



TEACHER'S GUIDE
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tfkteachers.com



TEACHING THE COVER STORY ON

INVENTIONS OF THE YEAR

THIS WEEK

SCIENCE STANDARDS

(cover story)
Science and
Technology

SKILLS

Building a Time Line,
page 3

Comparing and
Contrasting,
page 4

Writing a Biography,
page 5

TFK'S PERSON OF THE YEAR

Have students vote at
timeforkids.com/poy.

VISIT TFK'S GLOBAL HEALTH SITE at

timeforkids.com/globalhealth.

TFK'S HOLIDAY SITE

at timeforkids.com/holidays.

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SUMMARY

We are pleased to bring you the annual TIME FOR KIDS **Inventions of the Year issue**, packed with the coolest inventions of 2005. The editors of TFK have chosen 12 inventions sure to entertain, educate and inspire your students.

- Rob Angel, a waiter, created the game **Pictionary** in 1986.
- In 1993, H. Ty Warner designed **Beanie Babies**.

RESOURCES

Brainstorm! The Stories of Twenty American Kid Inventors by Tom Tucker (Farrar, Straus and Giroux, 1998) Young inventors make history.

Kids Inventing! A Handbook for Young Inventors by Susan Casey (Jossey-Bass, 2005) Easy to read with practical advice on the invention process.

The Picture History of Great Inventions by Gillian Clements (Frances Lincoln, 2005) Colorful introduction to inventors.

Thomas Edison: A Brilliant Inventor by Lisa DeMauro (Harper Collins, 2005) A TFK Biography on the great inventor.

americanhistory.si.edu/lighting Explore the process of invention through the discovery of electricity.

web.mit.edu/invent/i-archive.html A new inventor profiled each week.

FAST FACTS

Share the following facts about past toy and game inventions with students.

- Edwin Binney and C. Harold Smith created **Crayola crayons** in 1903. The first box of crayons sold for five cents.
- Architect John Lloyd Wright invented **Lincoln logs** in 1916. He was the son of Frank Lloyd Wright.
- **Candy Land** was designed in 1949 by Eleanor Abbot. She created the game while recuperating from polio.
- **Matchbox** cars were created by Jack Odell in 1952.
- Stanley Weston invented **GI Joe** in 1965.
- The **Nerf ball** was created by Reynolds Guyer in 1969.

NONFICTION LITERACY SKILLS

BEFORE READING

Make Connections

- Hold up one item used in your classroom. Ask: Why is this object useful? What materials are needed to make it? How much do you think the item should cost based on its function? Can it be improved? How?

START A DISCUSSION

Think Critically

- What makes an invention successful?
- Which new invention would you most like to have? What criteria did you use to make your choice?
- Which three of the inventions do you think people are most likely to buy?

Have students rank their choices.

- Which of these inventions will be around in five years? Ten years?

EXTEND LEARNING


Persuasive Writing

- Have students create an ad for an invention from this week's issue, persuading others of its importance.

Take a Poll

- Visit timeforkids.com/inventions, where students can vote for the new invention they would most like to own.

ASSESS COMPREHENSION

 tfkteachers.com Assess students' comprehension of the stories in this week's issue.

TEACHING THIS WEEK'S ISSUE ON INVENTIONS

Share the following facts, activity and resources with your students.

Fast Facts

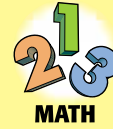
The following facts are about young inventors.

- In 1642, at the age of 18, Blaise Pascal invented a mechanical calculator to help his father collect taxes.
- In 1821, 12-year-old Louis Braille invented a system of raised letters. Called Braille, it is used by blind people for reading and writing.
- Isaac Merritt Singer invented the sewing machine in 1851 at the age of 19.
- In 1873, 13-year-old Chester Greenwood invented earmuffs to keep his ears warm while ice-skating. He used loops of wire and padded the ends with beaver fur.
- Frank Epperson was 11 years old when he created the Popsicle in 1905. He accidentally left his fruit drink with a stirring stick in it outside in the cold. The next day, he discovered that the frozen treat tasted yummy.
- Igor Sikorsky built his first helicopter in 1909, when he was 19 years old. It finally flew in 1939.
- Philo Farnsworth came up with the idea for the television in 1920, when he was 14 years old. He had a working device by the

time he was 21.

- In 1936, 16-year-old George Nissen invented the trampoline.
- The game Jenga was invented by Leslie Scott, a 16-year-old, in the early 1970s.

Build a time line: Share the facts about young inventors with your students. Then have them use the facts to create an illustrated time line of young people's inventions.



Resources

bkfk.com By Kids For Kids (BKFK) is a company that markets kids' inventions. Visit the BKFK site to learn how you can enter your students in the company's National Invention Competition and to order your free Inventive Thinking tool kit. The tool kit includes a teacher's guide, student guides, a DVD and additional resources.

tfkteachers.com/toshiba Information on how you can enroll your students in the Toshiba/National Science Teachers Association ExploraVision Awards competition. Entries are due by January 31, 2006.

