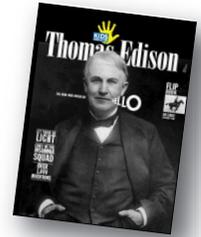




# Teacher's Guide



# Thomas Edison

## Dear Educator,

**G**et ready to take a journey with a genius who received patents for 1,093 inventions in his lifetime! While reading **KIDS DISCOVER** *Thomas Edison*, your young inventors will learn about the fascinating topics at right.

This Teacher's Guide is filled with activity ideas and blackline masters to help your students enjoy and learn more from *Thomas Edison*. Select or adapt the activities that suit your students' needs best.

Thank you for making **KIDS DISCOVER** a part of your classroom.

Sincerely,

**KIDS DISCOVER**

P.S. We would love to hear from you! E-mail your comments and ideas to [teachers@kidsdiscover.com](mailto:teachers@kidsdiscover.com)

## Meeting the Standards

✓ The History of Peoples of Many Cultures Around the World: Major discoveries in science and technology, their social and economic effects, and the scientists and inventors responsible for them

– *National Standards for History*

✓ Visit [www.kidsdiscover.com/standards](http://www.kidsdiscover.com/standards) to find out more about how **KIDS DISCOVER** meets state and national standards.

## PAGES

## WHAT'S IN THOMAS EDISON

### 2-3 **Genius!**

Edison's inspiration, perspiration, and circle of friends

### 4-5 **The Edison Era (1847-1931)**

Morse, Bell, the Wright brothers, and other inventors of Edison's time

### 6-7 **Young Al**

Edison's childhood and schooling

### 8-9 **First Fruits**

A vote recorder, stock ticker, phonograph, and Edison's other early inventions

### 10-11 **Ediphone**

A photograph of Edison speaking into his dictating device

### 12-13 **Anatomy of an Invention**

Making electric lighting available on a grand scale

### 14-15 **Moving Right Along**

More inventions in Edison's lab in West Orange, New Jersey

### 16-17 **Family and Friends**

Edison's wives, children, and colleagues

### 18-19 **Student Activities**

Simple chemistry experiments, a match-up, and resources

## • IN THIS TEACHER'S GUIDE •

### 2 **Prereading Activities**

### 3 **Get Set to Read (Anticipation Guide)**



### 4 **Discussion and Writing Questions**

### 5-6 **It's in the Reading (Reading Comprehension)**



### 7 **Everything Visual (Graphic Skills)**



### 8 **Cross-Curricular Extensions**

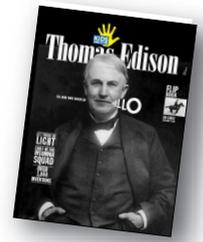
### 9-12 **Answer Keys to Blackline Masters**

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# PREREADING ACTIVITIES



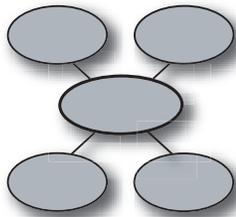
**B**efore distributing **KIDS DISCOVER *Thomas Edison***, activate students' prior knowledge and set a purpose for reading with these activities.

## Discussion

To get students thinking about how this topic relates to their interests and lives, ask:

- ✓ *What are some reasons why a person might want to invent?*
- ✓ *What do you want to learn about Thomas Edison?*

## Concept map



**E**xplain to students that they will be reading *Thomas Edison*. Ask: *What are some words that are related to Thomas Edison?* List students' responses on the board. (See box below for some terms they may suggest.) After creating a list, ask students to group the words into categories, such as **Inventions** and **Friends**. Create a concept map by writing *Thomas Edison* on the board and circling it. Write the categories around the circle and draw lines between the ideas to show connections. Then write the words from the list around the appropriate categories. Encourage students to add more words to the concept map as they read *Thomas Edison*.

