Stone Fox Book by John Reynolds Gardiner Literature based unit study prepared by Heidi Jasper

Author: John Reynolds Gardiner

John Reynolds Gardiner was born on December 6, 1944 in Los Angeles, California to parents who were educators and wanted very much for him to be a good student. Gardiner had a difficult time in school and disliked reading so much he rebelled and refused to read. So his mother would read aloud to him. He had a lively imagination and humor. He was told that his grammar and spelling were so poor that he would never do well in college English. He didn't even read his first novel until he was 19. However, Gardiner did earn a Master's Degree in Engineering from the University of California in Los Angeles.

When Gardiner was 28 years old, his brother convinced him to take a writing class taught by an instructor who cared more about imagination rather than spelling. He wrote *Stone Fox* as a screenplay initially and a producer suggested he turn it into a book. The book did very well and has also been translated into three foreign languages. He also wrote *Top Secret, General Butterfingers,* and *The Last Secret*.

He believes it is important to encourage beginning writers, even if they are not good at spelling and grammar, and he said, "Thank you, Mom, for not giving up on me for your rebel son is now a reader, a writer, and a lover of books."

Gardiner died March 4, 2006 at the age of 61.

Illustrator: Marcia Sewall

Marcia Sewall's name can be found on the covers of tons of classic fiction and folktales in the library as both an author and as an illustrator. She has a simple drawing style that conveys the rhythm and characters of the stories without overwhelming them and gives the books a simple clarity.

Marcia was never taught to illustrate books, but she took an art course from the Rhode Island School of Design after finishing graduate studies in education. She went on to become a staff artist for a children's museum and later an art teacher. When the time came for her to write her own books, she chose topics that show her love of history: a western ballad for *Ridin' That Strawberry Roan* and a Scottish folktale for *The Wee, Wee Mannie and the Big, Big Coo*.

Marcia gained the most fame from her three books on the settling of her beloved New England: *The Pilgrims of Plimoth, The People of the Breaking Day,* and *Thunder from the Clear Sky*. All three books take the point of view of settlers or the Native Americans as they encounter each other in those first hard years.

Chapter 1- Grandfather

Summary- Grandfather doesn't get out of bed one morning and Willie and Doc Smith can't figure out why.

Geography/Social Studies

Wyoming

Statehood: Talk of statehood for Wyoming began as early as 1869 after the organization of Wyoming Territory in that year. The road to statehood, however, did not begin until 1888. On July 8, 1889, Wyoming Territory held an election of delegates to Wyoming's one and only Constitutional Convention. Forty-nine men gathered in Cheyenne during September, 1889, and wrote the constitution. The voters approved the document November 5, 1889, by a vote of 6,272 to 1,923. Bills for Wyoming statehood were introduced in both the U.S. Senate and House in December, 1889. The House passed the bill March 27, 1890. President Benjamin Harrison signed Wyoming's statehood bill, making Wyoming the 44th state.

Activity- using an Atlas of the USA, look at the map for the state of Wyoming. Find the state capitol. What states border Wyoming? What mountain ranges are in and around Wyoming? Find the city of Jackson, where the story of *Stone Fox* took place many years ago. Locate the Wind River Reservation where the Shoshone and Arapaho Indian tribes lived after being moved from Utah. Stone Fox belonged to the Shoshone tribe and may have lived there. Name the major cities. Are there any major rivers in WY? Are there any interstate highways in WY today? What popular tourist/vacation spots are in WY?

Issues of Human Relationships

When Grandfather didn't get up the next morning, Willie went to get help. Sometimes in our lives, we experience times where we have a hard time understanding what is happening to us. These are the times we do need to seek help. Seeking help is not a sign of weakness. God has created each of us with a need to reach out to others who are hurting to show them compassion and to try to help them. He also created us with the ability to accept help from others when we need it ourselves. We just need to be willing to be honest that we need help and we need to be willing to accept help. To not allow others to help you in your time of need is to deny them the blessing they'd receive by helping you.

Career Paths: Women Doctors

Doc Smith is a woman doctor in an age when few women had more than an 8th grade education. However, Wyoming was a very progressive state in the area of women. It could be that the author has a woman doctor who is well-known, knowledgeable, and accepted in *Stone Fox* as his way of honoring the progressive attitudes towards and the opportunities for women found in Wyoming even at that time in history. (Here is a summary of Women in Wyoming copied from the Wyoming.gov website if you don't have internet access.)

Wyoming is known as the "Equality State" because of the rights women have traditionally enjoyed there. Wyoming women were the first in the nation to vote, serve on juries and hold public office.

In 1869, Wyoming's territorial legislature became the first government in the world to grant "female suffrage" by enacting a bill granting Wyoming women the right to vote. The act was signed into law on December 10, of that year by Governor A. J. Campbell.

Less than three months later, on February 17, 1870, the "Mother of Women's Suffrage in Wyoming" - Esther Hobart Morris of South Pass City became the first woman ever to be appointed a justice of the peace. Laramie was also the site for the first equal suffrage vote cast in the nation by a woman, Mrs. Louisa Swain on September 6, 1870.

In 1894, Estelle R. Meyer became the first woman in the United States elected to a public office - Wyoming Superintendent of Public Instruction.

In 1924, Nellie Tayloe Ross was the first woman in the United States elected for the office of state governor. She took office on January 5, 1925, 20 days before "Ma" Ferguson of Texas (elected on the same day) took office. Mrs. Ross went on to become the first woman to be appointed Director of the United States Mint, a position she held for 20 years.

Language Arts

Vocabulary : explanation, palomino, preceded, examination

Comprehension Discussion Questions

- 1. Why did Willie find his plate in the chicken coop one morning?
- 2. What does Willie tell Doc Smith that finally convinces her that something is seriously wrong with Grandfather?
- 3. The chapter mentions three times that Grandfather cries and his beard fills with tears. What caused him to cry each time?
- 4. What does Doc Smith believe is wrong with Grandfather?

Legends

Literature is divided into different types or kinds called genre, depending on what kind of writing it is. It can be non-fiction, biography, fiction, drama, fairy tale, fantasy, legend, and tall tales. *Stone Fox* is considered a Legend. A definition of legend is a traditional, historically-based tale about people and the meaningful feats they did which is handed down first by word-of-mouth and later in written form.

Using Correct Grammar-

In the author's biography, we learned that Mr. Gardiner had poor grammar skills and that *Stone Fox* was written after the author took a class where the instructor was more concerned about creativity than grammar and spelling.