TFK Power Words

STRATEGY (p. 2): a carefully devised plan of action to achieve a goal

OBESITY (p. 3): the condition of being extremely or unhealthily overweight

GADGET (p. 4): an interesting, unfamiliar or unusual device with a practical use

SENSOR (p. 4): a device capable of detecting and responding to movement, light or heat

GAIT (p. 4): a way of walking, running or moving along on foot

INNOVATION (p. 4): the act or process of inventing or introducing something new

OBSTACLE (p. 6): something that blocks a road, passage or somebody's way

CLONE (p. 6): a copy of an animal that is created in a lab from a single cell and genetically identical to the animal from which the cell was taken

DEVASTATED (p. 7): severely damaged

FLEE (p. 7): to run away from something

EVACUEE (p. 7): somebody who is taken from a dangerous place and sent somewhere safer

ATTENTION, TEACHERS

We've been hearing from some of you about the ability of students to access the answers to our weekly online comprehension quiz. We've made some changes that we hope will resolve this problem. Each week, the answers to the current online quiz will be available only in the corresponding week's Teacher's Guide. Please look in the Answers section on page 2.

We value your feedback. Don't hesitate to e-mail us with suggestions or concerns at teachersguides@timeforkids.com.

Go Places with TFK: Online Resources

Visit timeforkids.com/goplaces for year-round geography and culture studies. Students can

- Print a *Go Places with TFK passport and stamps*, highlighting the places they learn about.
- Take an **online photo tour** of important sites.
- Learn **phrases in the local language**.

To order *Go Places with TFK* for your students, call 800-777-8600 or visit tfkteachers.com/addGP.

ANSWERS

WHAT A GREAT IDEA! (P. 3)

1. Answers may vary.
2. Answers on page

INVENTIONS, THEN AND NOW (P. 4)

Answers on page

INVENTOR ORGANIZER (P. 5)

Answers on page

Mystery Person:

Levi Strauss

TFK WEEKLY ONLINE COMPREHENSION QUIZ

1. B
2. A
3. B
4. C
5. C
6. D
7. C
8. C
9. B
10. Answers may vary.

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Name Date



WHAT A GREAT IDEA!

How have inventions helped you to live your life? How would your life be different if certain items had never been invented?

Read the chart to learn more about the world's great inventions. Then use the chart to answer the question and construct a time line.

1. Choose five inventions from the chart that have had the greatest impact on your life.

2. Write the inventions you chose in question 1 on the time line. Put them in the order in which they were invented. Use the time line below. Be sure to date and label each invention.

Invention	Date It Was Invented
World Wide Web	1991
Plastic	1907
Cellular phone	1983
Jet airplane	1939
Incandescent lightbulb	1879
Zipper	1891
Frozen food	1929
Ballpoint pen	1938
Television	1927
X ray	1895
Hubble Space Telescope	1990
Skyscraper	1885
Air conditioner	1902
Traffic light	1923



Name

Date



Inventions, Then and Now

No matter how good an invention may be, people are always looking for a way to improve it. So it's no wonder that many great inventions change over time. Today, airplanes fly faster than they did when the Wright Brothers took to the air in 1903. And computers have become smaller, smarter and less expensive.

Interview a family member to find out how the inventions listed in the chart below have changed since he or she was a child. Use this information to fill in the second column of the chart. In the third column, describe how the invention is different today.

INVENTION	WHAT THE INVENTION WAS LIKE IN THE PAST	HOW THE INVENTION IS DIFFERENT TODAY
Sneakers		
Telephone		
Car		
Television		
Airplane		

BONUS: Choose one of the inventions and write how you would improve it on the back of this page.

Name

Date

Inventor Organizer

What creative mind dreamed up the bicycle or the electric battery? Who invented the toaster or the compact disc? Think about an invention and find out who invented it.

Read a book about the inventor or do research on the Internet. Then complete the organizer below. First draw a picture of the person in the middle circle and write his or her name. Then follow the directions in each of the boxes.

<p>List three facts about the inventor's life.</p>	<p>Write the name of one invention that this person has created. Then tell why you think this invention is important.</p>
<p>Write two words that you think describe this person. Then explain why you chose these words on the back of this page.</p>	<p>Explain why you think it's important for kids to learn about this inventor.</p>

Name of inventor

BONUS: Use your notes to write a biographical essay about this inventor. For help in writing your essay, visit timeforkids.com/hh/writeideas and click on the biography link under A+ Papers.

A Look at Global Health

TIME FOR KIDS is committed to providing ongoing coverage of global-health issues. Last month, we sent TFK Kid Reporters to TIME magazine's Global Health Summit, where they interviewed doctors, volunteers and other inspirational heroes who are making a difference.

Encourage your students to visit timeforkids.com/globalhealth to find



- ★ The latest global health news.
- ★ Profiles of heroes in global health, including Dr. Paul Farmer, who is helping the world's sick and poor, and Dr. David Ho, who is leading the fight against AIDS.
- ★ A global-health guide highlighting important issues such as having access to clean water.
- ★ Interviews with members of the Agape Children's Choir, kids who were orphaned by the AIDS epidemic. These talented children are using their voices to make a difference through music.
- ★ A list of organizations and ideas to help your students take action and make a difference.
- ★ Letters from TFK readers about global-health issues.



PERSON OF THE YEAR

Who had the biggest impact on the news, and our lives, in 2005? It's time for students to choose who they think should be TFK's Person of the Year. TIME magazine's editors have chosen a Person of the Year for more than 75 years. But at TFK, readers make the choice!

Have your students read about this year's nine nominees at timeforkids.com/poy. Then have them cast their votes for the person they think made the greatest impact this year. Students must vote by Friday, December 16. We will announce the Person of the Year on timeforkids.com on December 18.

Holiday Fun with TFK

Encourage students to visit the TIME FOR KIDS holiday site, where they can

- ★ See what's new in movies, toys and video games.
- ★ Play holiday games.
- ★ Find out how to help people in need during the season.
- ★ Print or e-mail holiday cards.
- ★ E-mail a holiday wish list.

