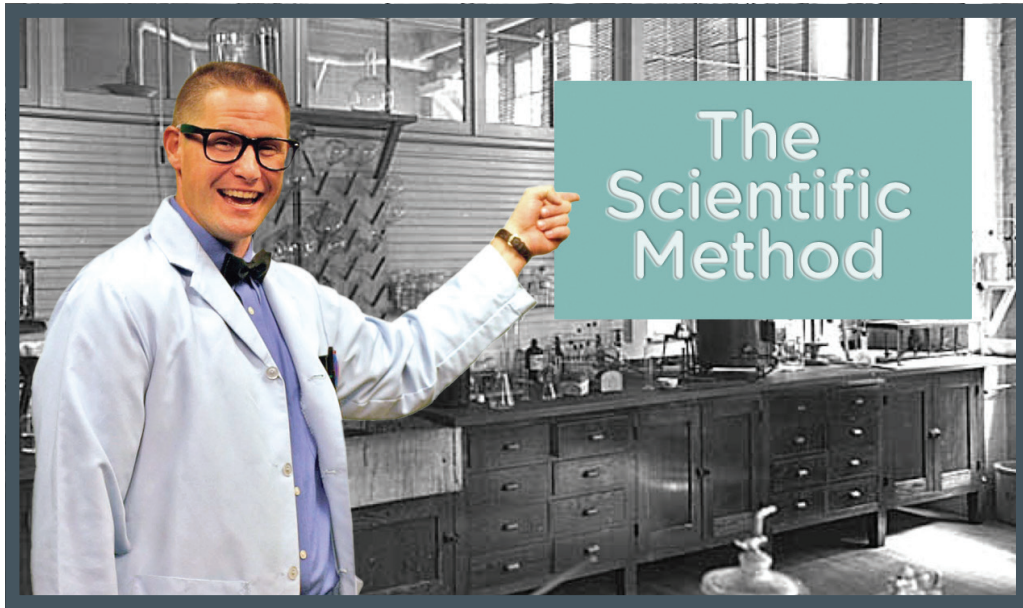


# Teacher Guide

# history **LIVE!**



## Inventions That Changed the Nation

**LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE! LIVE!**



The Minnesota Historical Society designs and develops educational products for students nationwide.

[HistoryLiveTV.org](http://HistoryLiveTV.org)

# Dear Educator,

Thank you for scheduling this *History Live* video conferencing lesson. This Teacher Guide will walk you through optional activities that you may use to enrich and extend your video conferencing experience.

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# Vocabulary

## Vocabulary Activity Suggestions

The following activities will get students thinking creatively, working together, and making personal connections to these new vocabulary words.



### **Worksheet: *What's The Word?***

Match it, write it, use it!

The inventions vocabulary words have been chopped in half!  
Students put the words back together and use them in a sentence.



### **Picture This**

Get on your feet and collaborate creatively!

1. Divide the class into two teams.
2. Bring one student from each team up to the whiteboard, and secretly assign them each an inventions vocabulary word.
3. Give the students three minutes to draw their vocabulary word on the board (without writing the word).
4. After the drawings are complete, the teams take turns guessing which vocabulary word their teammate drew.  
The first team to guess correctly earns one point.



### **Know & Tell**

Help them make a personal connection!

1. Assign each student a vocabulary word or let them pick.
2. Instruct each student to look up their word at home, and take/draw a picture or write a short story that represents the word.
3. Students can either hand in their projects or present them to the class.

# Inventions Vocabulary Words

## **SCIENTIFIC METHOD**

a process that is used to solve problems and answer questions

## **HYPOTHESIS**

an idea or guess that can be tested

## **INVENTION**

something made for the first time

## **INVENTOR**

a person who invents things

## **DATA**

pieces of information that can be used to learn about something

## **ANALYZE**

to separate something into parts, study it, and explain it

# Inventions Vocabulary

Name:

**SCIENTIFIC METHOD**

**HYPOTHESIS**

**INVENTION**

**INVENTOR**

**DATA**

**ANALYZE**

# What's The Word?

Name: \_\_\_\_\_

The chart below contains inventions vocabulary words that have been cut in half! Find the matching pieces and write the complete words in the answer spaces.