In Chapter 1, we have an example of a grammar rule that is easily confused and broken: *The Correct Use of "real" and "really"*

"real" is an adjective and answers "What kind?" It should never be used as an adverb; We saw a real bear. What kind of bear? Real bear. Adjective. It was a real dog that barked. What kind of dog? Real dog. Adjective. "really" is an adverb and is used to modify a verb or another adverb and describes HOW; I am really sorry. How sorry am I? Really. Adverb. Grandfather is really sick. How sick? Really. Adverb.

The statement, "I feel real happy" is an incorrect use of grammar. One should say, "I feel really happy."

Activity - Look at these sentences from Chapters 1. Are these sentences grammatically correct? If not, correct them. (The first two are incorrect, the word "really" should have been used; the last one is correct.) The author may have used the word "real" instead of "really" to more closely imitate informal speech and to emphasize the point that Willie was still just a child.

(pg. 4) Grandfather always got up real early in the morning.

(pg. 6) We went to bed early, real early.

(pg. 10) It's a real sickness, all right.

Note from Ami: Don't forget that it's okay to break the rules when you make your characters speak (you *really* want them to sound like *real* people).

<u>Essay</u>

Write about a time you spent at your grandparents' house. How old were you? What did you do? What did you see? What did you eat? Did you spend the night, if so, where did you sleep? What did you and your grandparents laugh at?

<u>Bible</u>

Hope vs. Worry- It seems that Grandfather has lost hope in the future because of worry. Read Psalm 25; Psalm 46; Psalm 42: 5, 6; Isaiah 26:3; Matthew 6:19-34; John 16:33; Romans 8:28; Hebrews 13:5, 6. What is it that Grandfather has forgotten? What would you tell him, if you could?

Chapter 2- Little Willie

Summary-Little 10-year old Willie decides to work the potato fields with some help from a friend.

Language Arts

Vocabulary -code, credit, harness, acre, harvest, irrigation, strongbox, mature, determined, bushel

Comprehension Discussion Questions

- 1. Explain Willie and Grandfather's mode of communication
- 2. How do Willie and Searchlight manage to harvest the crop of potatoes?

Using Correct Grammar

In Chapters 1 and 2, we have an example of a grammar rule that is easily confused and broken: *The Correct Use of "good" and "well"*

"good" is an adjective and should only be used to modify a noun, telling What kind of? A good dog- what kind of dog? Good. Adjective. A good meal- what kind of meal? Good. Adjective. A good crop- what kind of crop? Good. Adjective.

"well" is an adverb and is used to describe How? I slept well- I slept how? Well. Adverb. I did well on the test. I did how? Well. Adverb. "Well" can be properly used as an adjective ONLY when used to refer to health. Grandmother is not well.

The statements, "I slept good" or "the car runs good" or "I did good on the test" are incorrect uses of grammar as they do not answer the "What kind of?" adjective finding question. One should say, "I slept well" and "the car runs well" or "I did well on the test." because they do answer "How?" and therefore the adverb 'well' should be used.

Activity - Look at these sentences from Chapters 1 and 2. Are these sentences grammatically correct? If not, correct them. (All are correct)

(pg. 7) Searchlight enjoyed a good run.

(pg. 12) Little Willie was sure if the crop was a good one, Grandfather would get well.

(pg. 13) He'll be in good hands until the end comes.

(pg. 13) I'm sure there's a farmer in these parts who needs a good work dog.

Essay

Think about a time when you needed to help someone. What was happening to that person and why did they need your help? What did you do to help? How did you feel while helping? How did you feel afterwards? What was the result of your helping?

<u>Cooking</u>

Willie and Grandfather live on a potato farm. Each year they'd sell the potatoes to make money to live on the rest of the year.

Activity- Make a Potato Recipe Book in the shape of a potato. Use brown paper for the outside cover and index cards inside so the student can copy and attach several recipes into the Potato Recipe Book throughout this study. It can be stapled at the top or on the side when done and added to a lapbook.

Recipe-Twice Baked Potatoes

<u>Ingredients</u> 1 baked potato per person cheese slices chopped onions sour cream

Equipment needed

Aluminum foil bowl oven wooden spoon knife measuring cups

Directions

- 1. Scrub potatoes clean and wrap each potato in a piece of aluminum foil
- 2. Put the wrapped potatoes in oven for 1 Hour at 350 degrees.

- 3. Remove them from the oven and let cool 15 minutes.
- 4. Cut the potatoes lengthwise and scoop out the softened potato into a bowl. Save the skins
- 5. Add 1/8c. onion per potato and ¼ c sour cream per potato to the potatoes and mix.
- 6. Carefully put the mixture into the potato skins.
- 7. Top each potato with a slice of cheese and heat potatoes for 15 minutes in the oven to melt the cheese.

Social Studies

Issues of Human Relationships

Since we all live in families, we all have things we do for or to help our families. We usually call them 'chores'. In *Stone Fox*, Willie had a lot of chores to do because he lived with his grandfather and because he lived on a farm. Those two situations alone provided a lot of opportunities for a lot of chores. When Grandfather took to his bed, Willie's list of chores grew and grew. What are some of the chores Willie did that are mentioned in the first two chapters? How do you think you would have handled having all those responsibilities if you had been Willie? Do you do your chores without being reminded? Do you do your chores without whining, stalling, or being grumpy? Chores are an opportunity for learning responsibility and servant hood. Your ability to do them without being reminded and doing them with a good attitude is a measure of your maturity.

<u>Science</u>

Botany: Potatoes

Americans love to eat potatoes – mashed, roasted, boiled, fried, or baked. Each American eats an average of 131 pounds of potatoes each year! If you're going to eat 131 pounds of something, the potato isn't a bad choice! It is loaded with fiber and essential vitamins and minerals. Potatoes store extra glucose (sugar) as a starch to provide us with carbohydrates which fuel us with energy. When you eat one medium sized potato, you get -- vitamin C, 100 calories, 3 grams of fiber and plenty of potassium if you eat the skin. Activity-Take a fieldtrip the grocery store or a farmer's market (depending on the time of year) and look at all the different varieties of potatoes. Buy different varieties and see if there are any differences in taste, texture, color, nutrition, etc.

