

OUTLINES OF STUDY

(Common Branches)

ELEMENTARY COURSE

CHARLES · H · CLEMMER · M · A

THE HOME
CORRESPONDENCE SCHOOL



Class LC 6001

Book .H75

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ELEMENTARY COURSE *Syllabus*

Outlines of Study in



RITHMETIC, Grammar
Geography, & Physiology
U. S. History, & & Letter
Writing, & Composition
and Penmanship. & & &

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THE HOME CORRESPONDENCE
SCHOOL, *SPRINGFIELD, MASS*

N i n e t e e n H u n d r e d a n d 〇 n e

To the Student.

These syllabi consist of three parts: (*a*) outlines and helps in study, (*b*) practical suggestions, (*c*) critical and searching questions on the lessons. With the aid of (*a*) and (*b*) and of text-books, you will prepare lessons as guided by (*c*) and forward all work for correction and criticism. After examination, your papers will be returned with such corrections, criticisms, and helpful suggestions as may appear necessary.

While students are privileged to send lessons at their convenience, they are urged to work according to a definite study-program.

In preparing lessons, no particular text-books are required. Students are advised to secure the best, but they may use any that are obtainable. A list of text-books recommended accompanies each syllabus. These books can be purchased direct from the publishers or they will be mailed from our office upon receipt of the price.

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ARITHMETIC.

Text-books recommended for study :

Milne's Elements of Arithmetic,	\$0.35
Greenleaf's Brief Course in Arithmetic,40
Walsh's Intermediate Arithmetic,40
White's Elementary Arithmetic,55

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ARITHMETIC.

LESSON ONE.

Notation and Numeration.

The following symbols, called figures or digits, are used to represent the numbers of Arithmetic :—

0	1	2	3	4	5	6	7	8	9
zero	one	two	three	four	five	six	seven	eight	nine

The first figure 0 is called zero, naught, or cipher, and stands for the words *no number*. Each of the other figures stands for the number whose name is written below it.

When figures are written side by side, the one at the right expresses units, the next to the left tens, and the next hundreds. Thus, 70 is read seven tens, no units ; or, briefly, seventy. 76 is read seven tens, six units ; or, briefly, seventy-six. 489 is read four hundreds, eight tens, nine units ; or, briefly, four hundred eighty-nine.

The numbers between twenty and one hundred are read without the word *and* between the tens and units. Thus, 65 is read sixty-five ; not sixty *and* five.

In reading numbers expressed by three figures, the tens are read after the hundreds and units after tens, without the word *and*. Thus, 329 is read three hundred twenty-nine.

Write out the reading of the following numbers :—

256	169	666	527
540	489	992	654
308	723	309	901
656	805	410	800

To write hundreds, tens, and ones, we write first the hundreds, then the tens, and then the ones. Thus, six hundred nine is written 609.

Numbers expressed by four figures are read as thousands, hundreds, tens, and ones ; or as hundreds, tens, and ones. Thus, 1899 may be read one thousand eight hundred ninety-nine, or eighteen hundred ninety-nine.

The ones of a number are called units of the first order ; the tens, units of the second order ; the hundreds, units of the third order ; thousands, units of the fourth order. Figures in the fifth place are called ten thousands, or units of the fifth order. Figures in the sixth place are called hundred thousands, or units of the sixth order. Figures in the seventh, eighth, and ninth places are called millions, ten millions, hundred millions.

Periods. When the figures of a number are five or more, they are separated into groups of three figures each by commas, beginning at the right. The first is the group of ones or units, the second is the group of thousands, the third the group of millions, the fourth the group of billions.

Each complete group or period contains hundreds, tens, and ones of its group name. Thus, 656,000 instead of being read six hundred thousands, five ten thousands, six thousands, is more briefly read, six hundred fifty-six thousand. 846,370,510 is read eight hundred forty-six millions, three hundred seventy thousands, five hundred ten.