<b>NTION</b>	<b>TA</b>	<b>HESIS</b>	<b>NTIFIC</b>
<b>ID</b>	<b>DA</b>	<b>HOD</b>	<b>EA</b>
<b>LYZE</b>	<b>SCIE</b>	<b>INVE</b>	<b>ENTOR</b>
<b>INV</b>	<b>ANA</b>	<b>HYPOT</b>	<b>MET</b>

## Answers

<b>IDEA</b>			

**Use It:** How many of these words can you use in *one* sentence?

Write down your sentence below.

# Historical Context

## Historical Context Activity Suggestions

The following activities will encourage students to think chronologically, work together, and analyze important events in their own lives.



### **Worksheet: *Time Travel***

Think critically about your own experiences!

Students identify important events from their own lives, and construct their own timeline.



### **Our Top Five**

Cooperate, analyze, organize, and present!

1. Divide students into groups, and give each group one copy of the *Time Travel* worksheet.
2. Instruct each group to decide the five most important inventions ever invented, and write them into the timeline.
3. Each group then presents their timeline to the class, explaining which inventions they chose and why.

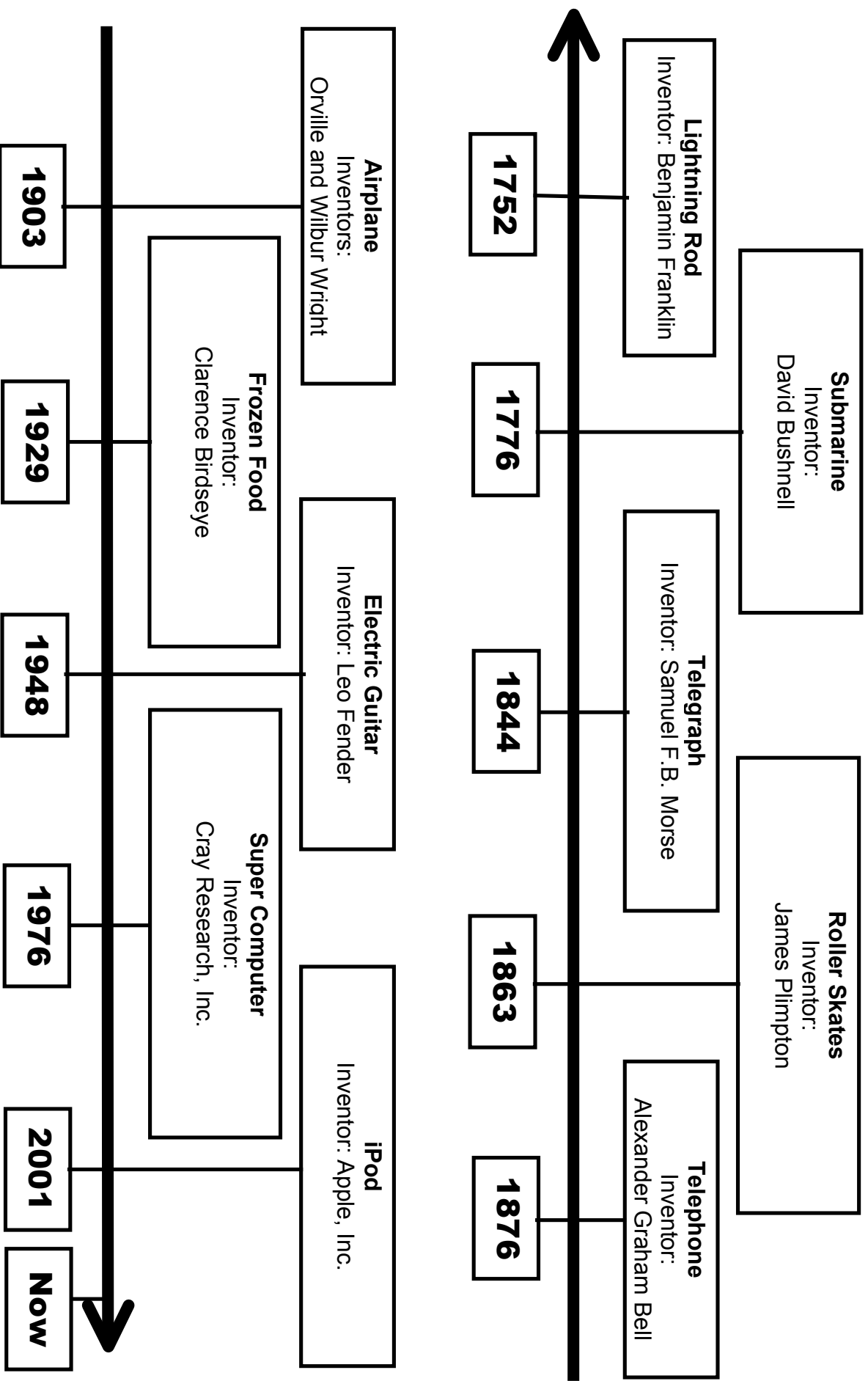


### **What's Your Story?**

An Introduction to Oral Histories

1. Instruct students to ask family member about important inventions that were invented during their life.
2. Students then use the *Time Travel* worksheet to make a timeline of these inventions.

# Inventions Timeline



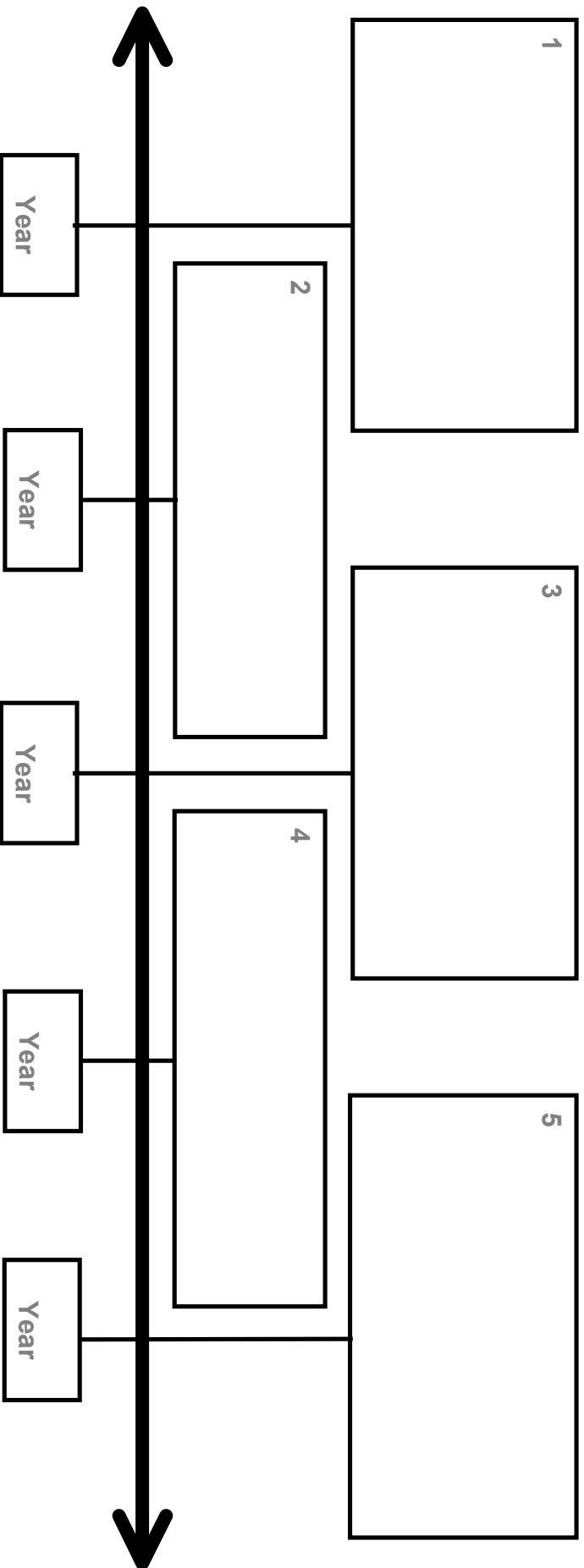


# Time Travel

Name: \_\_\_\_\_

Make a list of the most important inventions ever invented.  
Pick 5 inventions on your list, and write them into the timeline below in the order that they were invented.

Important inventions:



# Historical Analysis

## Historical Analysis Activity Suggestions

The following activities will help students think critically and creatively, and give them tools to analyze historical primary sources.



### **Worksheet: *What Do You See?***

"The King of Cooling," *Roots Magazine*, MNHS Press.

Students use critical thinking skills to analyze an article about inventor Frederick McKinley Jones.



### **Worksheet: *I've Got an Idea!***

Solve a problem with your own invention.