Agriculture-: Potato Farming

Many people mistakenly consider the potato a "root" vegetable. However, it is really a "tuber", a swollen underground stem. They are solid, and yet, are 80% water. Its plant relatives are the tomato, pepper, eggplant, petunia, and tobacco. Potatoes were first cultivated in about 200 B.C. by the Inca Indians in Peru. Their popularity spread among the Native Americans who used potatoes as a staple food. When white men came to America they began eating potatoes and their popularity spread to Europe. During the Alaskan Klondike Gold Rush potatoes were worth their weight in gold.

Today the United States crops of potatoes are grown mostly in Maine and Idaho. Potatoes like a cool, moist climate. Potatoes are grown by slicing the tubers into pieces that have two or three "eyes" (the buds of the underground stems) each. These eyes grow into roots and into the stem which grows leaves above ground when the potato pieces are placed underground. The leaves take part in photosynthesis to feed the plant while the potatoes grow under the ground off those roots. Potatoes must be dug in the fall before cold weather sets in, because they are sensitive to frost.

I highly recommend that you try to locate the book, "*The Amazing Potato: a story in which the Incas, Conquistadors, Marie Antoinette, Thomas Jefferson, wars, famines, immigrants, and French Fries All Play a Part*" by Milton Meltzer.

<u>Bible:</u> Look up Perseverance in a dictionary. Read Galatians 6:9; I Thessalonians 3:13; Hebrews 10:36. Willie and Searchlight certainly displayed a lot of perseverance in getting the potato crop in. Is there an area in your life where you need to have more perseverance? Pray and ask God to help you have perseverance with that task.

Chapter 3- Searchlight

Summary: Willie and Searchlight run errands in town and race home to a surprise.

Language Arts

Vocabulary: crisp, gully, exhausted Continue with graduated book for your lapbook.

Comprehension Discussion Questions

- 1. How does Willie get ready for winter?
- 2. Why do you think Grandfather put his money in a strong box under the floor but Willie's money in the bank?
- 3. What happens each day at 6:00?

Essay

What are your chores? How do they compare to Willie's responsibilities?

<u>Science</u>

Zoology: Dogs

There are a ton of books in the library about dog care, breeds, etc. if you want to spend some time just learning about dogs.

Meteorology: Snow

"It is easy to tell when it's winter in Wyoming. There is snow on everything."

What is snow? How is it formed?

Because God wisely created our world with a self-sustaining Water Cycle (Job 37:11-16; Psalm 104:13-16; Isaiah 55:10), evaporation is constantly happening from the earth's waterways, ponds, lakes, oceans, etc. into the air where the water vapor cools and condenses, forming clouds. Within those cool clouds, the droplets form crystals. When those droplets of water grow too large and heavy to stay suspended in the cloud, the water droplets fall as precipitation back to the earth to water the earth and repeat the water cycle. If the air below the clouds is warm, the crystals melt and rain falls. If the air below the clouds is cold (32 degrees F or below), the six-sided crystals fall to the ground as snowflakes. Each crystal forms differently because of dust in the air and clouds, because of wind currents, and temperature changes in the air. Snow is "sticky" and clings to everything it lands on. God's wise provision for our earth includes snow (Job 37:6-10; Psalm 147).

Snow forms a "blanket" over the plants, protecting them from the colder winter temperatures and winds. In the spring, as the "blanket" melts, the melted snow provides the plants with the needed water to begin growing again until the spring rains begin.

Here are several activities to do with snow.

1. How much water is in snow?

Take a large glass jug or jar and put 10 inches of snow into it. Take a ruler and measure it. Take a thermometer and measure the temperature. Draw on a sheet paper what you see with the ruler and thermometer in the jar, indicating the measurement and temperature of the snow. Let the snow melt. Once it is all liquid, measure how deep the water is with the ruler and the temperature of the water with the thermometer. Draw what you see with the ruler and thermometer in the jar, indicating the measurement and temperature. Write out your observations and tell what happened. A lot of air is trapped in snowflakes when they form, that is why it takes about 10 inches of snow to make 1 inch of water. You could use a Q and A book to put the data and pictures in and put it in your lapbook.

2. What does a snowflake look like?

Chill a piece of black construction paper outdoors. Hold the black construction paper out so falling snow lands on it. Quickly look at the snowflakes with a magnifying glass. Be careful not to breathe on them! Can you draw several of the flakes?

3. Edible snowflakes

Give your child several flour tortillas. Fold them in half twice. Using a pair of sterilized scissors, have your child cut different snowflake designs in the tortillas. Heat a small amount of oil in a pan and lightly fry each snowflake. Sprinkle with powdered sugar and enjoy!

4. Create crystals

Place 4-5 charcoal briquettes in a glass bowl. In a cup, mix 1 Tablespoon of Ammonia, 2 Tablespoons of water, 1 Tablespoon of salt, and 2 Tablespoons of

laundry bluing. Pour over the charcoal. Place the bowl in a place where it can sit undisturbed for at least 72 hours. Look at the resulting crystals with a magnifying glass. Take a picture and put it in your lapbook.

You can also read Psalm 147 together.

Fine Arts

Cooking

- 1. Add a recipe to your potato recipe book
- 2. <u>Oatmeal Mush</u>- Willie got up each morning and made a fire and then made oatmeal mush for their breakfast. Have you ever tried oatmeal mush? Here is a simple recipe. Willie's recipe must have cooked much faster than this one in order for him to get to school on time or else he got up VERY early!

Ingredients for Oatmeal Mush Recipe 1 cup rolled oats 2 cups boiling water 1/2 teaspoon salt

Instructions

Add the oats and salt to the boiling water, stirring constantly. Boil five minutes, and then steam in a double boiler for two hours.

Issues of Human Relationships

Daily Schedules

Everyone has certain things they must do almost every day. There are certain times each day in which you eat, sleep, do chores, school, take a bath, leave for an activity, practice an instrument or sport, play, etc. This is called your 'daily schedule'. We all follow a daily schedule in order to get things done and to keep order in our lives. Using the book, create a schedule to reflect Willie's day and all that he did at home, at school, after school, running the farm, etc. Then create a schedule of your day.

Attitudes Towards Questions

Grandfather encouraged Willie to ask questions (page 9 and 23) but Doc Smith (in chapter 1) and Willie's teacher, Miss Williams, (in chapter 3) don't seem to appreciate Willie's questions. Why do you think they didn't appreciate Willie's questions? What do you think about that? Reread Grandfather's attitude towards questions on page 23. Whose attitude towards questions would you appreciate and make you feel valued as a person? Do you appreciate other's questions or do you react like Doc Smith and Miss Williams? How can you cultivate a "questions welcomed" attitude towards others?

