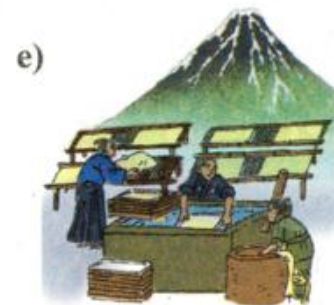
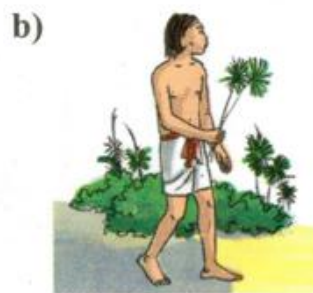


# UNIT 16

# INVENTIONS

## GETTING STARTED.

Match these stages in the development of paper with the correct pictures.



- A. Five thousand years ago, the Egyptians wrote on a plant called papyrus.
- B. A Chinese official made paper from wood pulp in the year 105.
- C. The Japanese learned how to make paper in the seventh century.
- D. In 768, Arabs learned about papermaking from Chinese prisoners.
- E. The first papermaking machine was invented in the late 1700s by a Frenchman.



## LISTEN AND READ.

### 1. Practice the dialogue with a partner.

*Tim Jones, Hoa's American pen pal, is visiting a chocolate factory with his class and his teacher, Mrs. Allen. Mr. Roberts, the factory foreman, is showing them around.*



**Mr. Roberts:** This is where the cacao beans are stored. Now follow me and I'll show you the first step in the manufacturing process.

**Tim:** Sam, what do you think this button is for?

**Sam:** I have no idea.

**Mrs. Allen:** Tim! Sam! Come here!

**Mr. Roberts:** Children, don't touch that button! Now, the beans are washed, weighed, and cooked here.

**Mrs. Allen:** Tim, come and stand beside me. I told you to behave!

**Mr. Roberts:** After the shells are removed, the beans are crushed and liquified. Cocoa butter is added, along with sugar, vanilla and milk. Then the mixture is ground, rolled and poured into molds.

**Tim:** It looks delicious.

**Sam:** Can we taste any?

**Mr. Roberts:** Yes, there's some beside the conveyor belt.

2. Match the half-sentences. Then write the full sentences in your exercise book.

- |                          |  |
|--------------------------|--|
| a) The beans are cleaned | A. the cacao beans smell like chocolate.       |
| b) Mr. Roberts thought   | B. one of the ingredients in chocolate.        |
| c) After cooking,        | C. Tim and Sam were going to touch the button. |
| d) Sugar is              | D. before being cooked.                        |

**SPEAK.**

1. Work with a partner. Student A looks at the table next page. Student B looks at the table at the end of this unit (page 156). Ask and answer questions to fill in the missing information in your tables.



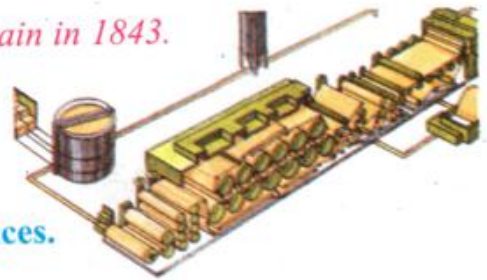
### STUDENT A

| Invention           | Date | Inventor            | Nationality |
|---------------------|------|---------------------|-------------|
|                     |      | Friedrich Koenig    | German      |
|                     | 1816 | Karl D. Sauerbronn  |             |
| Facsimile           |      |                     |             |
|                     | 1845 | Elias Howe          | American    |
| Reinforced concrete | 1849 |                     |             |
| Microphone          | 1878 |                     |             |
| X-ray               | 1895 |                     |             |
| Loudspeaker         | 1924 | C.W. Rice           | American    |
| Helicopter          |      | Igor Sikorsky       |             |
| Color television    | 1950 | Peter Carl Goldmark | American    |
|                     | 1955 | Narinder Kapany     | German      |
| Laser               | 1958 | Gordon Gould        | American    |

### 2. Now report your findings to the teacher.

*The facsimile was invented by Alexander Bain in 1843.*

### LISTEN.



### 1. Listen and fill in the gaps in these sentences.

- Papermaking is a (1)\_\_\_\_\_ process.
- The procedure is almost the (2)\_\_\_\_\_ as it was (3)\_\_\_\_\_ years ago.
- The pulp vat is on the (4)\_\_\_\_\_ of the machine.
- The papermaking machine has a lot of (5)\_\_\_\_\_.

### 2. Listen again. Put the sentences into the correct order.

- The water was drained.
- The paper was put on a roll.

- c) Paper pulp was placed in the vat.
- d) Paper pulp was mixed with water.
- e) The pulp fibers were poured out.
- f) The fibers were smoothed and pressed dry.
- g) The pulp was conveyed under the rollers.

**READ.**

*Read the following poem about inventions.*



***Up-to-Date***

1. Look what I bought today in town  
The very latest thing  
A microwave that says be-doom!  
A toaster that goes ping!
2. The vacuum goes chugga-chug!  
The hairdryer says vroom!  
The dishwasher pulls out its plug  
And gives the loudest boom!
3. The telephone is new as well  
The latest I have found  
It has a pretty colored bell  
And doesn't make a sound.