To write integral numbers in figures, begin at the left and write the figures of each period in their order (viz. : hundreds, tens, and units), writing ciphers in all vacant places and vacant periods and putting a comma between each period and the one that follows it. Every period except the one at the left must have three figures. Thus, 6,540 has two periods, but the one at the left has only one figure. Sometimes the left hand period has three figures, as in 650,410. If any order of units of a period is lacking, we put a cipher in its place, as in 506. If any entire period is lacking, we put ciphers in its place, as in 14,000,610.

EXERCISES.

Write in figures, arranged in periods, the following numbers :—

Eighteen thousand, five hundred ninety-seven.

Forty-seven thousand, nine hundred eighty.

Ninety-six thousand, nine hundred eight.

Two hundred six thousand, three hundred fifty-four.

Four hundred sixty thousand, two hundred fifty.

Five hundred thousand, five hundred forty.

Nine hundred thousand, nine hundred ninety.

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Ninety thousand, four hundred forty-four.
One hundred sixty-three thousand.
Two hundred twenty thousand, two hundred sixty-two.
Five hundred seventy-four thousand, three hundred thirty-five.
Seven hundred fifty-three thousand, seven hundred fifty.
Five thousand, four hundred eighty-nine.
Four hundred eighty thousand, eight.
One million, one hundred thirteen.
Three million, three thousand, thirty.
Nine hundred seven million, eight hundred five thousand, eighty-three.
Eight hundred nine thousand, eight hundred nine.
Five hundred thirty thousand, nine hundred ninety.
Nine million, nine thousand, nine hundred.
Twenty-three million, twenty-three thousand, twenty.
Four million, two hundred thirty thousand, fifty.

LESSON TWO.

Addition.

Principle. Only like numbers and units of the same order can be added.

Rule. Write the numbers so that the units of the same order will be in the same column. Add the right hand column and write the units of this sum beneath, adding the tens, if any, to the next column, and so proceed with each column. Write the entire sum of the last column.

Proof. Add each column in the reverse order.

EXERCISES.

1. Define *addition*; *sum*, or *amount*; *addends*.
2. Add 696, 378, and 504. Explain each step.
3. Is it possible to add twenty dollars, twenty-five cents, five dimes, and four nickels? Explain.
4. Can we add four apples and five pears? Explain.

Subtraction.

Principles. The minuend, subtrahend, and remainder must all be like numbers. Only units of the same order can be subtracted.

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Rule. Write the subtrahend under the minuend, units under units, tens under tens, etc. Begin at the right and subtract each figure of the subtrahend from the corresponding figure of the minuend and write the result beneath. If a figure in the subtrahend has a greater value than the corresponding figure in the minuend, increase the latter by 10 and subtract; then increase by 1 the units of the next higher order of the subtrahend and subtract.

Proof. Add the remainder and the subtrahend.

EXERCISES.

1. Define *subtraction*; *minuend*; *subtrahend*.
2. Subtract 67 from 201. Explain each step.
3. Explain how twenty-five cents can be subtracted from one dollar.

4. Add :	65,436	23,547	13,286	298,365
	78,069	16,938	27,682	312,473
	910,786	68,231	75,397	217,875
	2,548,647	61,847	40,885	111,290
	7,898	371,563	52,468	345,983
	25,095	213,374	30,209	276,313
	608,168	507,800	15,473	198,891
	<hr style="width: 100px; margin-left: 0;"/>	695,527	2,648	347,789
		729,568	15,506	389,453
		398,543	42,903	126,287
		672,733	63,280	168,500
		891,198	11,349	212,889
		567,675	46,268	345,983
		743,987	13,079	517,679
		<hr style="width: 100px; margin-left: 0;"/>	25,505	737,825
			16,387	355,458
			812,385	445,544
			756,864	218,835
			576,486	657,468
			628,588	779,877
			<hr style="width: 100px; margin-left: 0;"/>	<hr style="width: 100px; margin-left: 0;"/>
				898,999

