Grade 03 Social Studies Unit 08 Exemplar Lesson 01: Inventions and Progress

This lesson is one approach to teaching the State Standards associated with this unit. Districts are encouraged to customize this lesson by supplementing with district-approved resources, materials, and activities to best meet the needs of learners. The duration for this lesson is only a recommendation, and districts may modify the time frame to meet students’ needs. To better understand how your district may be implementing CSCOPE lessons, please contact your child’s teacher. (For your convenience, please find linked the TEA Commissioner’s List of State Board of Education Approved Instructional Resources and Midcycle State Adopted Instructional Materials.)

Lesson Synopsis

Students learn about innovators and inventors in this lesson. Some of the individuals developed ideas that changed the way people live today. Some individuals have changed communities by being the first at something. Other individuals helped shape their communities by blazing new trails with new ideas.

TEKS

The Texas Essential Knowledge and Skills (TEKS) listed below are the standards adopted by the State Board of Education, which are required by Texas law. Any standard that has a strike-through (e.g. sample phrase) indicates that portion of the standard is taught in a previous or subsequent unit. The TEKS are available on the Texas Education Agency website at http://www.tea.state.tx.us/index2.aspx?id=6148.

3.11 Citizenship. The student understands characteristics of good citizenship as exemplified by historical and contemporary figures. The student is expected to:

3.11B Identify historical figures such as Helen Keller and Clara Barton and contemporary figures such as Ruby Bridges and military and first responders who exemplify good citizenship.

3.15 Culture. The student understands the importance of writers and artists to the cultural heritage of communities. The student is expected to:

3.15A Identify various individual writers and artists such as Kadir Nelson, Tomie dePaola, and Phillis Wheatley and their stories, poems, statues, and paintings and other examples of cultural heritage from various communities.

3.16 Science, technology, and society. The student understands how individuals have created or invented new technology and affected life in various communities, past and present. The student is expected to:

3.16A Identify scientists and inventors, including Jonas Salk, Maria Mitchell, and others who have discovered scientific breakthroughs or created or invented new technology such as Cyrus McCormick, Bill Gates, and Louis Pasteur.

3.16B Identify the impact of scientific breakthroughs and new technology in computers, pasteurization, and medical vaccines on various communities.

Social Studies Skills TEKS

3.17 Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including electronic technology. The student is expected to:

3.17D Use various parts of a source, including the table of contents, glossary, and index as well as keyword Internet searches, to locate information.

3.18 Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:

3.18A Express ideas orally based on knowledge and experiences.

GETTING READY FOR INSTRUCTION

Performance Indicators
Key Understandings

- Technological breakthroughs and new inventions impact the way people live.
  - How have individuals affected life in communities around the world, past and present through inventions and new technology?
  - How have individuals, events and ideas changed communities?
  - Who are the scientists and inventors who discovered scientific breakthroughs or created or invented new technology?
  - What are the impacts of scientific breakthroughs and new technology on communities around the world?
  - Who, what are the individuals, events, and ideas that have helped to shape communities?

Vocabulary of Instruction

- innovation
- invention
- influence
- vaccine
- pasteurization

Materials

- Refer to the Notes for Teacher section for materials.

Attachments

All attachments associated with this lesson are referenced in the body of the lesson. Due to considerations for grading or student assessment, attachments that are connected with Performance Indicators or serve as answer keys are available in the district site and are not accessible on the public website.

- Teacher Resource: Benjamin Banneker Information for Concept Mapping
- Teacher Resource: Benjamin Banneker Concept Map Example
- Handout: Scenarios that Need a Solution
- Handout: Jonas Salk Information
- Handout: Helen Keller Information
- Handout: Cyrus McCormick Information
- Handout: Phillis Wheatley Information
- Handout: Louis Pasteur Information
- Handout: Bill Gates Information
- Handout: Maria Mitchell Information
- Teacher Resource: Scenarios that Need a Solution KEY

Resources

- Information on each famous person included in the lesson: Jonas Salk, Maria Mitchell, Cyrus McCormick, Bill Gates, Louis Pasteur, Helen Keller, and Phillis Wheatley
- Benjamin Banneker

Advance Preparation

1. Become familiar with content and procedures for the lesson, including the contributions of the seven innovators included in the lesson.
2. Refer to the Instructional Focus Document for specific content to include in the lesson.
3. Select appropriate sections of the textbook and other classroom materials that support the learning for this lesson.
4. Preview available resources and websites according to district guidelines.
5. Prepare materials and handouts as needed.
   