<u>Bible</u>

Snow-It is interesting that there are no references to snow in the Bible until after the world-wide flood, the dispersion of the people, Moses lead the Israelites out, Joshua conquered the land, and the judges ruled. As a matter of fact, the very first reference to snow doesn't even come until II Samuel 23:20 which was just before King David died. Job 6:16 tells how the melting snow swells the streams. Job 37:6-10 tells us how God controls the snow. Job 38:22 tells us that God stores up snow. Psalm 147:16 tells us how God spreads the snow like a woolen blanket. Psalm 148:7-8 tells how the snow (and other weather) do God's bidding and praise the Lord. Proverbs 26:1 tells us how silly it is to have snow in summer—it's not natural (not fitting).

Chapter 4- The Reason

Summary: An unfriendly man's visit explains why Grandfather hasn't gotten out of bed.

<u>History</u>

Property Taxes

Grandfather is about to lose his farm because he has not paid his property taxes for the past 10 years.

What are taxes? Taxes are a charge on a person's income, spending, and property by the government. The government collects this money from the citizens and spends it on services for the public. Property taxes are taxes placed on the value of the property a citizen ownsfarmland, rental property, homes, etc. by the state and local government to pay for local government schools, libraries, city and county services, etc.

Local taxes, which also include property taxes, usually pay for the local government schools, police and fire departments, local roads and bridges, hospitals, water/sewage, libraries, assistance to the poor, etc.

State taxes usually pay for state government workers' and teachers' salaries, healthcare, and retirement funds, state highways, state parks, state police, colleges and universities, etc.

Federal taxes usually pay for Federal employees' salaries, healthcare, and retirement funds, Federal buildings, Interstate highways, National Parks, our Armed Forces' supplies, training, healthcare, housing, and salaries, assistance to those experiencing natural disasters, trade deals with other countries, building projects in all the states, subsidies to businesses and farmers so they can be competitive in the world markets, and assistance and healthcare to the elderly, poor, and disabled, etc.

Our U.S. Constitution prevents the Federal Government from imposing a tax upon private property; however, state and local governments do not have that restriction.

It is a sad reality that in this great country where we fought a revolution to free ourselves from another ruling country over the very issue of taxes, that we now have a system in place that allows our own government to take away a person's private property from them even if they owe no money on the property itself and regardless of a person's ability to pay or income. Many think this is unfair, especially to the elderly living on the fixed government income program known as Social Security.

Language Arts

Vocabulary –derringer, official, taxes, sturdy, enabled, ricocheting, authority, legal, lunged

Comprehension Discussion Questions

- 1. Who was waiting for Willie at home and what did he want?
- 2. What do you think of Clifford Snyder's actions and methods?
- 3. How did Clifford Snyder's demands affect Grandfather?

Essay

What do you think it would be like not to have enough money to pay your bills? How would you solve the problem? What do you think Willie will do?

<u>Science</u>

Proper handling of a handgun and rifle

Check with your local police department, Sheriff's Dept., NRA club, or 4-H organization to see if they have handouts geared towards children on gun safety. They may even have a class. The local 4-H organization may have a Shooting Sports club where children learn gun safety and proper care and handling as well as do target shooting.

Here are the <u>NRA guidelines</u> for parents to teach their children the proper handling of a gun. I urge you to cover these with your children even if you don't allow guns in your home—it will give them the knowledge they need if they encounter one elsewhere.

Activity- After reviewing how to properly handle a gun, evaluate how well Clifford Snyder followed the guidelines. How did he do?

Fine Arts

Add a potato recipe to your book.

<u>Bible</u>

Taxes have been around for a long time. Even Jesus paid taxes to the local temple as recorded in Matthew 17:24-27 and taught that we should pay our taxes in Matthew 22:15-21. The Apostle Paul taught in Romans 13:1-8 that to pay our taxes is a way to show our submission and respect for our government and that we are not to owe the government any monetary debts. Jesus even chose a tax collector as one of his Disciples, Matthew/Levi, as recorded in Matthew 9:9, Mark 2:14, and Luke 5:27-31. Jesus even goes to a tax collector's home, eats with him, and forgives him for overcharging taxes (lying) and pocketing (stealing) the extra money (see Luke 19:1-10 for the account of about Zacchaeus.)

Chapter 5- The Way

Summary: Willie tries to figure out a way to solve the problem of raising \$500.

Language Arts

Vocabulary -varied, Samoyed (dog breed)

Comprehension Discussion Questions

- 1. Explain what is meant by the saying, "Where there is a will, there's a way" and tell how that applies to Willie.
- 2. What advice did Mr. Foster at the bank give Willie?
- 3. What did Willie want to do to be able to pay the taxes?

Sayings

Grandfather had always said, "Where there's a will, there's a way". What do you think that means? Do you believe it is ALWAYS true? Determination is a great quality to have, if it is perseverance-a refusal to give up in spite of problems, however, we must be careful it doesn't become selfish or just plain stubbornness. Here is what the Bible says about our will. Matthew 26:39, Ephesians 5: 17, Romans 5:3-4; I John 5:14; Psalm 143:10. Pray and ask the Lord to provide you with the right kind of will and determination.

<u>Essay</u>

Lots of people gave Willie advice. How should we respond to those who give us advice?

<u>Science</u>

Zoology-Sled Dog breeds

Searchlight's breed is not mentioned in our story, but there are many sled dog breeds and some dogs are a mixture of breeds. Here are some of the major breeds that make good sled dogs. (Be sure to review these links as they use breeder's terms and may not be appropriate for your child.) See complete information for the Samoyed below.

Samoyeds

The only specific breed mentioned in the story is the Samoyeds that Stone Fox had pulling his sled.

Here is a short summary about the breed. Your library may have a book on the breed as well.

Samoyed Facts

The Samoyed is originally from Siberia. Historically, it is a working dog used to pull sleds and herd reindeer.

It is known as intelligent, friendly, and is even nicknamed "The Smiley Dog." This breed is an excellent companion for a child.

The Samoyed typically have long, white coats (although some have cream, white, or biscuit colored fur). They have a double layer coat that they shed twice each year. They have dark noses, and their eyes are almond-shaped. Their upright, pointed ears are covered in fur. They have a triangular, long muzzle.

Males are 20-23 inches high at the shoulders and weigh-in at 45-55 pounds. Females are 18-21 inches high at the shoulders and weigh-in at 36-45 pounds.

They have large feet and long tails.

