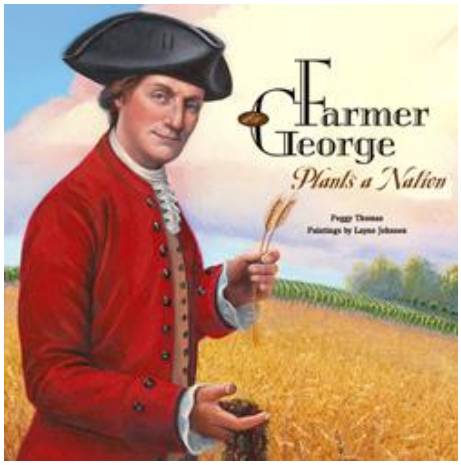
Farmer George Plants a Nation Teacher's Guide



Answer Key and Wisconsin Model Academic Standards for 4th grade students

In the News

English	A.4.4	B.4.1	B.4.2	B.4.3	C.4.3	D.4.1	D.4.2	E.4.1	E.42	E.4.3.
	E.4.4	E.4.5								

Timeline- Answer is "Linear"

English	A.4.1	A.4.2	A.4.3	A.4.4	B.4.1	B.4.2	B.4.3
Social Studies	B.4.2	B.4.3	B.4.8	D.4.4	E.4.2		

George Washington and Money

Answers:

1. 7; 2. $8.25; 3. $14.75; 4. $.25, $.75, $2.75, $3.25, $4.35,.$4.75, $7.00; 5a. $78.75, b. $30.00, c. $48.75, d. 6

Math	B.4.2	B.4.5	B.4.7

Soil Sammy

Science	C.4.2	C.4.3	C.4.5	C.4.7	E.4.2	F.4.2

A Slice of Soil

Science	D.4.1	D.4.2	E.4.1

Edible Soil Profile

Science	B.4.1	C.4.2	E.4.1	E.4.2	E.4.3

In the News

Imagine that you are a reporter and you have learned about the neat things that George Washington has discovered, invented, tested and grown on his farm! What a great news story! Use the following questions and criteria as you write, edit, produce and give a breaking news story on what's happening at Mount Vernon!

Determine what type of reporter you are:

_____ Radio _____ Television _____ Newspaper

Prepare your story keeping the following rules in mind:

- The story should last 1-2 minutes. If it's a newspaper article, it should take that amount of time to read the article.
- Who is your audience? The general public? Students? Adults?
- Who would you be "interviewing" to get information? What other sources would you use?
- What questions would you ask to determine more information?
- What websites might you visit to learn more about George Washington? (see page 39)
- Are there any props you could use in your story?
- What types of advertisers might be interested in sponsoring your news story?

Practice, practice and practice your news story! Use facial and hand gestures for radio and television reports. Proofread your copy for the newspaper report.

All students will present their news stories. Students choosing the newspaper report will distribute copies to their classmates.

Timeline

Farmer George Plants a Nation gives you a timeline on page 36 that outlines George Washington's life.

What is a Timeline?
A timeline is an actual picture of events that happened in history. Timelines can be Linear or comparative.

A **linear timeline** shows a picture of events as they occurred in a certain period of time. Use a linear timeline for one subject and time frame. A linear timeline can be written horizontally or vertically. A **comparative timeline** shows two or more subject areas which occurred at the same time; it shows readers the "big picture." A comparative timeline might compare historical events in two or more countries or compare two or more subjects like music and theater.

Source: Lakewood Public Library (Internet)

What type of timeline is on page 36? _____

Select one date from the timeline and write a short story (3-5 paragraphs) comparing what happened during George Washington's life to our lives today. Use the following instructions as you write your paragraphs:

- Examine biographies, stories, narratives to understand the lives of ordinary and extraordinary people, place them in time and context, and explain their relationship to historic events. Who might be the "George Washingtons" of today?

- Give examples of how businesses and industry depend upon workers with specialized skills to make production more efficient.