Students use the scientific method to solve a problem and answer questions about their own idea.

Students can present their invention to the class and describe how they used the scientific method to solve the problem.

# What Do You See?

Name:

Read the article and answer the questions below.

## The King of Cooling

Did you have milk for breakfast? Ice cream for lunch? A TV Dinner? You might not have had these things without the inventions of Fred Jones.

In 1938 Jones invented a new kind of machine-an air conditioner for trucks. He built the machine for a friend in the trucking business who needed help with a problem. At that time trucks hauling food were cooled with ice. But in hot weather the ice often melted, spoiling the cargo. Jones's air conditioner made it possible to ship fresh food across the country all year round.

Jones and a partner founded a company called Thermo King and moved on to the business of cooling railroad cars, ships, automobiles, and airplanes. Their inventions opened the way for a whole new industry-frozen food.

Like many inventors known for one famous invention, Jones had lots of other good ideas. Over the years he took out more than 50 patents. To Fred Jones we also owe the portable X-ray machine, a motor for automatic ice cream makers, and ticket dispensers at the movies.

1. What was the problem that Fred Jones helped his friend solve?
2. What did Fred Jones invent to solve the problem?
3. What are 5 foods that might NOT be in your grocery store if Fred Jones had never created his invention?

# I've Got an Idea!

**Name:**

Solve a problem with your own invention.

Use the scientific method with your own idea, and answer the questions below.

**PROBLEM** - What problem are you going to solve?

**RESEARCH** - What do you need to find out about this problem?

**HYPOTHESIS** - What is your idea to solve the problem?

**TEST** - How will you test your idea to make sure it works?

**ANALYZE DATA** - What did you learn from testing your idea?

**SHOW OFF** - How will you let other people know what you have learned?

# Reflection Time

## Reflection Time Activity Suggestion

The following questions will help students empathize, draw connections, and relate to inventors of the past and present.



### **My Time, Your Time**

Reflection Time Q & A

- 1.** Assign each student a Reflection Time Question from the following pages.
- 2.** Instruct each student to read and answer the question for the class.

# Reflection Time Questions

**1. Inventors need to research their project before they can begin to build it.**

Where would an inventor 100 years ago go to do research?

Where do inventors go today to do research?

Do you think it is easier to do research today, or 100 years ago?

**2. Inventors create inventions to solve a problem.**

Have you ever tried to invent something? If so what problem were you trying to solve with your inventions?

**3. Inventor Frederick McKinley Jones Invented an air conditioner unit that keeps food frozen on semi trucks. Without his invention we would not be able to have fresh fruit or frozen food in our groceries stores today.**

Can you think of another invention that has changed the way we live? How has it changed our lives?

**4. James Ryan invented the retractable seatbelt, the same one that can be found in cars today.**

Can you think of another invention that has made the world a safer place?

How has that invention made our world safer?

What do you think about that free bag of food?

**5. Rose Totino invented the frozen pizza which made it easier for people across the United States to have pizza in their homes.**

Can you name another invention that has made it easier for people to enjoy something?

If so what is it and how would our lives be different if to invention was not made?

**6. There are many wonderful inventions that are all around us.**

What do you think is the most important invention and why?

How would the world be different if it wasn't for this invention?

**7. In 100 years from now inventors will have created thousands and thousands of wonderful inventions.**

What do you think some of those inventions might be?

What problems will these inventions solve?

**8. Frederick McKinley Jones was an African-American inventor that created many inventions such as the portable x-ray machine, the air conditioning unit that keep frozen food cold and many more. But even though Fred had invented all of these inventions many of the times he would not be allowed to be in the same hotel as his the people he worked with because he was an African-American.**

How would you feel if you were not allowed to be with your coworkers because of the color of your skin?

Would you want to continue to create inventions if very few people listed to you because of the color of your skin?

Why or why not?

**9. Molt Taylor invented the flying car and thought that people around the world would use it but he ended up only make 5 flying cars.**

Why do you think no one wanted to buy his flying car?

Can you think of another invention that did not work out so well?

Why do you think that inventions failed?

**10. There are inventors all around the world and close by each of us.**

Do you know an inventor?

If so who are they and what did they invent?

If you could meet any inventor who would you like to be?

If you could only ask that inventor two questions what would those two questions be?

**11. There are inventions that can be found even in your own classroom.**

Look around your classroom and list 5 inventions that you see.

