

# Inventions that Changed the World

Photocopiable

## Chapter 1

### While reading

1 Use the letters in the box to form words and complete the sentences. Then put the sentences in the correct order. Number them 1–7.

aaaa bb ccc dd eee g ii kk llll mmm nn  
oooooo p rrrr ssssss tttt w

- a ..... The first fully colored pictures were printed in Germany using three separate colored .....
- b ..... Block printing appeared in Europe and it was used to print playing ..... and a small number of books.
- c ..... Johann Fust printed in ..... for the first time.
- d ..... Frederick Koenig invented the ..... press.
- e ..... Bi Sheng cut single ..... onto separate blocks and put them together to make a page.
- f ..... Computerized ..... replaced traditional methods.
- g ..... Gutenberg started using different ..... and better paper for printing.
- h ..... Hot ..... printing meant that printing became faster than ever before.
- i ..... The Aldine Press produced smaller ..... for people to carry in their pockets.

## Chapter 2

2 Find out.

- a What numbers would replace  $a^2 \times b^2 = c^2$  in the triangle described in a Babylonian writing 1,000 years before Pythagoras went there. ....
- b How many years after Pythagoras was taken prisoner by the King of Persia Al-Khwarizmi was born. ....
- c The value of x in the following equation using Al-Kwarizmi's method of taking away the same amounts from each side of an equation:  $x^2 + 5x + 20 = 8x + 20$  .....

3 Write the names.

- a Somebody who probably was Euclid's teacher .....
- b A book written by Euclid .....
- c A unit of measure used by the Romans that was five feet .....
- d A word used in mathematics that comes from part of the Arabic title of one of Al-Khwarizmi's books .....

## Chapter 3

4 Number these navigation instruments in the order in which they were used. Write numbers 1–5.

- a  A piece of wood tied to the end of some string
- b  Two pieces of wood with numbers on the longer one
- c  A quarter circle, with a piece of string hanging down
- d  A circle with a map of the stars on it
- e  An instrument that enabled the user to look at the shadow rather than the sun

5 Use these clues to complete the chart. What is the word you formed used for in navigation? What is it equivalent to?

- a Last letter of Erastosthenes's nationality
- b Sixth letter of John Philoponos's city of birth
- c Third letter of the name of an Early map maker
- d Fifth letter of the name of the planet whose moons Galileo discovered

..... is used for .....  
It is equivalent to .....

## Chapter 4

6 What happened? Complete the sentences.

In 1126, Li Gang ordered the people of Kaifeng to 'fire cannon' at the Nuzhens, who were attacking them. 419 years later (a) .....  
Another 260 years later (b) .....  
After 31 more years (c) ....., and 43 years after that, (d) .....  
19 years later (e) ....., and after another 18 years (f) .....

# Inventions that Changed the World

Photocopiable

7 Replace the numbers for letters in the chart and find the sentence. Do you agree? Share your answer with another student.

3	8		3	12		9	D	3	I	10	F	10	F		
3	I	6	C	5	U	7	L	8	T		8	4	O		12
1	A	13				8	14	1	8		6		4		
7	8			15	B	1	6	4		16	N		18		
1	8	7	3	16		18	G		1	16		9			
	19	1	11	X	3	19	M		19	1	9				
2		1		6	4	16	8		17	R	3				
15	B	5	8	3	4	16		8	4						
8		14	H	2		14	3	12	8	4	17				
13	Y		4	10		19	1	16		20	K	3			
16	9														

## Chapter 5

8 Write the correct name.  
 (a) ..... and (b) ..... developed steam engines in which tubes had to be heated and cooled repeatedly. (c) ..... improved (d) .....’s engine and later worked with (e) ..... to improve it further.

9 Match the dates in the box with events a–e.

1	1825	1862	1885	1941
---	------	------	------	------

- a Stevenson’s high-pressure steam train travels at twenty-five kilometers an hour. ....
- b Whittle’s first jet airplane reaches 600 kilometers an hour at 7,500 meters. ....
- c The first gasoline engine is invented in France. ....
- d Hero invents the first steam engine. ....
- e In Germany, Daimler makes the first motorbike and Benz makes the first car – both with gasoline engines. ....

## Chapter 6

10 Change one word so that the sentences are correct. The correct word in one sentence is the wrong word in the sentence below. The correct word in d is the wrong word in a.