Fine Arts

Create a Poster

Willie took a poster advertising the dogsled race to Grandfather to show him. Create a poster advertising the Dogsled race. Remember to include all important information—name of the race, date, time, location, entrance fee, prizes, any rules.

Issues of Human Relationships

Caring for the infirmed at home

(This lesson is adapted from *The AMA Family Medical Guide*, 1987, Random House Publishing, pages 754-767.)

Willie is caring for Grandfather at home and seems to be doing a very good job or it.

Caring for the sick and injured should be done at home, whenever possible, to keep healthcare costs lower, to give the infirmed a more pleasant resting environment and a speedy recovery. You do not need previous experience to be able to adequately care for the infirmed at home. It just takes some common sense and a caring approach. Basic needs to be met are taking a temperature, changing bedding, giving medicine, making healthy meals, and being able to move the person for cleaning up, dressing, using the restroom, changing the sheets, etc. The primary goal is to make the patient comfortable and clean so the body can do its work to restore health. Every family member should learn to help and be company for the sick person, so the primary care taker does not carry the whole burden. An exhausted helper is unlikely to be an efficient or pleasant one. Ask the doctor if there are outside agencies that can assist as well with help with some tasks, finances, equipment, and supplies.

What things are mentioned that Willie does for Grandfather in caring for him? Would you say that Willie is doing a good job of caring for Grandfather?

What memories do you have of a time you were sick and someone cared for you? What did they do to help you feel better? How do you help when your mom or dad or siblings are sick?

<u>Bible</u>

Self-Reliance: Grandfather taught Willie that "we should take care of ourselves" instead of relying on someone else to provide them with their basic needs-shelter, food, clothing, etc. Read Exodus 23:12; Ecclesiastes 5:18-19; Ephesians 4:28; Colossians 3:23; I Thessalonians 4: 11-12 and 5:12-14; II Thessalonians 3:6-15. However, just as Doc Smith reminds Willie, there are people who are not able to work, usually because of mental, emotional, or physical reasons. So, our government uses some of the money it takes from us in the form of taxes to provide for their needs so they do not have to beg. God initially gave that task to His people (Exodus 23:10; Matthew 25: 31-46; Acts 2:42-45; Romans 12:9-16; Ephesians 4:28; I Timothy 5:3-16; I John 3:17-18.)

Chapter 6- Stone Fox

Summary: Willie enters the dogsled race and then encounters a giant of a man who is determined to win the race.

<u>History</u>

Shoshone Indians

Stone Fox is a Shoshone Indian. Spend some time learning more about this group of Native Americans; you will also discover why Stone Fox wanted the prize money and was trying to win the race.

The Shoshone were divided into four geographic groups:

- West Texas
- Northern Shoshone of Idaho and Utah
- Western Shoshone did not use horses and lived on nuts and wild vegetation
- Wind River Shoshone of Wyoming.

They lived in tepees in the area that we now call Wyoming, Utah, Nevada, and Idaho. The Northern group had horses. The women collected plants and made baskets while the men made bow and arrows so they could hunt bighorn sheep, rabbits, lizards, and other various animals who live on the Great Plains. The Shoshone living in the west didn't have horses, so they feasted on fruits, seeds, and plants rather than animals. <u>Source</u>

You may want to see if your library has a book on the Shoshone or look in an encyclopedia for more information and pictures of their dress, homes, lifestyle, religious beliefs and practices, etc.

Language Arts

Vocabulary: entrance fee, amateur(s), moccasins, legends, homeland, bobbled, represented, stunned, lightly, constructed, tilted, awesome, tribe, contestants, clutching

Comprehension Discussion Questions

- 1. Where did Willie get the entrance fee for the race?
- 2. Why doesn't Stone Fox speak to anyone?
- 3. How did Willie react when he saw Stone Fox for the first time? Why?

<u>Essay</u>

How would you feel if you were Willie when you met such a legendary competitor?

<u>Science</u>

Physics: Friction

Why do dog sleds have runners on the bottom? To answer this question, we'll do an experiment.

Take several heavy books and stack them in a pile. Now push them across the carpet to the other side of the room. The resistance that you feel is the friction of the weight of the books rubbing against the carpet. It takes quite a bit of work or force to move them across the room. Now take 2 yardsticks and turn them on their edges. Balance the same stack of book in the middle and on top of the yardsticks. Now push the stack by pushing the yardsticks. Which way used less energy/force? It was easier because there was less friction this time because there was less area pushing against the carpet--just the edges of the yardsticks as opposed to the all the area that the book covered.

If there is snow on the ground, take this experiment outside onto the snow. Better yet, if you have a flat-bottom sled and a sled with runners, use those for the experiment.

Issues of Human Relationships

As humans, we all have many things in common. However, our backgrounds, ethnicity, gender, education, experiences, etc. can make us seem different or strange from one another. Make a Venn Diagram with the circles intersecting. In one circle, list characteristics of Willie. In the other, list characteristics of Stone Fox. Be sure to put characteristics they share in the intersecting area. Do they have more similarities or more differences?

<u>Bible</u>

Gold:

At the bank, Willie was given his savings in 5 gold pieces to pay the entry fee for

the race. Gold is a metal found in the ground mixed with igneous (ig-NAY-shus) rocks and minerals. The rocks must be mined out of the ground first. The gold ore is first crushed into tiny pieces and put in a solution to cause the gold to dissolve. Zinc is added to return gold to a solid state. It is then filtered. In the final stage, the gold goes through another heating process to refine it—to make it more pure--by getting rid of any "extra" items, called impurities, still in it. It can then be poured into molds to be made usable. Throughout history, gold has always been considered to be very valuable because of the long process to obtain it, its beauty, and its rarity. Gold is first mentioned in the Bible clear back in Genesis 2:10 before The Fall. When God asked Moses to make the tabernacle, He asked that all the items in the worship tent be covered in gold (Exodus 25-30). Gold will also be used in heaven (Revelation 21:15-21) as building material for the New Jerusalem. Gold must go through fire to have its impurities removed and to shine. God uses the symbolism of the refining process of gold to symbolize how our own faith must grow and become pure by our going through troubles, trials, and adversities to get rid of the sin in our lives in Job 23:10; Jeremiah 9:7; Zechariah 13:9. He considers our faith, Wisdom, and His Word to be much more valuable than gold in Job 28:12-28; Psalm 19:7-11; Proverbs 3:11-15.

Fine Arts

Add a potato recipe to your potato recipe book

Chapter 7- The Meeting

Summary: While on an errand to get Grandfather more medicine, Willie happens upon some barking dogs in a dark barn and gets a big surprise.