   - Scenario (one copy, cut into strips)
   - Scenario KEY (one copy for teacher)
   - Stories about Innovators/Inventers (one copy per group)

**Background Information**

Teacher will need to know the basic information about all people included in the unit. The teacher will need to know how to create mind maps or concept maps.

**GETTING READY FOR INSTRUCTION**

Teachers are encouraged to supplement and substitute resources, materials, and activities to meet the needs of learners. These lessons are one approach to teaching the TEKS/Specificity as well as addressing the Performance Indicators associated with each unit. District personnel may create original lessons using the Content Creator in the Tools Tab. All originally authored lessons can be saved in the “My CSCOPE” Tab within the “My Content” area.

**INSTRUCTIONAL PROCEDURES**

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<th>Instructional Procedures</th>
<th>Notes for Teacher</th>
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<tr>
<td>ENGAGE – Problems and Solutions</td>
<td>NOTE: 1 Day = 50 minutes</td>
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<th>Suggested Day 1 – 15 minutes</th>
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1. Share with students the Teacher Resource: **Benjamin Banneker Information for Concept Mapping**.

2. Students discuss the story of Benjamin Banneker and talk about the problem and the solution he found. Guide students to think about contributions in categories such as citizenship, entrepreneurial activities, other interests (see the Teacher Resource: **Benjamin Banneker Concept Map Example**), but do not be limited to the ideas included therein.

3. Using student input, model thinking and create a concept map on butcher paper, such as the one in the example. Post the class model. Students create their own concept map on drawing paper. (Students keep their concept map; a booklet of such maps will be created at the end of the lesson.)

4. Introduce the ideas for the lesson using words such as:

   - We have been learning about how people, events, and ideas can change communities.
   - With any idea, someone has to be first. This unit is about people who were first – they were explorers and innovators and inventors and leaders.
   - They changed communities and the world by leading the way.

**EXPLORE/EXPLAIN – Innovators and Inventors Who Were First**

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<th>Suggested Day 1 (continued) – 35 minutes</th>
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1. Divide the class into 7 small groups.

2. Provide one scenario "strip" to each group from the Handout: **Scenarios that Need a Solution**.

3. Students read their scenario and discuss, considering possible options and solutions.

4. Distribute to each group the corresponding story to match the scenario with the person who found a solution (see handouts and **KEY**). Also distribute a piece of drawing paper to each student.

5. Students read and process the information in the informational handout, which provides the solution to their scenario. Students also access other

**Materials**

- paper, butcher or chart (1 for display)
- paper, drawing (1 per student)
- markers

**Attachments:**

- Teacher Resource: **Benjamin Banneker Information for Concept Mapping**
- Teacher Resource: **Benjamin Banneker Concept Map Example**

**TEKS:** 3.11B, 3.16A, 3.16B, 3.17D, 3.18A

**Instructional Note**

Placing the Benjamin Banneker information on a document camera while modeling reading and thinking and then creating the concept map can be helpful to students.

**Materials**

- paper for drawing concept map (1 per student)
- Information about Jonas Salk, Helen Keller, Cyrus McCormick, Phyllis Wheatley, Louis Pasteur, Bill Gates and Maria Mitchell

**Attachments:**

- Handout: **Scenarios that Need a Solution**
- Handout: **Jonas Salk Information**
- Handout: **Helen Keller Information**
information about the person, from the textbook and other classroom sources (using various parts of the source to locate information).

6. Student groups discuss how to create a concept map for the person following the model they learned in the Engage section.

7. Circulate, probing with questions, clarifying and correcting misinformation, and providing additional information as needed to ensure that students are on track and identify the problem and solution.

8. Students each draw their own concept map explaining the person, the problem, and the solution following the model in the Engage section. Include the time period (birth/death dates) on the concept map since this information will be needed when creating a timeline later in the lesson. (This concept map will be part of student booklets.)

9. Each of the 7 student groups plans a short report on the problem and the solution related to their person. One student from the group will present the problem, and another student will present the historical person who found a solution.

