

IOWA PAST TO PRESENT TEACHERS GUIDE
Revised 3rd Edition

Chapter 14: New Inventions Bring Change

CONTENT OBJECTIVES

Following the completion of the readings and activities for this chapter, students will have acquired the following understandings:

- a. Technological advances of the 20th Century had a profound impact on life in Iowa.
- b. The telephone saved rural Iowans both time and money as cooperative companies were formed across the state.
- c. The automobile, being fast and dependable, facilitated social and economic development as Iowans' individual mobility increased, allowing new businesses to flourish.
- d. Electricity not only benefited agriculture and business but also provided many new time-saving conveniences for the home.

VOCABULARY TO KNOW

assembly line	kerosene
atomic power	livery stable
cooperative	switchboard
generators	tax
invention	

PEOPLE TO IDENTIFY

Alexander Graham Bell	John Vincent Atanasoff
Frederick M. Hubbell	Thomas Edison
Henry Ford	

FOR FURTHER STUDY

1. Take a tour of a local museum. Arrange for the tour guide to focus on the technological advances of the last century.

2. Tour the State Historical Museum in Des Moines. Many fine examples of technology from the past are a part of the collection.

Activity 14-1: DR. ENGLE'S NEW AUTOMOBILE

Skills. Reading and interpreting primary source material

Materials. Student copies of handout 14-1, Dr. Engle's testimonial (in text).

Procedure

1. Introduce the lesson by discussing the advantages of using the automobile.
2. Find the testimonial by Dr. Engle in the textbook. Distribute copies of handout 14-1. Read together the selection by Dr. Engle. Provide time for students to answer the questions related to the article.
3. Conclude the lesson by focusing on particular advantages of the automobile to Dr. Engle.

DR. ENGLE'S NEW AUTOMOBILE

Directions. Answer the following questions using the reading on Dr. Engle's automobile.

1. In what year was this article written? _____

2. Where did Dr. Engle live? _____

3. What did Dr. Engle use for transportation before he purchased his automobile? _____

4. List and briefly describe at least four reasons why Dr. Engle found the automobile useful.

a. _____

b. _____

c. _____

d. _____

5. What problem with the automobile caused Dr. Engle the most concern?

6. How did he plan to solve this problem?

7. List other workers, besides doctors, who would have benefited from using an automobile.

Activity 14-2: THE AUTOMOBILE COMES TO IOWA

Skills. Collecting information from photographs

Materials. Study prints of early automobiles in text (motoring ladies, Oldsmobile in snow c. 1909, Ford Model T in mud, parade at Everly c. 1919), student copies of handout 14-2.

Procedure

1. Introduce the lesson by dividing the students into four small groups.
2. Assign to each group one of the four study prints. Have each group write a caption for the photograph and four observations about the use of the automobile based solely on the photograph.
3. After each group has completed its observations, take time for group reports.

THE AUTOMOBILE COMES TO IOWA

Directions. Using one of the study prints for this lesson, write a caption and list four observations about the automobile based on the photograph.

Caption: _____

Observations:

- a. _____

- b. _____

- c. _____

- d. _____

Activity 14-3: INVENTIONS AND THEIR IMPACT ON IOWA

Skills. Making inferences based on content information

Materials. Handout 14-3

Procedure.

1. Introduce the lesson by having students name several inventions that made life easier for Iowans in the early part of the 20th century. Such items as the automobile, telephone, electricity, radio, etc., will be identified.

2. Distribute copies of handout 14-3. Have students suggest both positive effects and risks associated with new inventions. Direct students to use the textbook material as a source of information for completing the chart.

3. Conclude the lesson by discussing current technological advancement and potential hazards for today; i.e., nuclear power has both positive and negative potential.

HANDOUT 14-3

INVENTIONS AND THEIR IMPACT ON IOWA

Invention	Positive Effects	Negative Effects
Automobile		
Telephone		
Electricity		
Gasoline tractor		
Airplane		
Television		
Phonograph		
Radio		

Activity 14-4: FIGURING TIME AND COST IN GRANDMA'S DAY

Skills. Reading road maps, using computational skills.

Materials. Student copies of handout 14-4, current road maps for pairs of students

Procedure

1. Introduce the lesson by discussing with students how automobile transportation has changed and continues to change. For example, the cost of fuel has risen considerably over the years as has the cost of owning and operating an automobile. In addition, speed limits have changed as have safety standards, etc.
2. Distribute copies of handout 14-3 and provide time for students to complete the computation.
3. Distribute current road maps. Have students perform the same computation using current data.
4. Conclude the lesson by comparing travel in 1937 with that of the present.

FIGURING TIME AND COST IN GRANDMA'S DAY

Directions. Use the 1937 map insets to figure time and expense when traveling between Marshalltown and Des Moines.

- Facts** Speed 35 miles per hour on pavement
 30 miles per hour on gravel
- Mileage 25 miles per gallon
- Cost 15 cents per gallon of gas

	Distance	Time	Cost
Marshalltown to Des Moines			
By way of Highways 30 and 65	_____	_____	_____
By way of Highways 14 and 6	_____	_____	_____
By way of Highways 88 and 30	_____	_____	_____