### KEY TERMS

- |                            |                |
|----------------------------|----------------|
| ✓ Menlo Park, NJ           | ✓ telegraph    |
| ✓ West Orange, NJ          | ✓ phonograph   |
| ✓ Harvey S. Firestone      | ✓ stock ticker |
| ✓ Henry Ford               | ✓ Ediphone     |
| ✓ motion picture projector | ✓ filament     |
| ✓ vote recorder            | ✓ insomnia     |

## Get Set to Read (Anticipation Guide)



**C**opy and distribute the **Get Set to Read** blackline master (page 3 of this Teacher's Guide). Explain to students that this **Anticipation Guide** will help them find out what they know and what misconceptions they have about the topic. **Get Set to Read** is a list of statements—some true, some false. Ask students to write whether they think each statement is true or false in the **Before Reading** column. Be sure to tell students that it is not a test and they will not be graded on their answers. The activity can be completed in a variety of ways for differentiated instruction:

- ◆ **Have students** work on their own or in small groups to complete the entire page.
- ◆ **Assign pairs** of students to focus on two statements and to become "experts" on these topics.
- ◆ **Ask students** to complete the **Before Reading** column on their own, and then tabulate the class's answers on the chalkboard, on an overhead transparency, or on your classroom computer.
- ◆ **Review the statements** orally with the entire class.

If you predict that students will need assistance finding the answers, complete the **Page Number** column before copying **Get Set to Read**.

## Preview

**D**istribute *Thomas Edison* and model how to preview it. Examine **titles, headings, words in boldface type, pictures, charts, and captions**. Then have students add new information to the **Concept Map**. If students will only be reading a few pages at one sitting, preview only the selected pages.

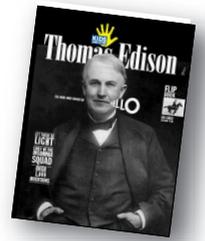
## BE WORD WISE WITH POWER VOCABULARY!

**Y**ou have exclusive access to additional resources including Power Vocabulary blackline masters for every available KIDS DISCOVER title! These activities introduce students to 15 specialized and general-use vocabulary words from each KIDS DISCOVER title. Working with both types of words helps students develop vocabulary, improve comprehension, and read fluently. Follow the links from your Teacher's Toolbox CD-ROM and find your title to access these valuable resources:

- ◆ Vocabulary cards
- ◆ Crossword puzzle
- ◆ Word find
- ◆ Matching
- ◆ Cloze sentences
- ◆ Dictionary list

◆◆◆◆◆ [www.kidsdiscover.com](http://www.kidsdiscover.com) ◆◆◆◆◆

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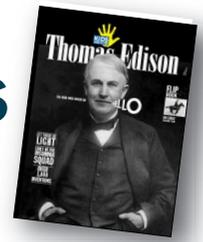
Name \_\_\_\_\_ Date \_\_\_\_\_

## Get Set to Read

What do you know about Thomas Edison? In *Before Reading*, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER *Thomas Edison***. Check back to find out if you were correct. Write the correct answer and the page number where you found it.

**CHALLENGE:** Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. Edison patented over 1,000 inventions.	_____	_____
_____	2. Edison invented the telephone.	_____	_____
_____	3. Edison was a quiet, studious child.	_____	_____
_____	4. Edison patented his first invention at the age of 18.	_____	_____
_____	5. The telegraph led to the invention of the phonograph.	_____	_____
_____	6. Edison solved the problem of all arc lights in a series going out by using a parallel circuit.	_____	_____
_____	7. Some of the first successful light bulbs were made with bamboo fibers.	_____	_____
_____	8. Edison did not like others to help him in his work.	_____	_____
_____	9. Edison's last project was a big success.	_____	_____
_____	10. Henry Ford was a hero of Edison's.	_____	_____

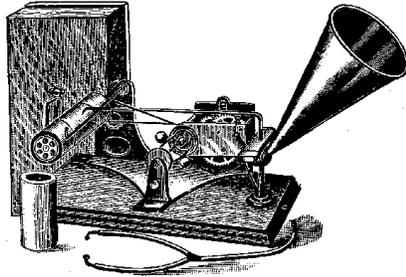


**Use the following questions as oral discussion starters or for journaling. For additional in-class discussion and writing questions, adapt the questions on the reading comprehension blackline masters on pages 5 and 6.**