0. Groups present their reports (allow a maximum of 2 minutes per presentation).

<table>
<thead>
<tr>
<th>EXPLOR/EXPLAIN – Other People Who Were First</th>
<th>Suggested Day 2-3 – 100 minutes</th>
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<tbody>
<tr>
<td>1. Place students in groups of 7.</td>
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<tr>
<td>2. Distribute 1 copy of each of the scenarios and the informational handouts to each group.</td>
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<td>3. Students read and learn about each innovator, exploring the problems and the famous person who was first to discover a solution. Groups read about the solution and the historical person and create a concept map, or mind map, for each scenario/person about whom they read. (Students exchange by passing the story clockwise until they have covered three people per day for two days, approximately 15 minutes each.)</td>
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<td>4. In their groups, students discuss their concept maps, the most important details included, why those attributes were included, etc.</td>
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<tr>
<th>EXPLAIN – Visualizing Each Innovator</th>
<th>Suggested Day 4 – 15 minutes</th>
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<tbody>
<tr>
<td>1. Students create a booklet from all eight concept maps, adding a cover.</td>
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<tr>
<td>2. While students are creating their booklets, they discuss</td>
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<td>• characteristics of good citizenship as exemplified by the historical and contemporary figures studied and</td>
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<tr>
<td>• how these individuals have created or invented new technology and affected life in various communities, past and present</td>
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<td>• how these people led the way</td>
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<tr>
<th>ELABORATE – Visual Timeline</th>
<th>Suggested Day 4 (continued) – 35 minutes</th>
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<tr>
<td>1. To summarize learning, students create a visual timeline of the inventions/innovations studied. Use butcher/chart paper. Begin the process by modeling for students the timeline and one invention. Then encourage students to contribute to the class project on large butcher paper. Students refer to their drawings and notes for help.</td>
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<tr>
<td>• On the chart/butcher paper timeline, draw a simple visual and write a simple explanation of each onto the timeline.</td>
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- Handout: Cyrus McCormick Information
- Handout: Phillis Wheatley Information
- Handout: Louis Pasteur Information
- Handout: Bill Gates Information
- Handout: Maria Mitchell Information
- Teacher Resource: Scenarios that Need a Solution KEY

**TEKS:** 3.11B, 3.15A, 3.16A, 3.16B, 3.17D, 3.18A

**Instructional Note:**
TEKS 19A describes a problem-solving process with the following steps: identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
Below each picture and explanation, draw an arrow and write a short explanation about the impact of the solution on communities over time (i.e. pasteurization has allowed for safe food storage and handling).

2. While creating the timeline, continue discussion encouraging students to use what they have learned to answer the guiding questions. Then use the answers to create a summary paragraph using the Key Understanding as the topic sentence.

- Technological breakthroughs and new inventions impact the way people live.
  - How have individuals affected life in communities around the world, past and present through inventions and new technology?
  - How have individuals, events and ideas changed communities?
  - Who are the scientists and inventors who discovered scientific breakthroughs or created or invented new technology?
  - What are the impacts of scientific breakthroughs and new technology on communities around the world?
  - Who/what are the individuals, events, and ideas that have helped to shape communities?

**EVALUATE**

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<td>Create an advertisement that illustrates an invention, the individual associated with the invention and the way the invention has improved the quality of life.</td>
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**Standard(s):** 3.16A, 3.16B, 3.17D

**ELPS:** ELPS.c.1C

1. Show examples of advertisements from magazines, newspapers, TV/online, etc.
2. Say:
   - An advertisement is a paid notice to inform or persuade a person about a product or service or event.
3. Students can use the people and inventions/innovations studied herein (preferred), or use another.

**Suggested Day 5 – 50 minutes**

**TEKS:** 3.16A, 3.16B, 3.17D, 3.18A
Benjamin Banneker

During a time in America when many blacks were enslaved, Benjamin Banneker was born a free black. He was a citizen of the United States. He was a self-educated man who loved astronomy. Eventually he began to write and publish almanacs based on his observations. He knew the people in communities needed the information, especially for farming. Almanacs help people know all kinds of information about weather and the seasons. The almanacs were so popular that he sold them in four states. Mr. Banneker used his knowledge and ideas to make a successful living. He was an entrepreneur.

He also loved the mechanics of how things work. He once built a clock completely on his own. It might be the first clock ever assembled in the United States of America.