5. How many are : —
- $$\begin{aligned} & \$16.43 + \$24.77 + \$75.35 + \$9.10? \\ & \$78.05 + \$72.09 + \$8.11 + \$9.83? \\ & \$342.00 + \$164.00 + \$4.95 + \$0.74? \\ & \$415.00 + \$88.24 + \$13.08 + \$16.08? \end{aligned}$$
6. Add : Twenty million, twenty thousand, twenty ; seventeen million, two hundred nine thousand, three hundred ninety ; thirty-seven million, two hundred sixty-three thousand, eight hundred eighty-eight ; ninety-seven million, seventy-nine thousand, five hundred sixty.
7. Add : Five million, two hundred thousand, eight hundred six ; three hundred seventy thousand, six hundred forty ; twenty million, twenty thousand, twenty ; eighty-seven million, eighty-seven thousand, eighty-seven.
8. What is the value of $86,450 - 27,561$? Of $70,562 - 41,683$?
9. If the minuend is 60,540 and the remainder 11,246, what is the subtrahend ?
10. If the subtrahend is 26,547 and the remainder 10,685, what is the minuend ?

LESSON THREE.

Multiplication.

Principles. The multiplier must be regarded as an abstract number. It always signifies a number of times.

The multiplicand and product must be like numbers.

Either factor may be used as multiplier or multiplicand, when both are abstract.

Rule. Write the multiplier under the multiplicand, units under units, tens under tens, etc. Begin at the right and multiply each figure of the multiplicand by each figure of the multiplier successively, placing the right hand figure of each partial product under the figure of the multiplier used to obtain it, and add the partial products.

Proof. Multiply the multiplier by the multiplicand.

EXERCISES.

1. Define *multiplicand* ; *multiplier* ; *product*.
2. What is an abstract number ?
3. Multiply 256 by 25. Explain each step.
4. Multiply 3040 by 206. Explain each step.

Division.

Principles. The product of the divisor and the quotient, plus the remainder, is equal to the dividend.

When the divisor and the dividend denote the same kind of units, the quotient is an abstract number.

When the divisor is an abstract number, the quotient and the dividend denote the same kind of units.

Explanation : To divide 24 dimes by 4 dimes is to find the number of times we must take 4 dimes to obtain 24 dimes. To divide 24 dimes by 4 is to find the number of dimes in each group.

Illustration of the rule for division : —

$$\begin{array}{r}
 28)8573(306\frac{5}{8} \\
 \underline{84} \\
 173 \\
 \underline{168} \\
 5
 \end{array}$$

Divide 8573 by 28. 28 is not contained in 8 thousands any thousands times ; hence the thousands are united with the hundreds, making 85 hundreds. 28 is contained in 85 hundreds 3 hundreds times, with a remainder of 1. Write the 3 hundreds in the quotient and multiply the divisor by them. Write

the product of 84 hundreds, or 8 thousands 4 hundreds, under units of the same order in the dividend. Subtract, and a remainder of 1 hundred is found. The 1 hundred is united with the 7 tens, making 17 tens. As 28 is not contained in 17 tens any tens times, there are no tens in the quotient and a cipher is written in tens' place. The 17 tens are united with the 3 units, making 173 units. 28 is contained in 173 units 6 times with a remainder of 5. The 6 is written in units' place in the quotient, and the divisor multiplied by it, giving a product of 168 units or 1 hundred, 6 tens, and 8 units, which we write under units of the same order in the partial dividend. Subtracting, we have a remainder of 5, which is written over the divisor as a part of the quotient.

ARITHMETIC.

Proof. Multiply the quotient by the divisor and to the product add the remainder, if any. The following illustrates why ciphers are omitted in some of the steps in long division. Omitting them saves time and does not affect the result.

$$\begin{array}{r}
 76)118864 \left(\begin{array}{l} 1000 \\ 76000 \\ \hline 42864 \\ 38000 \\ \hline 4864 \\ 4560 \\ \hline 304 \\ 304 \\ \hline \end{array} \right. \\
 \hline
 \end{array}
 \begin{array}{l}
 500 \\
 60 \\
 4 \\
 \hline
 1564 = \text{Answer}
 \end{array}$$

EXERCISES.