How would your classroom be different if those 5 inventions were never invented.

Would it make school easier or harder without those 5 inventions?

**12. Many different people have created wonderful inventions.**

If you could create any invention what would you create and why?

How do you think your invention would change people's lives?

**13. Inventors go through a process called the scientific method in order to create their invention. The last step of the scientific method is "show off your results."**

Why do you think inventors need to show off their results?

What are five different ways to show off your results?

Which two do you think are the best and why?

**14. Inventors go through a process called the scientific method in order to create their invention. One of the steps of the scientific method is "analyze your data." Which means you have to look at all the information you pulled together while testing out your inventions and see if there are any problems or not.**

Why do you think it is so important to check your data?

What would you do if you were inventing something and the data said there were problems?

Would you go back to the beginning and start over or would you give up?

Why or why not?

**15. Inventors go through a process called the scientific method in order to create their invention. One of the steps of the scientific method is to "test your hypothesis" or test your invention you see if it works.**

Why do you think it is important to test your hypothesis?

What do you think would happen if inventors would not test their hypothesis?

**16. There are many different inventions that have been created to make our lives easier and better.**

Can you name three inventions that have made your life easier or better?

How would your life be different if those inventions were never created?

Would your life be easier or harder?

**17. Look around your classroom and write down two inventions that you see.**

What one do you think is the better invention and why?

**18. Think about the inventions that are in your home, now imagine what it would be like to live 100 years ago.**

What inventions would you still have in your house 100 years ago?

What three inventions would be the hardest not to have and why?

**19. Many times, inventors take an invention that someone else has made and make it better or add to it. Rose Totino created the frozen pizza which allowed people across the United States to enjoy the invention of pizza in their homes easier and faster.**

Can you think of an invention that you would like to improve?

If so what is the invention and how would you improve it?



**20. Abigail Fleck was 9 years old when she created the "Makin Bacon" which kitchen item that allows you to cook bacon in your microwave and make it crispy like it was made in a pan but faster because it is the microwave.**

What is your favorite food to eat?

What would you invent to make it better or easier for people to make or to get?

**21. A new game can be considered an invention because it is something new that was made for the first time.**

Have you and your friends ever invented a game?

If so what was the name of this new game?

Can you describe what the rules are and how you play it?

**22. Inventors often work on their inventions for many years trying to get them to work just right.**

Do you think you could work on the same invention over and over again for many years?

Why or why not?

Why do you think it might take that long to get an invention working right?

How would you feel after working that long on an invention and finally getting it to work?

**23. Many of the inventions created today are made to help clean up the earth and make it a better place for us to live in the future.**

Can you think of any inventions that have helped the earth become cleaner?

How has it made the earth cleaner or better?

If you had the chance to create an invention that would help clean up the earth what would it be and how would it make the earth a better place?

**24. The Wright brothers invented the airplane, which makes it easier for us to get to places around the world and to move items faster.**

How would our world be different if the airplane had never been invented?

How would it change your life?

**25. The Internet is an invention that most people use everyday to check their email, to read the news and to stay in touch with friends.**

If the Internet had never been invented how would it change your life?

Would it make things easier or harder and why?

What would you miss most if you did not have the Internet?

**26. Molt Taylor invented a flying car and many other inventors have created inventions that deal with transportation or how we get from one place to the next.**

If you could create an invention that had to deal with travel what would it be and why would you create that invention?

**27. Inventors often do not work alone or create their invention completely by themselves.**

If you had the opportunity to create an invention would you want to do the work on your own or would you like to work on a team? Why?

Why would it help to work with other people as you create an invention?

Why would it help to work alone as you create an invention?

**28. Inventors have to use their imagination often and try to find ways to be creative with the items they have around them and find a new way to use them for their invention.**

Looking at the items you have in your desk what could you invent only using those items? What problem are you solving with your new invention?

**29. Play-Doh was invented by Noah and Joseph McVicker and is still a very popular toy for kids today.**

If you could invent a toy what would it be?

What are some of the things you would be able to do with this new toy?

**30. The invention of the camera gave people the opportunity to send pictures of themselves and of places around the world easily. Before the camera was invented you would have to have someone draw a portrait do you or draw what the area looked liked.**

If the camera were not invented how would it change your life?

How would you tell people about your home if you could not take pictures?

Do you think a picture of a place makes you want to go there more than someone's words? Why or why not?