Perhaps the most important thing Benjamin Banneker ever did was to become involved with the leaders of the country. Mr. Banneker wrote a respectful letter to Thomas Jefferson. He knew Mr. Jefferson wrote the beautiful words about equality in the Declaration of Independence, but he also knew Mr. Jefferson was an owner of slaves. In the letter he made a plea with Mr. Jefferson for justice for African American slaves. Banneker was respectfully holding a public official to his word. As a special gesture, he even enclosed one of his almanacs.

Mr. Jefferson, who was Secretary of State at that time, was so impressed with Benjamin Banneker’s letter that he sent him a reply. His reply letter said nice things about Mr. Banneker but did not mention the Almanac.
Benjamin Banneker Concept Map Example

Citizenship
- Wrote a respectful letter to Thomas Jefferson asking for reconsideration.

Entrepreneur
- Began an Almanac which sold in four states.

Astronomer

Benjamin Banneker
- Born a Citizen of the United States

Clockmaker

Image credit (left to right):
Scenarios that Need a Solution

Cut apart and distribute one to each group.

1. There is a new disease in the world. It is causing little children to become crippled, paralyzed, and sometimes even to die. What ideas do you have to help with this terrible problem?

2. There are people in our world who cannot see. They are blind or almost blind. They would like to read, but cannot see. They need to be able to get information like when they need to find a certain floor on an elevator, but they cannot read. What might be a solution to this problem?

3. There are many people in our world who need food. We have farmers and land, but the farmers cannot plant seeds and harvest crops fast enough to feed everyone who needs food. What can be done about this problem?

4. We need to express our feelings about what is going on in our community and our nation. We would like for many people to understand what is happening and how we feel. Maybe then important decision makers would consider our opinions. How can we accomplish this task?

5. We now know that germs can easily grow in milk. Children need to drink milk for healthy bones and teeth. If germs grow in milk, many people will become sick. What can we do about this problem?
6. We have important information that needs to get out to people in a quick method. How could we get those messages out as quick as possible?

7. There are many things high up in our atmosphere that we cannot see clearly enough to know what they are. What could we use to see more clearly and to get more information about what is in space? Who could help us with this task?
Scenario #1

**Jonas Salk**

Jonas Salk was the oldest child of a family who immigrated to America from Poland. He earned a medical degree from the New York University School of medicine and became a virologist (a scientist who studies viruses) and an immunologist (a medical scientist who studies the body’s reaction to diseases.) Years later, he worked with Thomas Francis, Jr. at the University of Michigan. Together the men developed a vaccine to prevent type A and B influenza virus.

A vaccine protects the body against infectious disease. When everyone in a community is inoculated against a disease, everyone in the community is protected from that particular infectious disease.

In 1952, Dr. Jonas Salk moved to Philadelphia, Pennsylvania to work on other vaccines. There Salk developed the famous vaccine against polio. By 1955, seven million children were vaccinated against polio and the crippling disease of polio had been reduced by 96%. Think of how many children were saved from becoming crippled, paralyzed, or even dying from the disease of polio.

Eventually, Dr. Albert Sabine invented a substitute method for the polio shot. Instead of a shot, people can take a live polio virus dripped onto a sugar cube.

Many other diseases now have vaccines as well, but Dr. Jonas Salk is credited with defeating polio. Continuing to work in science and discovery all his life, Dr. Salk received the Presidential Medal of Freedom in 1977. The last reported case of polio in the United States was in 1993.

Helen Keller and her teacher, Anne Sullivan, demonstrated the use of a system for blind people to learn to read the alphabet and words with their fingers called Braille. She proved the importance of Braille to the blind partly because she was the first blind person to earn a Bachelor of Arts degree.

When Helen Adams Keller was born in 1880, she could see and hear very well. At the age of two, she became ill with a virus. During that illness she lost her sight and her hearing, becoming deaf and blind. She was a very unhappy little girl, and her family could not seem to communicate with her.

Her mother and father contacted Alexander Graham Bell, who was working with deaf and blind children at the time. He introduced them to a very special teacher named Anne Sullivan. Eventually, Ms. Sullivan taught Helen to communicate with hand signs, to read Braille, to use sign language and to write with a special typewriter.