1. Divide 6239076 by 36.
2. Divide $857 \times 156 \times 24$ by 214.
3. Divide \$945.65 by 850.
4. A cargo of 52 tons of coal was bought by the long ton of 2240 pounds, and sold by the short ton of 2000 pounds. How many short tons was the gain?
5. A farmer bought 216 acres of land at \$36 an acre, and 84 acres at \$20.40 an acre. What was the average cost per acre?

LESSON FOUR.

To multiply by 10, 100, 1000, etc., annex as many ciphers to the multiplicand as there are ciphers in the multiplier.

To divide by 10, 100, 1000, etc., cut off from the right of the dividend as many figures as there are ciphers upon the right of the divisor.

To multiply by 25 ($\frac{1}{4}$ of 100), multiply by 100 and divide the product by 4. To divide by 25 ($\frac{1}{4}$ of 100), multiply by 4 and divide the product by 100.

To multiply by 50 ($\frac{1}{2}$ of 100), multiply by 100 and divide the product by 2. To divide by 50 ($\frac{1}{2}$ of 100), multiply by 2 and divide the product by 100.

To multiply by $33\frac{1}{3}$ ($\frac{1}{3}$ of 100), multiply by 100 and divide the product by 3. To divide by $33\frac{1}{3}$ ($\frac{1}{3}$ of 100), multiply by 3 and divide the product by 100.

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To multiply by $3\frac{1}{3}$ ($\frac{1}{3}$ of 10), multiply by 10 and divide the product by 3. To divide by $3\frac{1}{3}$, multiply by 3 and divide the product by 10.

To multiply by $333\frac{1}{3}$ ($\frac{1}{3}$ of 1000), multiply by 1000 and divide by 3. To divide by $333\frac{1}{3}$, multiply by 3 and divide the product by 1000.

To multiply by $16\frac{2}{3}$ ($\frac{2}{3}$ of 100), multiply by 100 and divide the product by 6. To divide by $16\frac{2}{3}$, multiply by 6 and divide the product by 100.

To multiply by $166\frac{2}{3}$ ($\frac{2}{3}$ of 1000), multiply by 1000 and divide by 6. To divide by $166\frac{2}{3}$, multiply by 6 and divide the product by 1000.

To multiply by $66\frac{2}{3}$ ($\frac{2}{3}$ of 100), multiply by 100 and subtract from the product $\frac{1}{3}$ of it. To divide by $66\frac{2}{3}$, divide by 100 and add to the quotient $\frac{1}{3}$ of itself.

To multiply by $12\frac{1}{2}$ ($\frac{1}{2}$ of 100), multiply by 100 and divide the product by 8. To divide by $12\frac{1}{2}$, multiply by 8 and divide the product by 100.

To multiply by $14\frac{2}{7}$ ($\frac{2}{7}$ of 100), multiply by 100 and divide the product by 7. To divide by $14\frac{2}{7}$, multiply by 7 and divide the product by 100.

EXERCISES.

1. Multiply 614 by 1000.

Multiply 39,270 by 70.

Multiply 547,809 by 9000.

Multiply \$77,895 by 300.

2. Divide 368,500 by 100.

Divide 9,108 by 200.

3. If light moves at the rate of 186,000 miles in a second, how long is it in passing from the sun to the earth, a distance of 92,000,000 miles?

The signs of aggregation are the parenthesis (), the brace { }, the bracket [], or the vinculum $\overline{\quad}$.

The expressions included by these signs are to be treated as a single number. Thus, $(6 + 8) \times 2$, or $\overline{6 + 8} \times 2$ means that the sum of 6 and 8 is to be multiplied by 2.

The terms of an expression are the parts connected by the signs + or —. Thus, the expression $6 - 3$ contains two terms. $(6 - 3) \times 5 + (6 + 2) \times 3$ also contains but two terms, for the numbers in the parentheses are each treated as a single number.

ARITHMETIC.

- a. $6 + (15 \div 3) = 6 + 5$, or 11.
 b. $(6 + 18) \div 3 = 24 \div 3$, or 8.
 c. $3 + (4 \times 12) - 3 = 3 + 48 - 3$, or 48.
 d. $(3 + 4) \times 12 - 3 = 84 - 3$, or 81.
 e. $(3 + 4) \times (12 - 3) = 7 \times 9$, or 63.