- Describe the influence of factors such as family, neighborhood, personal interests, language, likes and dislikes, and accomplishments on individual identity and development.

George Washington and Money

George Washington is featured on the United States dollar and quarter. Washington was the 1st President of the United States serving from 1789-1797. What is Washington's connection to agriculture? He described his most important occupation as a farmer! Washington tested over 60 different crops and practice crop rotation at this Mount Vernon plantation. He grew wheat, corn, potatoes, buckwheat, oats and rye. He invented a barn for processing wheat and other grains.

Source: Change for a Dollar- Illinois Ag in the Classroom - http://www.agintheclassroom.org

Visit their website - click on Classroom Resources- Printable Resources – Change for a Dollar to learn more about agriculture and our currency!

1. How many quarters do you need to equal $1.75? _____

2. If you have five- $1 bills and 13 quarters, how much money would you have? _____

3. Add $1.75 + $3.25 + $4.00 + $5.75 _____

4. Put these values in order from the smallest amount to the largest:

$2.75	$4.75	$3.25	$7.00	$.75	$4.35	$.25
_____	_____	_____	_____	_____	_____	_____

5. Let's assume it cost George Washington $2.00 per bag to grow his crop of potatoes. He sold the

potatoes in 5 pound bags. He was able to produce and sell 15 bags of potatoes at $5.25 per bag.

a. What was his total income? _____ (total amount of money he collected)

b. What was his total expense? _____

c. What was his profit? _____ (expense – income = profit)

d. He had to sell how many full bags of potatoes to cover his total expenses? _____

Soil Sammy

Soil is an important natural resource. Farmers must take good care of the soil so it will continue to grow food. Farmers must check the soil to make sure it has the right nutrients in the right amounts. If the soil doesn't have adequate nutrients, farmers need to adjust the balance of nutrients to grow healthy crops. Farmers may grow crops that add nutrients such as nitrogen to the soil, or they may add fertilizers containing nitrogen and other nutrients.

Materials Needed:

- Knee-high stocking
- Grass seed, 1 tablespoon each
- Potting soil
- Baby food jar
- Water
- Jiggle eyes
- Scissors and fabric
- Glue (quick drying craft glue is best

Procedure:

1. Using knee-high hose, place some grass seeds in the toe where you want them to grow. The toe end of the hose is the head of Soil Sammy and the grass looks like hair when it grows.
2. Pack a handful of soil in the end of the hose on top of the seeds. Make sure the ball of soil is slightly larger than the opening of the baby food jar.
3. Tie a knot in the hose under the ball of soil.
4. Completely wet the head of the Soil Sammy. Place the top of the hose (which is the bottom of Soil Sammy) in baby food jar filled with water, making sure the head is above the mouth of the jar. The end of the hose will absorb water to feed the grass seed, which will germinate through the hose (you may have to cut a few small holes in the hose to help).
5. Now you can decorate! Suggestions include a round piece of fabric to fit over the mouth of the jar for a shirt, buttons glued to the shirt, jiggle eyes for the face, felt cut-out for the mouth, etc.
6. Water as needed and be sure to cut the grass "hair" and style as desired

For Discussion:

Will the grass hair grow better or faster with fertilizer? Try it and find out. Add different fertilizers to the soil and water and see which grows best.

Add to the water:

Store-bought liquid fertilizer
Soda pop (it has phosphorus)
Apple juice (it has citric acid)
Lemon scented liquid soap (it has citric acid)
Ammonia (it has nitrogen)

Add to the soil:

Store-bought fertilizer stick
Coffee grounds (caffeine has nitrogen)
Baking soda (it has nitrogen)
Epsom salt (it has magnesium sulfate)
Cream of tarter (it has potassium)

A Slice of Soil

One of the most important natural resources that covers much of the earth's land surface is soil. All living things depend on it as a source of food, either directly or indirectly.