Language Arts

Vocabulary: embarrassed, deserted

Comprehension Discussion Questions

- 1. Why did Willie go to town the night before the race?
- 2. Who and what did Willie find in an old deserted barn?
- 3. Why do you think Stone Fox hit Willie?
- 4. Why couldn't Willie sleep that night?

Grammar: Contractions

A contraction is when two words are combined with letters taken out and replaced by an apostrophe. Example: do not don't

In Chapter 7, we have quite a few contractions. Make a list of them and write out the two words that were combined to make the contraction. You will notice that many of the combinations are a pronoun plus a being verb. Some combinations are a verb plus the adverb 'not' (it's, store's, don't, you're, I'll, couldn't, how's, he'll, he's, couldn't, didn't, I'm, can't, she'd)

<u>Essay</u>

What do you think of Willie's speech to Stone Fox? Do you think it was polite or rude? Was it wise? What do you think Stone Fox thought of it? What do you think Grandfather would think of it?

<u>Science</u>

Anatomy: Seeing in the Dark

Seeing in the dark- when Willie first goes into the barn (page 58), he can't see anything because it is darker in the barn than it was outside.

The human eye has several parts; the iris, which is the colored area, the cornea, which is the transparent protector of the eye, and the pupil, which is the black middle part of the eye and allows light into the eye, making sight possible. The more light there is, the small the pupil becomes to protect the inside of the eye from damage caused by too much light. The less light there is, the larger the pupil becomes to allow more light in. When we change amounts of light quickly, it can take the pupil a few seconds to make the adjustment, so when Willie went into the darkened barn from outside, he couldn't see until his pupils had gotten bigger (dilated) to allow more light in so he could see.

If you've never studied the eye, this is a great time to do so.

Activity- Go into a room that can be easily darkened. Pull the curtains/shades. Stand near the light switch and face each other, looking into each other's eyes, and turn off the light. Let your eyes adjust. Quickly turn on the light and watch how the pupils respond to the sudden light.

Fine Arts

Cinnamon Cake

Doc Smith was baking a Cinnamon Cake when Willie arrives to get Grandfather more medicine. Here is a recipe for Cinnamon Cake so you can taste what Willie stayed longer to enjoy.

Simple Cinnamon Cake

1Cake mix: white, yellow, or lemon 1/2 c. melted butter Cinnamon and sugar

Bake cake per directions on box. Can use 3 (9 inch) pans or 2 rectangular pans. Works better if cake is not too thick. Immediately pour melted butter over cake after removing from oven. Sprinkle cinnamon and sugar over cake. Enjoy and watch it disappear.

<u>Bible</u>

This story is a bit of a "David vs. Goliath story." A younger, smaller, apparently weaker person against a bigger, stronger, more powerful person. Do you know the story of David and Goliath? Compare Stone Fox and Willie's meeting in the barn with David and Goliath's meeting on the field of battle in I Samuel 17. How do you think *Stone Fox* will turn out? Do you think Willie will be victorious like David?

Chapter 8- The Day

Summary: The day of the race has arrived and the residents gather to cheer on the teams.

Geography

Teton Mountains: as Willie leaves home for the race, we are given a description of the beautiful mountains which sit behind the house and how Grandfather feels about these mountains. What does he say about them?

Using an atlas, locate the Teton Mountains. What states do they go through? You may want to get a library book or encyclopedia to learn more about these beautiful mountains.

Language Arts

Vocabulary: swollen, abrupt, clenched, rooting, treacherous, massive, jagged, city slickers, tension, abreast

Comprehension Discussion Questions

- 1. What did Willie see when he got to town that he couldn't believe he was seeing? List all the familiar faces Willie sees (p64)
- 2. How do you know that the town people are nervous? Why do you think they are nervous?
- 3. Who was there to watch the race that you don't expect?
- 4. How does Willie greet Stone Fox? How did Stone Fox respond?

<u>Essay</u>

Describe a time you were the competitor and how you felt and what the crowd was doing.

<u>Science</u>

Biology: Swollen Eye

Willie's eye is so swollen the next morning, he can't see out of it, he tries to hide it from Grandfather, and lies to Lester about how it got injured. Willie's eye has swollen because of the body's reaction to being hit. The eye area is much more tender than other areas of the body, like the arm or leg, and will swell dramatically and bruise. The bruising is bleeding in the tissue area just under the skin. It will be tender to the touch and change colors as it fades. If you are hit in the eye, you should gently press a cool, wet cloth to the area for 10 minutes to help alleviate the swelling.

Biology: Bodily Reactions to Nervousness

When we are nervous, our body reacts to that nervousness in several wayseverything from excitability, dry mouth, shaking knees, sweaty hands, dilated pupils, faster heartbeat, etc. In Chapter 8, we have different reactions from each person. List the person's name and how they reacted. How do you react when you are nervous?

Geology: Mountains

There are basically four kinds of mountains based upon how they are formed;

Domed, Folded, Fault Block, and Volcanic. Domed mountains are formed by a pushing up of the layers of earth from the bottom. They are smooth and rounded. Folded mountains form when layers of the earth are pushed into each other from the side, forming mountains and valleys. Fault Block mountains form when only layers of earth from one side are pushed up from the bottom, creating huge ridges. Volcanic mountains are formed by molten lava being pushed to the earth's surface. Using the websites found in geography lesson, see if you can determine what kind of mountains the Teton Mountains are.

Fine Arts

Add a potato recipe to your potato recipe book.

Issues of Human Relationships

Being An Encourager

Lester, from the General Store, told Willie, "You can do it, Willie, you can beat him," over and over. Lester is an Encourager. An encourager is someone who encourages another. We all need someone who believes in our ability to accomplish what we set out to do and who is willing to tell us we <u>can</u> do it. It gives us an emotional boost and we find it deep within us to try even harder. "Although Willie's eye was black, puffy, and swollen shut, he still felt like a winner. He was smiling." <u>That</u> is what encouragement can do for a person.

Who encourages you? How do they encourage you? What do they say? Do? How do you encourage someone else?