Helen Keller showed the courage to work hard to overcome her physical differences. She learned to "hear" people's speech by reading their lips with her hands. She learned to use a cane to find her way as she walked. Later, Helen finally learned to read Braille so she could read and study books and go to school. Eventually, she earned a degree from Radcliffe College and publishing two books, proving that people with blindness and deafness can be educated.

Helen Keller had positive influence over how people with disabilities are treated.
Scenario #3

Cyrus McCormick

In 1834 **Cyrus McCormick** invented a large horse-drawn machine called a mechanical reaper. The reaper was innovative because it helped to harvest large crops faster than harvesting the crops by hand. A farmer can only plant as much wheat or grain as can be harvested quickly, because once grain is ripe, the grain can ruin in the field. The longer the farmer waits to harvest, the bigger the chance the ripe grain could be ruined by rain, wind or storms. The mechanical reaper could cut the grain quickly so that people could bundle and stack the grain in the fields quickly getting it ready to take to market.

The innovative Cyrus McCormick moved to the plains states where there were more farmers, and over time, the popularity of the mechanical reaper began to grow. Farmers in all communities could now plant more grain because it could be harvested faster. American farmers began having enough grain to sell across the United States, and even enough to sell internationally to other countries.

Of course, some of the grain after harvest was lost on the ground as the bundles were stacked. Also, the grain still needed to be separated from its stems and shafts. McCormick’s son became involved in helping to find solutions to those problems when he became involved with the business. Over time, the mechanical reaper was improved and made into combines that can plow the ground, plant the seeds and then harvest the grain. The combine even takes the stems and shells off the grain as it is harvested and then it shoots the grain safely into the back of a large truck. This saves time and money. No more stacking, bundling and wasting of the grain. Eventually, the mechanical reaper company was called International Harvester. Today, the machines are huge and help to make growing large amounts of grain more possible than ever.
Scenario #4

Phillis Wheatley

Phillis Wheatley was an influential poet during the American Revolution. She was the first African American poet, and she was the first African American woman to publish poetry and writing. President George Washington read her poems and listened to her opinions about important matters.

Phillis Wheatley wrote Christian ideals into her poetry. Here is an example:

Twas mercy brought me from my Pagan land,
Taught my benighted soul to understand
That there's a God, that there's a Saviour too:
Once I redemption neither sought nor knew.

In 1774 when her book Poems on Various Subjects was published, Phillis Wheatley became the most famous African American on the face of the earth. She was honored by many of America’s founding fathers, including George Washington.

Buildings and other famous places are named after her at Universities and Libraries. Phillis Wheatley inspired others to become educated, to write, and to publish their works. She inspired women and all African Americans to understand and strive for education and equality.
Scenario #5

Louis Pasteur

Each time you wash your hands to kill germs, think of Dr. Louis Pasteur. Dr. Pasteur was a food chemist who became famous for making communities safer when he found the cause and prevention of diseases. He was the scientist who discovered that germs cause disease. Later he discovered that heat would kill dangerous germs or bacteria in liquids. If left alone, bacteria could spoil the liquids; but if heated, the germs in the liquid would die.

In 1864, Pasteur invented a process to heat liquids such as milk and orange juice to a temperature hot enough to kill germs, but not so hot as to damage the quality of the liquid. The liquid could then be refrigerated to keep longer without the bacteria growing in it. This innovative process is named after Dr. Pasteur and is called pasteurization. Pasteurization makes our milk and orange juice safer to drink. Look for the word on the label on foods such as milk, eggs, fruit juices, honey, and syrup.

Another invention of Dr. Louis Pasteur was the vaccine to counter the effects of rabies, a very dangerous disease. Pets are vaccinated against rabies regularly, but humans are only vaccinated if they are bitten by an animal that carries rabies.

Dr. Pasteur made discoveries that helped all communities, doctors, scientists, and health workers understand how diseases come from germs. Dr. Pasteur made the handling of food, and storage of food safer and this innovation made communities healthier and safer.

Photo credit:
Scenario #6

**Bill Gates**

Do you have a computer in your home, or in your school? Today a computer is small and portable, but when they were first invented even though they were fantastic, they were as big as a room. Early computers were slow and very difficult to operate, as well. A computer was very innovative, brand new idea.

Bill Gates helped to improve the computer by creating an operating system to make the computer smaller, easier to use and faster. He also made the computer much more affordable for everyone to buy, as well. Does that remind you of what Henry Ford did with the automobile?