If numbers are included in parentheses, the first step is to simplify the expressions within the parentheses by performing the operations indicated. In reducing expressions containing the signs $+$, $-$, \times , and \div , perform first the operations indicated by the signs \times and \div , and then those indicated by $+$ and $-$. Thus, $2 + 12 \div 4 - (7 - 8 \div 4) \div 3 = 2 + 3 - 9 \div 3$, or 2.

EXERCISES.

1. Find the value of: $(4 + 5) \times (7 - 5)$.
2. Find the value of: $(8 + 16) \div (9 - 5)$.
3. Find the value of: $(2 + 4) \times 6 - (6 + 15) \div 3 - 8$.
4. $3(9 - 6 + 5) - 2(8 - 5 + 7)$.
5. $(54 - 16) \times 11 - 4 - 15 \times 20$.

LESSON FIVE.

Factoring.

The *factors* of a number are the integers which produce the number when multiplied together. Thus, 6 and 4 are factors of 24; 2, 3, 2, and 2 are also factors of 24.

A *prime number* is one that has no factors except itself and 1. Thus, 1, 3, 5, 7, 11, 13, 17, are prime numbers.

A *composite number* has other factors than itself and unity. 8, 10, and 12 are composite numbers.

A *prime factor* is a factor that is a prime number. 3 and 5 are prime factors of 15.

Illustration of the rule for finding the prime factors of a number: Find the prime factors of 30.

$$\begin{array}{r} 2 \overline{)30} \\ 3 \overline{)15} \\ \hline 5 \end{array} \text{ Answer, 2, 3, and 5.}$$

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EXERCISES.

1. Find the prime factors of 220.
2. What is the largest prime factor of 1000?
3. What prime factors multiplied together produce 1728?
4. Give *all* the factors of 210.

Cancellation.

Cancellation is the process of shortening computations by striking out the same factors from both dividend and divisor.

Principles.

- a. Striking out a factor of a number divides the number by the factor.
- b. Striking out the same factors from both dividend and divisor does not alter the quotient.

Illustrations of the rule for cancellation : Divide $6 \times 9 \times 12 \times 15$ by $3 \times 3 \times 4 \times 5 \times 7$.

$$\frac{\overset{2}{\cancel{6}} \times \overset{3}{\cancel{9}} \times \overset{3}{\cancel{12}} \times \overset{3}{\cancel{15}}}{\cancel{3} \times \cancel{3} \times \cancel{4} \times \cancel{5} \times 7} = \frac{54}{7} = 7\frac{4}{7}$$

Divide $561 \times 105 \times 11 \times 5$ by $35 \times 33 \times 17 \times 15 \times 11$.

$$\frac{\overset{11}{\cancel{561}} \times \overset{5}{\cancel{105}} \times \overset{11}{\cancel{11}} \times 5}{\cancel{35} \times \cancel{33} \times \cancel{17} \times \overset{5}{\cancel{15}} \times \cancel{11}} = 1$$

EXERCISES.

Work out by cancellation :—

1. What is the quotient of $24 \times 21 \times 14$ divided by $27 \times 8 \times 7$?
2. Multiply 72 by 80 and divide the product by 144.
3. How many yards of cloth at \$6 a yard must be given for 7 cows at \$36 each?
4. How many bushels of wheat worth 60 cents a bushel must be given in exchange for 6 pieces of cloth, each containing 40 yards, at \$2 a yard?
5. How many boxes of tea, each containing 24 pounds worth 42 cents a pound, must be given for 2 loads of wheat, each containing 48 bushels worth 63 cents a bushel?

6. Divide $\frac{75 \times 150 \times 300 \times 600}{5 \times 10 \times 20 \times 30}$
7. $(27 \times 3 \times 7 \times 13) \div (9 \times 21 \times 26) = ?$
8. $(2 \times 30 \times 45 \times 75 \times 18) \div (3 \times 15 \times 30 \times 60 \times 36) = ?$

LESSON SIX.

Divisors and Multiples.