<u>Bible</u>

Mountains:

Willie and Grandfather appreciate their view of the Teton Mountains. There are many different mountains mentioned in the Bible. Here are just a few of them mentioned in well-known references:

The ark came to rest on Mount Ararat in Genesis 8:4 while the flood waters receded, Mount Moriah in Genesis 22 is where Abraham was tested. Mount Horeb in Exodus 3 is where Moses sees a burning bush. Moses got the 10 Commandments on Mount Sinai in Exodus19- 24. Jesus was tempted on a mountain in Matthew 4:8. Jesus preached on a mountain in Matthew 5:1-8:1. Jesus went into the mountains to pray in Matthew 14:23 and Luke 6:12 after He

fed the 5,000 and before He walked on the water. The Transfiguration happened on a mountain in Matthew 17:1-9, Mark 9:2-10, Luke 9:28-37 and Jesus prayed on the Mount of Olives before he died as recorded in Luke 21:37.

Chapter 9- The Race

Summary: Willie and Searchlight run the race and see a mysterious shadow in the window at home as they rush by.

Geography: Map Making

Using the description of the race's course found in Chapter 9; create a map of the town, surrounding countryside with its mountains, lake, woods, houses, and the race course. A large sheet of graph paper may be helpful to determine distances.

<u>History</u>

The date of this story is never given, so let's use deductive reasoning with some facts we have learned and read in the story with the WY timeline to see if we can determine when this race happened. Make a timeline on a sheet of paper to help your student to visualize the following exercise.

Fact #1- this story happened in the USA, so this narrows our time we became a country in **1776**.

Fact #2- this story happened after the American Indians were moved onto reservations, so using the time line found on the WY website, the story happened **after 1868**.

Fact #3- this story took place after Wyoming became a state (Clifford Snyder works for the State of WY), so using the timeline, it happened **after 1890**.

Fact #4- Since we know that Grandfather hasn't paid his property taxes for the past 10 years, this tells us that the race happened at least 10 years after WY became a state, bringing the date to **just after 1900.**

Fact #5- a General Store, Bank, Schoolhouse, and Library (see timeline for 1st library) are mentioned so it mostly likely happened **between statehood in 1890**

and the mid-1900s (from timeline-1954-1st TV station- indicates more modernization by 1950s).

Fact #6- Using horses to pull plows, buggies, and wagons, using wood for heat and cooking and no mention of electricity (see timeline for 1st electricity) shortens our timeline to between **1900 and 1920**.

Fact #7- no cars are mentioned, so it must have happened before cars had made it to the west, so it most likely happened **before the mid-1900s**.

Fact #8-the author was told this legend in 1974 in Idaho (see author's note after the story) so it must have happened quite a while **before 1974** to have already become a legend.

So, it seems the race between Stone Fox and Willie must have happened sometime **between 1900 and 1920**.

Language Arts

Vocabulary – attempted, glimpse

Comprehension Discussion Questions

- 1. Compare Willie's approach or strategy to the race with Stone Fox's approach or strategy.
- 2. What things happened to make Willie gain speed? Lose speed?
- 3. What does Willie see at his house during the race? Who might it be? Why?
- 4. Who makes his move towards the end of the race?

Essay:

How do you think Grandfather is feeling on the day of the race? How do you know? Give examples from the story.

<u>Science</u>

Chemistry: Ice

During the race, Willie takes a shortcut across the ice on the lake. What is ice and how is it formed and how does God use it to help protect His creation?

Water is a very unique creation of God. It is one of few things that exist which can be found in all three states of matter: liquid, gas, and solid. As a liquid, it supplies all of life on the earth with what it needs to survive. Without some form of water, nothing could live. As a gas, it provides the earth with weather and the air we breathe. As a solid, it provides us with a natural supply of freshwater when it melts (snow, icebergs, ice sheets, and glaciers). It also has a surprising property which clearly displays God's care for His creation. To learn this property, take an empty ice cube tray and fill several sections with a different kind of liquid; water, whole milk (not skim or 2%), real orange juice (not from concentrate), real lemon juice (not from concentrate), honey, cooking oil, apple juice, salad dressings (creamy and oil-based), soda pop, etc. Allow 2 hours to freeze. While waiting, make a chart of what liquids you used and indicate which ones you think will freeze, then indicate which ones you think will sink and which ones will float. Once nearly everything as frozen (not everything will); check your list of what you thought would freeze against what you observe. Then test which cubes sink and which ones float in a sink full of water. Which ones float? Which ones sink? Were your guesses right? What did water do? God has caused ice to float for a special reason--so when it freezes on the oceans, lakes, streams, ponds, etc. The fish and plants are not killed. If water sank when frozen, it would kill everything under it. God's wisdom and Providential care of His creation extends to water's properties. Add your chart to your lapbook. Here is a chart you could use

A word of warning about ice on a lake. One must be VERY careful when crossing ice over a lake, pond, etc. as it may not be thick enough and one may fall through into the freezing water. If you have an older child, you may want to explore ice fishing, ice racing, hypothermia care of someone who has fallen through the ice, etc.

Fine Arts

Potato Recipe book- add another recipe

Issues of Human Relationships

Норе

Grandfather must feel some hope since he has gotten out of bed to peek out at and see how the race is going. How did his hope affect Willie? At first Willie wanted to stop and rejoice with Grandfather but Grandfather waved him on. Willie then felt a huge surge of hope and tears of joy fell down his face and felt that everything was going to be alright. Hope is contagious. If we feel downcast, others may begin to feel downcast with us. If we feel hopeful, others around us may feel more hopeful. Our emotions are very powerful and affect others around us. We must respect that power and not use it to manipulate others.

<u>Bible</u>

Running the race, giving it your all

Willie and Searchlight were doing all that they physically, mentally, and emotionally do to win the race. Jesus asks the same of us in our daily walk with Him. Read the following verses: I Corinthians 9:24-27; Galatians 5:7; Philippians 2:12-18, 3:13-14; Hebrews 12:1; II Timothy 2:5, 4:7-8.

Chapter 10- The Finish Line

(this is a very emotional chapter)

Summary: As the dog sled teams race for the finish line, something unexpectedly sad happens and Stone Fox gains the respect of everyone.

Language Arts

Vocabulary: forged, challenger, inching, disqualified, regained, suffering, effortlessly

Comprehension Discussion Questions

- 1. What happened as they approached the finish line?
- 2. What did each of the characters do?
- 3. Why do you think Stone Fox did what he did? Did he follow gun safety guidelines?
- 4. Did any of the other racers cross the finish line?
- 5. Who won the race and how did he win it? How did the town people respond to what they saw? Why?