Using a computer combined with the Internet, many people and businesses can get news and messages in less than a second of time. Also, the computer hard drive can store a great deal of information that no longer has to be written on paper.

Bill Gates founded the company, Microsoft. Because Mr. Gates revolutionized the computer industry, he has influenced many communities. In fact, today he is one of the most influential people in the world. He encourages people all over the world to use technology to communicate and cooperate.

Bill Gates and his wife Melinda give their time and money to many volunteer causes. They started a non-profit foundation called the Gates Foundation. The Foundation gives money to many needy causes and to research, including research about ways to offer the best education to all people, including putting computers in classrooms. The Gates also give money to the non-profit organization called *Imagine No Malaria* to help rid Africa of the disease malaria.

By Kjetil Ree (Own work) [CC-BY-SA-3.0 (http://creativecommons.org/licenses/by-sa/3.0)], via Wikimedia Commons
In 1847, more than 165 years ago, Maria Mitchell was the first woman astronomer to use a telescope to discover a comet. They named the comet she discovered “Miss Mitchell’s Comet.” She was also the first woman to work as a professional astronomer. Miss Mitchell was a scientist who was first to help people know and understand what was in outer space. Miss Mitchell was also the first woman appointed to the American Academy of Arts and Sciences and the first professor of astronomy on the faculty at Vassar College.

Miss Mitchell noticed that her salary was lower than men who did the same job. Knowing it was not fair, or equal, she asked for an equal salary and got it!

In World War II a Liberty Ship was named the SS Maria Mitchell. A crater on the moon is named after her, as well. Her most famous quote is: “We have a hunger of the mind. We ask for all of the knowledge around us and the more we get the more we desire.” She also said, “Question everything.”

More quotes from Maria Mitchell:

“Do not look at stars as bright spots only. Try to take in the vastness of the universe.”

“I am just learning to notice the different colors of the stars, and already begin to have a new enjoyment.”

“Every formula which expresses a law of nature is a hymn of praise to God.”

Photo credit:
Scenarios that Need a Solution

1. There is a new disease in the world. It is causing little children to become crippled, paralyzed, and sometimes even to die. What ideas do you have to help with this terrible problem?

   Jonas Salk created the vaccine. He created a polio vaccine to be distributed to the masses of people and thus ending the crippling disease of polio. Many other diseases now have vaccines, as well.

2. There are people in our world that cannot see. They are blind or almost blind. They would like to read, but cannot see. They need to be able to get information like when they need to find a certain floor on an elevator, but they cannot read. What might be a solution to this problem?

   Helen Keller and her teacher, Anne Sullivan, demonstrated the use of Braille as a system for blind people to learn to read the alphabet and words with their fingers.

3. There are many people in our world who need food. We have farmers and land, but the farmers cannot plant seeds and harvest crops fast enough to feed everyone who needs food. What can be done about this problem?

   Cyrus McCormick invented a large tractor-like machine called a reaper that helped to harvest large crops more quickly.

4. We need to express our feelings about what is going on in our community and our nation. We would like for many people to understand what is happening and how we feel. Maybe then important decision makers would consider our opinions. How can we accomplish this task?

   Phillis Wheatley was a poet during the American Revolution. She was the first African American woman to publish poetry and writing. President George Washington read her poems and listened to her opinions about important events.
5. We now know that germs can easily grow in milk. Children need milk for the nutrition it gives their body. But if germs grow in milk, many children will become sick. What can we do about this problem? *Louis Pasteur* invented a process to heat some foods such as milk and orange juice to a temperature that would kill germs, but not damage the quality of the food. The food would then keep longer and germs would not grow as easily when the food is kept cold. This process is named after him and is still called **pasteurization**.

6. We have important information that needs to get out to people in a quick method. How could we get those messages out as quick as possible? *Bill Gates* helped to develop the computer to make it easier to use, faster, and more affordable for everyone to buy. Now many people can get news and messages within seconds of time over the Internet on their computer.

7. There are many things high up in our atmosphere that we cannot see clearly enough to know what they are. What could we use to see more clearly and to get more information about what is in space? Who could help us with this task? *In 1847, more than 165 years ago, Maria Mitchell was the first woman astronomer to use a telescope to discover a comet. She was a scientist who helped people know about and understand what was in outer space.*