### Pages 2–3

Edison's definition of genius is "1 percent inspiration and 99 percent perspiration." Ask:

- ✓ *What do you think Edison meant?*
- ✓ *How would you define the word "genius"? What qualities do you think a genius might possess that more "ordinary" people might not?*



### Pages 4–5

The telephone was invented during Edison's lifetime. Ask:

- ✓ *What do you think your life would be like without the telephone? How would the absence of the telephone make life more difficult? Can you think of any ways that not having a telephone could improve the quality of your life?*

### Pages 6–7

Young Al Edison learned by asking questions, not by answering them. Ask:

- ✓ *Do you like to ask questions? What are some benefits to being able to ask questions?*

### Pages 8–9

Edison did not invent the telegraph, but he did make several improvements to it. Ask:

- ✓ *What are some ways people have improved other inventions throughout the years, such as the television, telephone, and computers?*
- ✓ *What are some ways you would like to improve a modern device?*

### Pages 8–9

There is a saying: Necessity is the mother of invention. Ask:

- ✓ *What do you think this means? How do you think this saying applies to Edison's improvements to the telegraph?*

### Pages 10–11

- ✓ *Why do you think the writer chose this photograph and quote from Edison for the center spread? What do you think of this photograph? Why?*

### Pages 12–13

A quote from Edison on page 12 reads: "I owe my success to the fact that I never had a clock in my workroom." Ask:

- ✓ *What do you think Edison meant by this? Do you agree with the quote?*
- ✓ *Do you prefer to always be able to know what time it is or would you rather let your natural clock determine when you should eat, sleep, work, etc.? What are the advantages and disadvantages of having a clock? Of not having a clock?*

### Pages 14–15

Edison would have to be thoroughly convinced a project wouldn't work before he would give it up. Ask:

- ✓ *Have you ever worked on something that other people had given up on, but you persisted? What was the result?*

- ✓ *Do you think Edison's attitude and hard persistent labor was a good character trait, a bad character trait, or both good and bad? Why?*

### Pages 16–17

Edison courted publicity, but he also loved solitude. Ask:

- ✓ *Why do you think people like to be alone? What do you think it does for them? Do you like to spend time alone? Explain.*
- ✓ *Why do you think people like publicity? What need might it fulfill?*

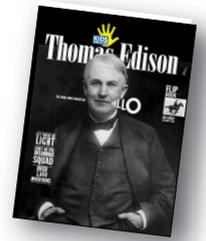
### All pages

After students read the issue, ask:

- ✓ *Which of Edison's inventions do you think is most important? Explain.*



**Add KIDS DISCOVER to your book baskets along with fiction and nonfiction books on the same topic.**



Name \_\_\_\_\_ Date \_\_\_\_\_

## It's in the Reading

After reading **KIDS DISCOVER** *Thomas Edison*, choose the best answer for each question.  
Fill in the circle.



*Find your answers on the pages shown in the book icon next to each question.*

**1. According to Edison's definition of genius, \_\_\_\_.**

- A. very few people could be considered geniuses
- B. geniuses are born and not made
- C. almost anyone willing to work hard could be a genius
- D. there are no real geniuses



**2. Judging by the most important inventions of Edison's era, inventors were most interested in \_\_\_\_.**

- A. agriculture
- B. time-saving devices
- C. saving lives
- D. communication and transportation



**3. The invention that most changed the American economy and way of life in the 1800s was the \_\_\_\_.**

- A. telegraph
- B. steam locomotive
- C. automobile
- D. telephone



**4. The young Edison was \_\_\_\_.**

- A. hesitant to take action
- B. curious about many things
- C. eager to learn from books
- D. badly behaved