(adapted from a poem by Martin Lawrence)

**1. Match the headings to the verses.**

- Verse 1                    a. Instrument invented by Alexander Graham Bell  
Verse 2                    b. Appliances that cook food  
Verse 3                    c. Appliances that clean or dry things

**2. Fill in each of the gaps in the sentences with one "invention" in the poem.**

- a) "Joan, where's the (1) \_\_\_\_\_? I want to clean the floor."  
b) Last night I was reading in the bedroom when the (2) \_\_\_\_\_ rang. It was Ann, an old friend I didn't see for more than twelve years.  
c) A (3) \_\_\_\_\_ is a kitchen appliance that automatically washes, rinses, and dries dishes and utensils.  
d) "Jane, why don't you put the meat in the (4) \_\_\_\_\_ to defrost it?"  
e) "Can I borrow your (5) \_\_\_\_\_? I've just washed my hair."  
f) The Romans knew how to toast bread over an open fire two thousand years ago. We now toast bread with a (6) \_\_\_\_\_ on the table.

**WRITE.**

**1. Fill in each gap with one of these sequence markers to describe the procedure of papermaking.**

first            then (2)            next            after this            finally

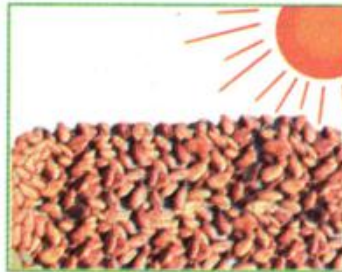
**How Paper Is Made**

(1) \_\_\_\_\_, logs are cut into small chips. (2) \_\_\_\_\_ they are mixed with water and acid. (3) \_\_\_\_\_ they are heated and crushed into a heavy pulp. This wood pulp is also cleaned and chemically whitened. (4) \_\_\_\_\_, it is passed through rollers to be flattened. (5) \_\_\_\_\_, sheets of wet paper are produced. (6) \_\_\_\_\_, the water is removed from the sheets which are pressed, dried and refined until the finished paper is produced.

2. Look at the sequence of pictures that describe how cacao beans are processed. Put them in the correct order.



(1)



(2)



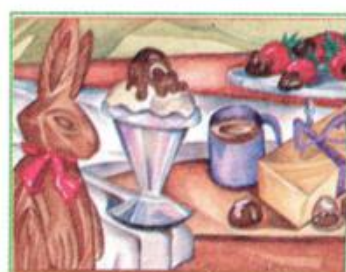
(3)



(4)



(5)



(6)

Now use the sequence markers in exercise 'write 1.' to link the sentences together in a paragraph.

- a) The beans are dried in the sun.
- b) They are shelled and ground to produce chocolate liquor.
- c) The beans are roasted to bring out the chocolate flavor.
- d) The fruit harvest is fermented for three to nine days to kill the beans and turn them brown.
- e) The beans are cleared in special machines.
- f) The liquor is made into chocolate candy or cocoa powder.

## Language Focus

- Passive forms
- Sequence markers

### 1. Change the sentences from the active into the passive.

*Example:*

Miss Lien wrote the letter.

=> The letter was written by Miss Lien.

- Mrs. Quyen typed the document.
- Mr. Nhan repaired the computer.
- Ba drew the picture.
- Hoa turned off the lights.
- Lan baked the cake.

### 2. Active or Passive? Use the correct form of the verbs in brackets to complete these sentences.

- The grand prize \_\_\_\_\_ to the Hoa Vinh Village team. (award)
- Viet Nam \_\_\_\_\_ two gold medals on the first day of the Games. (win)
- Last year Mrs. Jackson \_\_\_\_\_ a small business around the corner. (run)
- The factory \_\_\_\_\_ by Quang Vinh Ltd. before it \_\_\_\_\_ to a foreign firm. (run / sell)
- Thanh Ha School \_\_\_\_\_ for two days last week due to a flood. (close)

### 3. Put a question for each of the underlined phrases in the sentences below.

*Example:*

The facsimile was invented by Alexander Bain in 1843.

When was the facsimile invented?



- a) The zipper was invented by W.L. Judson in 1893.
- b) Maize was brought into Viet Nam by Phung Khac Khoan in the 16th century.
- c) The fountain pen was invented by Lewis Waterman in 1884.
- d) The ballpoint pen was invented in Hungary by brothers Lazlo and Georg Biro in 1935.
- e) Xerography is widely used in commerce and industry in copying machines.

4. Use the sequence markers *first, then, next, after this* and *finally* to describe how white rice is produced in the traditional way. The pictures and prompts will help you.



## STUDENT B

| Invention      | Date | Inventor            | Nationality |
|----------------|------|---------------------|-------------|
|                | 1924 | C.W. Rice           |             |
|                |      | Gordon Gould        |             |
|                |      | Peter Carl Goldmark |             |
| Bicycle        | 1816 |                     | German      |
| Facsimile      | 1843 | Alexander Bain      | English     |
| Helicopter     | 1939 |                     | American    |
| Microphone     |      | D.E. Hughes         | American    |
| Optical fiber  | 1955 |                     |             |
| Printing Press | 1810 | Friedrich Koenig    |             |
|                | 1849 | F. J. Monier        | French      |
| Sewing machine |      | Elias Howe          |             |
|                | 1895 | Wilhelm Konarad     | German      |