T I L L E R S N H H O N O L U L O S T A R N A D E R D I E C C R A S H G I E L A R I E T E E S I T Y IIASHARRISNIORCITYSIE R E I L E P T N O M U X P T P O M M E R H A S A L T L A K E C I T Y N O S I D A M C

Hidden in the puzzle are the names of the capital cities of all fifty states. In the blank provided, write the name of the correct capital by the name of the state. Answers can be found horizon-tally, vertically, diagonally, and backward.

Alabama		Louisiana		Ohio
Alaska		Maine		Oklahoma
Arizona	alaan ah ah ka ka ay ah ka ay ah ah ay ah	Maryland		Oregon
Arkansas		Massachusetts		Pennsylvania
California		Michigan	<u></u>	Rhode Island
Colorado	<u></u>	Minnesota		South Carolina
Connecticut		Mississippi	····	South Dakota
Delaware		Missouri		Tennessee
Florida		Montana	·	Texas
Georgia		Nebraska		Utah
Hawaii	<b></b>	Nevada		Vermont
Idaho	<u></u>	New Hampshire		Virginia
Illinois		New Jersey	<u> </u>	Washington
Indiana		New Mexico	<u></u>	West Virginia
Iowa		New York	······	Wisconsin
Kansas	•••••	North Carolina		Wyoming
Kentucky		North Dakota		

# **State Capital Word Search**



Montgomery	Alabama
Juneau	Alaska
Phoenix	Arizona
Little Rock	Arkansas
Sacramento	California
Denver	Colorado
Hartford	Connecticut
Dover	Delaware
Tallahassee	Florida
Atlanta	Georgia
Honolulu	Hawaii
Boise	Idaho
Springfield	Illinois
Indianapolis	Indiana
Des Moines	Iowa
Topeka	Kansas
Frankfort	Kentucky
	•

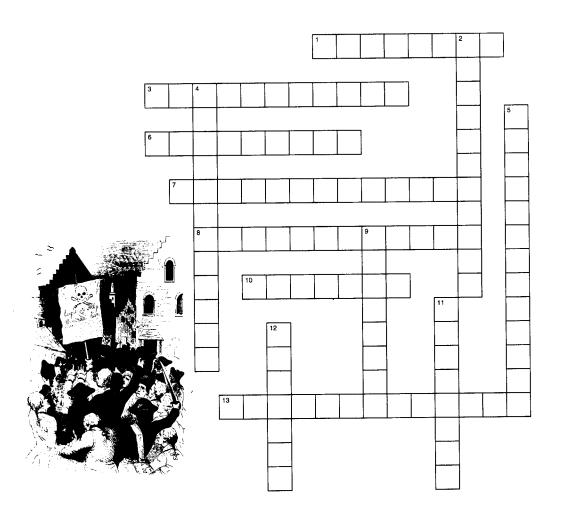
Baton Rouge Augusta Annapolis Boston Lansing St. Paul Jackson Jefferson City Helena Lincoln Carson City Concord Trenton Santa Fe Albany Raleigh Bismarck

Louisiana Maine Maryland Massachusetts Michigan Minnesota Mississippi Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Carolina North Dakota

Columbus Oklahoma City Salem Harrisburg Providence Columbia Pierre Nashville Austin Salt Lake City Montpelier Richmond Olympia Charleston Madison Cheyenne

Ohio Oklahoma Oregon Pennsylvania Rhode Island South Carolina South Dakota Tennessee Texas Utah Vermont Virginia Washington West Virginia Wisconsin Wyoming

# **The Original Thirteen States I**



#### ACROSS: _

- 1. State originally claimed by the Swedes
- 3. State with the first constitution
- 6. State that was originally part of New York

#### DOWN: _____

- 2. Smallest of the original thirteen states
- 4. Northernmost of the original thirteen states
- 5. State with the most slaves

- 7. State that had the first college, Harvard
- 8. State originally claimed by the Quakers
- 10. State originally claimed by the Dutch
- 13. Major producer of tobacco
- 9. First of the original thirteen states to be settled, in 1607
- 11. State originally claimed by the Catholics
- 12. Southernmost of the original thirteen states

## Answer Key The Original Thirteen States Crossword Puzzle I

## Across

- 1. Delaware
- 3. Connecticut
- 6. New Jersey
- 7. Massachusetts
- 8. Pennsylvania
- 10. New York
- 13. North Carolina

## Down

- 2. Rhode Island
- 4. New Hampshire
- 5. South Carolina
- 9. Virginia
- 11. Maryland
- 12. Georgia

# Applications of Proportions

#### Dear Family,

These activities provide an opportunity for you and your child to share knowledge of mathematics. I invite you to choose one or two activities and complete them together. Please have your child return the family project(s) to me by ______.

Materials: clothing • deck of playing cards • paper • pencil

## What's in Your Closet?

Work with a family member and examine the clothes in your closet or dresser drawers. Classify your clothes into groups by color. Make subgroups of clothes that are prints, plaids, or stripes. Which two groups, when combined, would add up to the largest part of your clothes? Count the number of pieces of clothing in each color group. How close was your prediction? On a sheet of paper, make a table that lists each group. Under the appropriate heading, list all the clothes in that group.