Principle. The greatest common divisor of two or more numbers is the product of all their common prime factors.

Illustration, first method. What is the greatest common divisor of 36, 81, and 135? Finding the prime factors as shown in Lesson 5, we have :—

$$\begin{aligned} 36 &= 2 \times 2 \times 3 \times 3 \\ 81 &= 3 \times 3 \times 3 \times 3 \\ 135 &= 3 \times 3 \times 3 \times 5 \end{aligned}$$

The prime factors common to the three numbers are 3 and 3. The product of these, 3×3 , or 9, is the greatest common divisor.

Illustration, second method. Find the greatest common divisor of 336 and 480.

$$\begin{array}{r} 336)480 \text{ (1)} \\ \underline{336} \\ 144)336 \text{ (2)} \\ \underline{288} \\ 48)144 \text{ (3)} \end{array}$$

144 48 is the greatest common divisor.

EXERCISES.

1. Define divisor, common divisor, greatest common divisor.
2. When should the first of the above methods be used in finding the greatest common divisor?
3. When should the second method be used?
4. Find the greatest common divisor of 60, 72, and 84.
5. Find the greatest common divisor of 48, 60, and 144.
6. Find the greatest common divisor of 323 and 425.
7. Find the greatest common divisor of 925 and 1475.
8. Find the greatest common divisor of 1220 and 2013.

9. Find the greatest common divisor of 875, 448, and 567.
10. Find the greatest common divisor of 1152, 1728, and 3375.

Principle. The least common multiple of two or more numbers is the product of all the prime factors of each of these numbers, each prime factor being taken the greatest number of times it occurs as a factor in any one of them. Thus, separating 30 and 48 into their prime factors, we have :—

$$30 = 2 \times 3 \times 5$$

$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

The least common multiple is found by taking 2 four times, 3 once, and 5 once. $2 \times 2 \times 2 \times 2 \times 3 \times 5 = 240$, which is the least common multiple.

EXERCISES.

1. Define multiple, common multiple, least common multiple.
2. Write all the multiples of 2 up to 48 ; all of 5 up to 50.
3. Make a list of all the multiples of 2 less than 50, which are exactly divisible by 5 ; all the multiples of 5 which are exactly divisible by 2.
4. Why is 2×3 the least common multiple of 2 and 3, while 6×8 is not the least common multiple of 6 and 8 ?
5. Find the least common multiple of 8, 18, 24.
6. Find the least common multiple of 12, 18, 30, 45.
7. Find the least common multiple of 5, 8, 9, 6, 12.
8. What is the least number of apples that can be divided equally among 21, 24, or 36 boys ?

LESSON SEVEN.

Reduction of Fractions.

$\frac{2}{3}$ represents 2 of three equal parts of a thing. It also represents the one third of 2, or 2 divided by 3. It is read two thirds. This is more easily understood by considering such expressions as $\frac{1}{6}^2$, $\frac{1}{9}^3$.

An integer may be expressed in a fractional form by writing 1 under it for a denominator. Thus, 3 may be written $\frac{3}{1}$, and read three ones.

The value of a fraction is the quotient of the numerator divided by the denominator.

Principle. Multiplying or dividing both terms of a fraction by the same number does not alter its value. Thus, $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$, $\frac{12}{6} = \frac{12 \times 2}{6 \times 2} =$

$$\frac{24}{12}, \frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}.$$

Reduction of fractions is changing their form without altering their value, as in the illustrations given above.

Reduction of fractions to higher terms.

Change $\frac{3}{4}$ to 12ths. To make the denominator 12, we must multiply 4 by 3. Multiplying both terms by 3, we have $\frac{3 \times 3}{4 \times 3} = \frac{9}{12}$.

Or, since there are 12 twelfths in 1, in $\frac{1}{4}$ there are $\frac{1}{4}$ of $\frac{12}{12}$ or $\frac{3}{12}$; and in $\frac{3}{4}$ there are 3 times $\frac{3}{12}$ or $\frac{9}{12}$.

EXERCISES.