Thinking Beyond the Story

1. How do you think Grandfather responded to what happened at the finish line?

- 2. How do you think Clifford Snyder reacted?
- 3. Do you think Grandfather got better?
- 4. Did Willie save the farm?
- 5. Do you think Willie and Stone Fox ever cross paths again? What do you think happened, if they did?
- 6. Do you think Willie ever goes to college?

Sayings

"*He gave it all he had*" certainly applies to Willie and Searchlight. Searchlight died giving it all she had to help Willie win the race.

"Heartbreaking ending" You could say that this story definitely has a *"heartbreaking ending' since Searchlight died and it broke everyone's heart that she had died just feet from the finish line while trying to help Willie win the race."*

Foreshadowing

Do you remember what Grandfather said about the Teton Mountains? (Go back to Chapter 8) Do you now see that the author had inserted a bit of foreshadowing into the story? What is foreshadowing? Foreshadowing is when the author hints at what will happen later on in the story.

<u>Essay</u>

How can you tell that Stone Fox actually has some very deep feelings even though his speech and facial expression do not show them?

Who was the hero of this story- Willie? Stone Fox? Searchlight? Defend your position.

<u>Science</u>

Zoology: A Dog's Heart and Heart Failure

Below is an interesting article I found. I've italicized a few sentences that apply to Searchlight. Do you remember how old Searchlight was? Chapter 1 says she was born on the same day as Willie, 10 years ago. That made Searchlight quite old for a dog-some claim you can multiply each human year by 7 to get a rough estimate of how old a dog is in dog years. That would make Searchlight about 70 years old! **Heart Disease in Dogs** (pieces excerpted from petcaretips.net; original article by Stephanie Kress)

"Heart disease is common in dogs, perhaps as common as it is in humans. While some dogs are born with developmental heart problems, most develop their problems during adulthood or old age.

The heart is responsible for pumping the oxygen- carrying blood around the body, and when heart function is less than optimal, body tissues do not receive as much oxygen as they need. When the heart is no longer capable of doing its job effectively, the condition is referred to as heart failure.

Of the dogs in the United States examined annually by veterinarians, approximately 3.2 million have some form of heart disease, and many are in heart failure. *Heart failure results from the heart's inability to pump blood at a rate required to meet the body's needs. While continuing to work harder to pump blood, further damage can occur.*

The most common congenital cardiovascular anomaly of dogs is patent ductus arteriosus, or PDA. When the duct doesn't close as it should, blood is pushed back through the heart instead of throughout the body. This can cause such visual signs as exercise intolerance, increased breathing rate, and coughing or *collapsing during exercise*.

A healthy lifestyle, diet and exercise from the puppy stage can very often prevent heart disease from occurring later in your dog's life.

A healthy heart means a happy dog and a happy dog makes a happy home. If your dog's tail wags from puppyhood to adulthood to its senior years, then a "hearty" thanks is welcomed by all.

<u>Field trip Idea</u> This might be a great time to visit a veterinary office to get more information and see a model of a dog's heart. Some vets even have a real dog's heart in a jar showing the damage that heartworms can cause.

Fine Arts

Writing a Ballad

A ballad is a story in poem form and then set to music. Write a ballad about Willie, Searchlight, Stone Fox, and/or the race. You can use a well-known tune or make up your own.

Examples of ballads include: Ballad of Jesse James, Barbara Allen, The Battle of New Orleans, Johnny Has Gone for a Soldier, Ballad of Robin Hood, Hey Jude, The Ballad of Bilbo Baggins, Ballad of Davy Crockett, The Devil Went Down to Georgia, Me and Bobby McGee, On Top of Spaghetti, The Wreck of the Edmund Fitzgerald, and many, many more. You may want to do an online search to see if you can listen to these songs (not all may be appropriate for children) or see if your library has a recording of them. Johnny Horton was a popular ballad singer and your library may have a recording of one of his records.

Video/DVD

Locate the video/DVD *"Stone Fox"* starring Buddy Epsen (1987). Spend a day watching it and do an analysis; comparing and contrasting the book and video. What parts were different? Better? Which did you like better? Why? How did the video help explain the book? Which changed part did you like least? Which did you like the most?

Issues of Human Relationships

Death of a Pet

Has your family ever experienced the death of a pet?

This might be a good time to remember what happened to the 2006 Kentucky Derby winner, Barbaro during his next race. Did your family watch the race? How did your family react to when his leg shattered? If you didn't watch the race, did you see it on the news? How did you react? How did you feel when you heard that the vet had to put him down after months of surgeries and casts?

The Humane Society has a very nice and helpful webpage on how to cope with the death of a pet.

<u>Bible</u>

Compassion

Stone Fox certainly showed compassion for Willie at the finish line. Using a dictionary, define compassion. Jesus was our ultimate example of one showing compassion (Matthew 9:35-38, 14:14, 15:29-38, 20:29-34; Mark 1:40-42, 6:34, 8:2 and his death on the cross.) The Lord God is compassionate with us (Exodus 22:26-27; II Chronicles 30:9; Psalm 86:15; Jonah 4; II Corinthians 1:3-7; James 5:11) and we are urged to be compassionate with one another in Ephesians 4:32; Colossians 3:12, and I Peter 3:8.

Materials Needed for this Unit Study

Stone Fox by John Reynolds Gardiner and if possible illustrated by Marcia Sewall

Bible

An Atlas of the USA, state map of Wyoming

Dictionary

Books on Wyoming, legends, Dog Breeds, care, and training, Shoshone Indians, Dog sled racing, weather, mountains, Teton Mountains, water, eyes, heart.

Cookbook and ingredients (potatoes, cheese, onion, sour cream, tortillas, powered sugar, cooking oil, rolled oats, water, salt, yellow cake mix, butter, cinnamon, sugar) and cooking and baking supplies (frying pan, stove and oven, cheese grater, knives, cake pan).

The Amazing Potato: a story in which the Incas, Conquistadors, Marie Antoinette, Thomas Jefferson, wars, famines, immigrants, and French Fries All Play a Part" by Milton Meltzer

Poster board or large sheet of white craft paper

Graph paper

Video *"Stone Fox"* starring Buddy Epsen (1987)

Science Experiment Materials:

Jar, ruler, thermometer, black construction paper, magnifying glass, scissors, charcoal briquettes, ammonia, water, salt, laundry bluing, stack of heavy books, yard sticks, sled with runners and flat bottomed sled (toboggan or plastic), a darkened room, flashlight, empty ice cube tray, different kinds of liquid ;water, milk, orange juice, lemon juice, cooking oil, apple juice, honey, salad dressings, soda pop, etc.

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