## Your Family Tree

Talk to your family about the members of your family. Write down each person's name and his or her relationship to you. What is the ratio of males to females in your immediate family? What is the ratio of males to females in your extended family? What patterns or relationships do you see? What other ratios can you make from your family's names? For example, how many people have the same first name? the same last name? How many people's first names begin with the same letter of the alphabet?

## **Ratios at Random**

Shuffle a deck of cards. Deal out the entire deck to yourself and to another family member. Look at the top cards from both halves of the deck. What is the ratio of your card to your family member's card? (Count picture cards as 10.) What is the ratio of your family member's card to your card? On a sheet of paper, list the ratios in two columns. Are the two ratios the same? Explain why or why not. Repeat this procedure until you use all the cards in the deck. What patterns, if any, do you see in your results? Write a description of them on the sheet of paper.

## What Do You Think?

Please take a few moments to let me know how you enjoyed these activities. Write your comments on the back of this sheet and have your child return it to me by ______.



A picture frame measures 36 in. by 18 in. Estimate the distance around the outside of the frame.

## — Understand —

1. Underline what you are asked to do.

2. What are the dimensions of the frame? _____

## - Plan -

- Draw a picture of the rectangular frame. Label the length of each side.
- Which numbers will you add to find the total distance around the frame?
- Will you use front end-estimation or clustering to estimate the answer. Why?

## - Solve ------

Write a number sentence showing the numbers you used to estimate your answer.

7. Write a sentence to give the estimated distance around the frame.

## Look Back ———

8. How could you find your answer in another way?

#### SOLVE ANOTHER PROBLEM

A rectangular dog pen measures 96 in. by 84 in. Estimate the distance around the outside of the dog pen. Show the numbers you used to estimate.

## **Home Activities: Probability**

We have been learning about probability. Here is a list of some of the skills and concepts we have studied.

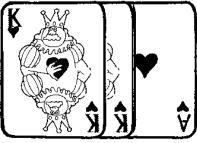
- Probability
- Making predictions
- Geometric models of probability
- Tree diagrams
- Compound events
- Fairness and unfairness

# **Home Activities**

Here are some activities you can do with your child that use these math skills and concepts.

Select ten cards from a deck of cards that you have in your home. The cards may be picture cards or they may come from a standard deck of cards. All of the cards can be different or you may select combinations of cards. If playing cards are unavailable, use some index cards to make ten cards with numbers or drawings. Show the cards to your child. Discuss the probability of selecting each card. The probability will be  $\frac{1}{10}$  for each card if all of the cards are different. If some of the cards are the same, the probabilities will be different. Have your child make a list of the probabilities of each card. Then use the list of probabilities to make a prediction about which card would be drawn for a card selected at random. Finally, mix up the cards and have your child select a card without looking. Discuss how the results compare to the prediction and whether or not you and your child were surprised and why.

Your child can find the probability using the following ratio: number of favorable outcomes/total number of outcomes. For example, if there are 2 kings, 4 queens, 3 jacks, and 1 ace, the probabilities for selecting the cards at random are:  $P(King) = \frac{2}{10} = \frac{1}{5}$ ,  $P(Queen) = \frac{4}{10} = \frac{2}{5}$ ,  $P(Jack) = \frac{3}{10}$ , and  $P(Ace) = \frac{1}{10}$ .



Extend the activity using different combinations of cards. Record predictions and actual results and discuss how they compare.

## **Cold and Flu Prevention Checklist**



## Stay Home If You're Sick

We want to teach our kids the importance of working hard, but it's just good sense to stay home from work or school when you're sick, to prevent the spread of cold and flu germs.

## Keep Your Hands Clean

You never know what germs you might be picking up in the course of the day. It's a good idea to wash your hands frequently, especially before eating, and after blowing your nose, coughing, sneezing, or using the bathroom. Use warm water and soap, and make sure you lather up for 20 seconds!

## Cover Your Nose & Mouth When Coughing or Sneezing

Avoid spreading cold and flu germs to others by coughing or sneezing into a tissue. If none is available, don't cough or sneeze into your hands! Instead, turn your head away from nearby people and, if necessary, aim for your shoulder.

## Don't Touch Your Eyes, Nose, or Mouth

Germs that might otherwise languish on your hands can easily infiltrate your system when you rub your face. Try to keep your hands away from your face as much as you reasonably can.

## Get Plenty of Rest

Your body works overtime to hunt and destroy harmful germs when you're resting or relaxed, but high stress levels leave you susceptible to invasion. Get some rest and give your white blood cells the time they need to do their job.

## Avoid Unnecessary Close Contact

It's an unfortunate fact that a person can spread flu germs a full day before exhibiting symptoms, and then up to five days after that. Steer clear of those with flu-like symptoms—they'll understand. And if you're sick, avoid close contact with others.

## Eat Plenty of Fruits & Vegetables

Eating right is always important, but particularly during cold and flu season. The vitamins and minerals found in fruits and vegetables can buttress your body's immune system against invaders.

## Get Fresh Air & Exercise

It's a myth that low temperatures cause cold and flu. In fact, the culprit is increased, prolonged contact with greater numbers of people. Going outside for a walk means you'll get exercise and get away from potential germ-bearers.