1. Define and illustrate fractions ; proper fractions ; improper fractions ; common fractions.
2. What is a mixed number? Illustrate.
3. Change $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, $\frac{2}{3}$, $\frac{3}{4}$, and $\frac{5}{6}$ to 12ths.
4. Change $\frac{1}{3}$, $\frac{1}{5}$, $\frac{2}{3}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{3}{5}$, to 15ths.
5. Change $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{7}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{2}{7}$, $\frac{1}{4}$, $\frac{3}{7}$, $\frac{2}{4}$ to 28ths.

Reduction of fractions to their lowest terms.

Reduce $\frac{24}{36}$ to lowest terms. $\frac{24}{36} = \frac{24 \div 12}{36 \div 12} = \frac{2}{3}$

$$\text{Or, } \frac{24}{36} = \frac{\cancel{2} \times \cancel{2} \times 2 \times \cancel{3}}{\cancel{2} \times \cancel{2} \times 3 \times \cancel{3}} = \frac{2}{3}$$

Rule. Strike out all the factors common to both numerator and denominator. When the common factors are not readily seen, divide both terms by the greatest common divisor.

Reduce $\frac{5567}{6739}$ to lowest terms. The greatest common divisor of 5567

and 6739 is 293. $\frac{5567 \div 293}{6739 \div 293} = \frac{19}{23}$. In this example the common

factor cannot be found by inspection.

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EXERCISES.

1. Change to lowest terms $\frac{2}{4}, \frac{4}{6}, \frac{5}{10}, \frac{8}{12}, \frac{9}{12}, \frac{10}{15}$.
2. Change to lowest terms $\frac{3}{9}, \frac{6}{10}, \frac{12}{14}, \frac{18}{22}, \frac{25}{30}, \frac{28}{32}$.
3. Change to lowest terms $\frac{8}{18}, \frac{2}{4}, \frac{4}{8}, \frac{16}{22}, \frac{30}{42}, \frac{5}{6}$.
4. Change to lowest terms $\frac{240}{312}, \frac{126}{198}, \frac{125}{375}, \frac{300}{576}$.
5. Change to lowest terms $\frac{315}{378}, \frac{450}{675}, \frac{420}{660}, \frac{360}{480}$.
6. Change to lowest terms $\frac{4879}{6601}, \frac{625}{5625}$.

LESSON EIGHT.

Reduction of Fractions (concluded).

Reduction of integers and mixed numbers to improper fractions.

Reduce $14\frac{3}{7}$ to an improper fraction. Since in 1 there are 7 sevenths, in 14 there are 14 times 7 sevenths, or 98 sevenths; and in $14 + \frac{3}{7}$ there are $98 + 3$, or $\frac{101}{7}$.

EXERCISES.

Reduce the following to improper fractions:—

1. $29\frac{7}{8}, 33\frac{1}{11}$.
2. $406\frac{5}{8}, 3865\frac{3}{11}$.
3. Reduce 116 to a fraction whose denominator is 17.
4. Reduce 150 to 31sts.
5. To how many boys can a man give $\frac{1}{25}$ of a dollar each, if he has $\$105\frac{6}{5}$?

Reduction of improper fractions to integers or mixed numbers.

Reduce $\frac{64}{9}$ to a mixed number. Since in 1 there are 9 ninths, in $\frac{64}{9}$ there are as many ones as there are 9's in 64, or $7\frac{1}{9}$.

EXERCISES.

Reduce to integers or mixed numbers:—

1. $\frac{68}{15}, \frac{78}{19}$.
2. $\frac{105}{35}, \frac{210}{21}$.
3. $\frac{1634}{824}, \frac{5640}{93}$.
4. $\frac{48605}{525}, \frac{80640}{1000}$.
5. $\frac{8060}{105}, \frac{38960}{210}$.

Similar fractions have the same denominator ; as, $\frac{3}{7}$, $\frac{4}{7}$.

Dissimilar fractions do not have the same denominator ; as, $\frac{2}{3}$, $\frac{5}{8}$, $\frac{7}{8}$.

Reduction of dissimilar fractions to similar fractions.