Our food producing land remains the same and yet the world population continues to grow. As a result, each person's food portion becomes smaller and smaller. It is the responsibility of each generation to use the soil wisely to insure the future. The following demonstration shows how little of the earth's surface is actually used for food production as compared with growing populations.

Materials:

- Large apple (softer apples work better)
- Paring knife (or heavy plastic knife)

Procedure:

1. Cut the apple into four equal parts. Three parts represent the oceans of the world. The fourth part represents the land area.
2. Cut the land section in half lengthwise. Now you have two one-eighth pieces. One section represents land such as deserts, swamps, Antarctic, arctic, and mountain regions. The other one-eighth section represents land where people can live but may or may not grow food.
3. Slice this one-eighth section crosswise into four equal parts. Three of these one thirty-second sections represent areas of the world which are too rocky, too wet, too hot, or where soils are too poor for production, as well as developed areas.
4. Carefully peel the last one thirty-second section. This small bit of peeling represents the soil of our earth upon which mankind depends for food production.

Edible Soil Profile

An **Edible Soil Profile** is something that looks like what you would find if you dug deep into the ground. But you can eat your soil profile, that's why we call it "edible". If you were to take a big machine, like an excavator, and dig a big hole in the earth, you would be able to see the different soil layers. Use a clear plastic drinking glass or another clear container so you can see the layers.

Bedrock (Reese's Pieces) – Bedrock is the deepest and a very hard layer of rock. It is usually very thick. If you dug many, many feet into the earth, do you think any animals or bugs could live in this layer? What kinds? There aren't any living animals or insects in this rock because it is too hard and animals can't dig through it. There isn't any sunlight or oxygen that far into the earth. Our groundwater is found in the bedrock because the rock can hold the water, like a big tank.

Shale (Organic Blue Corn Flakes or blue frosting) – It is also a type of rock, but appears more as layers on top of layers. If you lay your hand on top of your other hand, and then another hand on top of that hand, that gives you an idea of what this kind of rock looks like. Water can run through shale, but very slowly.

Clay (Crushed Nutter Butter Cookies) – Does anyone know what clay feels like? Is it hard or soft? Clay is very hard when it is dry, but if you get it wet, it feels softer and almost greasy. Clay is often used in the bottom of ponds to make the water stay in the pond because good clay will hold water. If the clay is mixed with soil or sand, it won't hold water as well. Maybe you use clay at home or school for art projects.

Coarse Sand (Roughly crushed Rice Krispies) – is made up of rock that has broken down into small pieces. If you took a handful of sand and threw it into a pond, the coarse sand would fall to the bottom faster than the fine sand because the pieces are bigger and heavier. Sand doesn't stick together like clay, so water will run through it.

Fine Sand (Graham Crackers crushed to powder) – is above the coarse sand. This kind of sand is tiny, like you would find on a shoreline. Sometimes it has tiny pieces of dirt, called silt, mixed in it. Insects and animals can move around in the fine sand, but there isn't any food there, so they move to the upper layers to find the food they need.

Subsoil (Vanilla & Chocolate Sandwich Cookies; crushed together, filling removed) – is just below the topsoil. What would you find living in the subsoil? Insects, worms, ants, groundhogs, chipmunks, ect. The subsoil is usually gray or brown.

Topsoil (Chocolate Sandwich Cookie, with filling, crushed) – is the very top layer of soil and is what you usually walk on. When farmers are working in their fields and the wind is blowing, often you will see the topsoil blowing away. The topsoil is washed away if there is a heavy rain and there isn't any grass or crops to hold the soil in place. When you play in the yard and dig with your toys, you dig in the topsoil.

Conservation Layer (Oatmeal Crisp Raisin Cereal, gummy worms, M & M's) – covers the topsoil. This layer is made up of leaves, grass, sticks, bugs, worms, ants, rocks, and anything else that might fall to the ground. When the leaves, grass, and plants die, they form a layer on top of the soil to make it rich and nice for the animals and bugs.