- a A zeppelin crossed the water between France and England in 1785.
- b The first airplane flight lasted 12 seconds.
- c The *Skylab* was the first airplane launched by the Space Program.

d The *Hindenburg*, a German station, was destroyed in New Jersey.

11 Use these clues to complete the chart. How is this word related to the crossing of the Atlantic?

- a First letter of da Vinci’s nationality.
- b First letter of the city where Firnas built a flying machine in 875.
- c Second letter of the name of the first man to step on the Moon.

## Chapter 7

12 Write clues for this puzzle. Across a is an example.

							e	F					
						a	C	H	A	P	P	E	
									N				
						b	H	O	R	S	E	f	S
							U			W		I	
						c	B	I	G		O		G
									H		R		N
									E			H	A
d	W	A	T	S	O	N						L	

### Across

a Claude ..... killed himself because his invention was not successful enough.

## Chapter 8

13 Write the number of the corresponding name.

1 UNIVAC	2 Intel 4004	3 Apple II
4 ENIAC	5 Z4	

- a .... First fully programmable computer
- b .... First all electronic computer
- c .... First computer for business use
- d .... First processor
- e .... First affordable personal computer

## Chapter 9

14 Choose one or more of the inventions from Chapter 9 for each sentence below.

- a They make driving safer and easier.
- b They are used in the fashion industry.
- c You find them in offices around the world.
- d They were invented by English inventors.
- e It is very popular in poorer countries.
- f They are used to build many types of machines.

# Inventions that Changed the World

Photocopiable

## 1 Complete the sentences. Use A and B to form compound words.

**A:** good- fully- 42- desk- water-

**B:** line powered colored quality top

- Guttenberg printed on .....-..... paper made from cloth.
- Guttenberg's Bible is known as the '.....-.....' because of the number of lines on a page.
- Le Blon used three separate blocks to produce .....-..... pictures.
- Leonardo da Vinci imagined a .....-..... press, which later was actually used.
- Today a printer is a .....-..... that produces excellent pages at high speed.

## 2 Write the correct name from the box.

Euclid Uzbekistan Alexandria  
Samos Al-Khwarizmi

- The 'father of algebra' .....
- The author of *Elements* .....
- The town where Pythagoras started a school of mathematics .....
- The town where Euclid was born .....
- The town where Al-Khwarizmi was born .....

## 3 Circle the correct answer.

- Sixteenth century sailors navigated using *two bits of wood / string and maps*.
- John Davis's invention used the sun's *distance / shadow*.
- The first simple compass was invented in *England / China*.
- When Columbus reached America, he thought it was *Asia / India*.
- Before 1770, sailors could not tell their distance to the *east / north*.

## 4 Order the letters in *italics* to form the missing words.

- The first bombs, which were shot from a bow, were true **(a)** ....., which were powered by **(b)** .....
- The first **(c)** ..... *noancn* in Europe were made in the same way as a wooden **(d)** ..... *lrbrae*, with long pieces of metal held together by round pieces.
- At the beginning of their development, **(e)** ..... *srlief* were mainly used for hunting.

## Chapter 5

### 5 Circle the correct word.

- Hero of Alexandria probably used his engine to *entertain people / lift water*.
- Newcomen's engine was *never used / used for several decades*.
- The first steamboat traveled on a *French / British* river.
- The first railroad to carry passengers ran in *USA / Britain*.
- The Second World War changed the British government's attitude to *propeller airplanes / jet airplanes*.

### 6 Write the century in which the following events occurred.

16th 17th 18th 19th 20th

- Wings were used for a short flight .....
- Wings for flying were described .....
- Steam powered airplanes were invented .....
- Balloons were used .....
- Zeppelins were used .....

### 7 Combine the particles and words in A and B to form words and complete the sentences.

**A:** im- un- kilo- -ment

**B:** meters employ personal like

- London is thirty-five ..... away from Slough.
- The first telegraph messages people could send had to be .....
- The invention of the telephone gave acceptable ..... to women.
- ..... other inventions, several people thought of television simultaneously.

### 8 Use the syllables in the box to form words and complete the sentences.

prove ter er flop to tran ti elec ic  
geth me sis py tron im ment tor cen

- In 1950 the **(a)** ....., was invented, and in 1958, Texas Instruments put a few **(b)** ..... on a board. Today, hundreds of thousands of **(c)** ..... parts are placed on a board one **(d)** ..... square.
- In 1971 the **(e)** ..... disk was invented by IBM. It was a great **(f)** ..... on the tapes that were had been used before.