**5. Edison's stock ticker was an important invention because it led to \_\_\_\_.**

- A. the invention of the phonograph
- B. an improved vote recorder
- C. Edison's quitting his job as a telegrapher
- D. the building of his laboratory



**6. The search for the best filament material was important because \_\_\_\_.**

- A. it would make a long-lasting glow possible
- B. it would make electricity cheaper
- C. it would keep all lights from failing if one failed
- D. it would make a vacuum tube possible



# It's in the Reading (continued)

7. The person who showed that magnetism could produce electricity was \_\_\_\_\_.

- A. Edison
- B. Franklin
- C. Volta
- D. Faraday



8. Edison's work with motion pictures showed that Edison \_\_\_\_\_.

- A. was not very practical
- B. was preoccupied with being famous
- C. had a wide variety of interests
- D. really wanted to be a film producer



9. One of Edison's successful inventions was \_\_\_\_\_.

- A. anti-submarines
- B. rubber made from goldenrod
- C. electric automobiles
- D. an iron-ore separator



10. Facts about Edison's marriages show that \_\_\_\_\_.

- A. Edison should not have been married
- B. women of the 1800s were demanding
- C. devotion to work can make relationships difficult
- D. couples in the 1800s differed greatly from those today



11. Henry Ford is described as an "automobile magnate." A *magnate* is \_\_\_\_\_.

- A. an inventor
- B. a successful person in a field
- C. a businessperson
- D. a mechanic



12. Page 6 includes a quote by Edison about schools. Do you agree or disagree with Edison's statement? Use specific details to support your answer.

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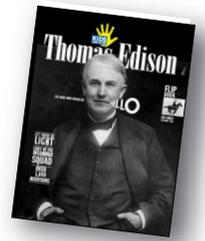
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Name \_\_\_\_\_ Date \_\_\_\_\_

## Everything Visual

Photographs can give readers greater insight into other people's lives and events. Look at the photographs of Edison on pages 2–3, 9–10, 15, 16, and 17. Then answer the questions.

1. What character traits does the photo of Edison on pages 2–3 show? Explain your answer.

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2. Look at the photo on pages 9–10. What do you think it shows about Edison's attitude toward his work?

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3. Why is the photo of Edison on page 15 an important contribution to his biography? Explain your answer.

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4. How is the family portrait on page 16 similar to family portraits of today? In what ways does it differ?

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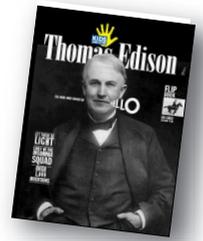
5. What character traits does the photo of Edison with Henry Ford on page 17 show? Explain your answer.

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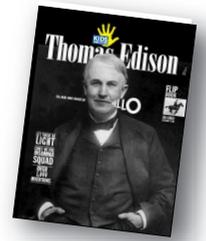
Name **ANSWER KEY** \_\_\_\_\_ Date \_\_\_\_\_

## Get Set to Read

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**CHALLENGE:** Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. Edison patented over 1,000 inventions.	<i>True</i>	<i>p. 2</i>
_____	2. <del>Edison</del> <b>Alexander Graham Bell</b> invented the telephone.	<i>False</i>	<i>p. 4</i>
_____	3. Edison was <del>a quiet, studious</del> <b>an active, mischievous, curious</b> child.	<i>False</i>	<i>pp. 6-7</i>
_____	4. Edison patented his first invention at the age of <del>18</del> <b>22</b> .	<i>False</i>	<i>p. 8</i>
_____	5. The telegraph led to the invention of the phonograph.	<i>True</i>	<i>p. 8</i>
_____	6. Edison solved the problem of all arc lights in a series going out by using a parallel circuit.	<i>True</i>	<i>p. 12</i>
_____	7. Some of the first successful light bulbs were made with bamboo fibers.	<i>True</i>	<i>p. 13</i>
_____	8. Edison <del>did not like others to help him in his work</del> <b>staffed his lab with the best minds he could find.</b>	<i>False</i>	<i>p. 14</i>
_____	9. Edison's last project was <del>a big success</del> <b>not successful.</b>	<i>False</i>	<i>p. 15</i>
_____	10. <del>Henry Ford</del> <b>Edison</b> was a hero of <del>Edison's</del> <b>Henry Ford's</b> .	<i>False</i>	<i>p. 17</i>



Name **ANSWER KEY** \_\_\_\_\_ Date \_\_\_\_\_

## It's in the Reading

After reading **KIDS DISCOVER** *Thomas Edison*, choose the best answer for each question.  
Fill in the circle.



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**1. According to Edison's definition of genius, \_\_\_\_.**

- A. very few people could be considered geniuses
- B. geniuses are born and not made
- C. almost anyone willing to work hard could be a genius (*draw conclusions*)
- D. there are no real geniuses



**2. Judging by the most important inventions of Edison's era, inventors were most interested in \_\_\_\_.**

- A. agriculture
- B. time-saving devices
- C. saving lives
- D. communication and transportation (*generalization*)



**3. The invention that most changed the American economy and way of life in the 1800s was the \_\_\_\_.**

- A. telegraph
- B. steam locomotive (*details*)
- C. automobile
- D. telephone



**4. The young Edison was \_\_\_\_.**

- A. hesitant to take action
- B. curious about many things (*generalization*)
- C. eager to learn from books
- D. badly behaved



**5. Edison's stock ticker was an important invention because it led to \_\_\_\_.**

- A. the invention of the phonograph
- B. an improved vote recorder
- C. Edison's quitting his job as a telegrapher (*cause and effect*)
- D. the building of his laboratory



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- A. it would make a long-lasting glow possible (*cause and effect*)
- B. it would make electricity cheaper
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7. The person who showed that magnetism could produce electricity was \_\_\_\_\_.

- A. Edison
- B. Franklin
- C. Volta
- D. Faraday (*details*)



8. Edison's work with motion pictures showed that Edison \_\_\_\_\_.

- A. was not very practical
- B. was preoccupied with being famous
- C. had a wide variety of interests (*main idea*)
- D. really wanted to be a film producer



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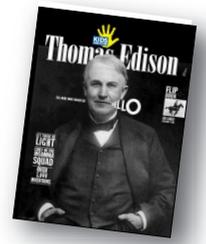
11. Henry Ford is described as an "automobile magnate." A *magnate* is \_\_\_\_\_.

- A. an inventor
- B. a successful person in a field (*inference*)
- C. a businessperson
- D. a mechanic



12. Page 6 includes a quote by Edison about schools. Do you agree or disagree with Edison's statement? Use specific details to support your answer.

*Answers will vary. Students should use examples and other evidence from their own experience to support their answers.*



Name **ANSWER KEY** \_\_\_\_\_ Date \_\_\_\_\_

## Everything Visual

Photographs can give readers greater insight into other people's lives and events. Look at the photographs of Edison on pages 2–3, 9–10, 15, 16, and 17. Then answer the questions.

1. What character traits does the photo of Edison on pages 2–3 show? Explain your answer.

*Answers will vary. The photo shows that Edison was hard-working and probably did not take enough time to sleep, eat, and so on. Therefore, he caught up on sleep whenever and wherever possible.*

2. Look at the photo on pages 9–10. What do you think it shows about Edison's attitude toward his work?

*Answers will vary. Edison seems to have a serious, interested, intense attitude toward his work.*

3. Why is the photo of Edison on page 15 an important contribution to his biography? Explain your answer.

*The photo shows that Edison was still interested in new inventions and still active when he was older.*

4. How is the family portrait on page 16 similar to family portraits of today? In what ways does it differ?

*The family portrait is similar in getting parents and children together in a casual setting. It is different in showing the people in serious, rather formal poses instead of casual or smiling poses.*

5. What character traits does the photo of Edison with Henry Ford on page 17 show? Explain your answer.

*Answers will vary. The photo shows Edison's sense of humor and sociable quality.*