Reduce $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$ to similar fractions. This is done by changing the fractions to other fractions which will have for their denominator a multiple of 2, 3, and 4. 12 is a multiple of these numbers. Reducing the fractions to equivalent fractions having the common denominator 12, we have $\frac{1}{2} = \frac{6}{12}$; $\frac{2}{3} = \frac{8}{12}$; $\frac{3}{4} = \frac{9}{12}$.

To reduce dissimilar fractions to similar fractions having their least common denominator, the common denominator used must be the least common multiple of the denominators. Thus, $\frac{2}{3}$ and $\frac{4}{5}$ may be reduced to $\frac{4}{15}$ and $\frac{16}{15}$, which are similar fractions having their least common denominator ; or they may be reduced to $\frac{8}{30}$ and $\frac{32}{30}$, which are similar fractions having a common denominator, but not the *least* common denominator.

EXERCISES.

1. Reduce to similar fractions : $\frac{7}{16}$, $\frac{5}{8}$, $\frac{11}{32}$, $\frac{5}{64}$.
2. Reduce to similar fractions : $\frac{4}{9}$, $\frac{5}{27}$, $\frac{8}{81}$, $\frac{7}{54}$.
3. Change to similar fractions having their least common denominator : $\frac{3}{11}$, $\frac{2}{14}$, $\frac{1}{8}$, $\frac{7}{90}$.
4. $\frac{2}{5}$, $6\frac{1}{4}$, $\frac{1}{31}$, $\frac{2}{11}$.

LESSON NINE.

Addition of Fractions.

Principle. Only similar fractions can be added.

Illustrations of the rule for addition of fractions :—

What is the sum of $\frac{5}{6}$, $\frac{7}{8}$, and $\frac{7}{12}$? Since the fractions are dissimilar, they must be changed to similar fractions before they can be added. The least common multiple of the denominators is 24, which must be the least common denominator of the fractions.

$$\frac{5}{6} = \frac{20}{24} \quad \frac{7}{8} = \frac{21}{24} \quad \frac{7}{12} = \frac{14}{24} \quad \frac{20}{24} + \frac{21}{24} + \frac{14}{24} = \frac{55}{24} = 2 \frac{7}{24}$$

What is the sum of $3\frac{1}{3}$, $4\frac{2}{3}$, $5\frac{5}{6}$? Adding the fractions by the

method described above, we have $\frac{4}{30}$ or $1\frac{7}{30}$. The sum of the integers is 12, and the sum of both is $13\frac{7}{30}$.

EXERCISES.

Find the sums of the following :—

1. $\frac{4}{7}, \frac{5}{6}, \frac{3}{42}, \frac{5}{21}$.
2. $\frac{3}{25}, \frac{47}{30}, 21\frac{69}{60}$.
3. $\frac{2}{3}, \frac{7}{13}, \frac{5}{65}, \frac{1}{10}, 31\frac{29}{30}$.
4. What is the value of $\frac{2}{7} + \frac{23}{36} + 1\frac{8}{7} + \frac{9}{7}$?
5. What is the sum of 1256 bushels, $54\frac{2}{3}$ bushels, and $65\frac{7}{11}$ bushels?
6. Six men weigh, respectively, $122\frac{1}{4}$, $133\frac{1}{3}$, $140\frac{7}{8}$, $150\frac{2}{3}$ and $200\frac{7}{16}$ pounds. What is their combined weight?
7. A merchant sold $3\frac{2}{3}$ yards of cloth for $\$16\frac{2}{3}$, $7\frac{1}{3}$ yards for $\$24\frac{1}{8}$, $8\frac{3}{8}$ yards for $\$40\frac{2}{3}$, and $9\frac{1}{4}$ yards for $\$35\frac{2}{3}$. How many yards did he sell and how much money did he receive?
8. A has $25\frac{1}{2}$ acres of land. B has $17\frac{2}{3}$ acres more than A. C has as much as A and B together. How many acres have B and C, and how many have they all together?

Subtraction of Fractions.

Principle. Only similar fractions can be subtracted.

Illustrations of the rule for the subtraction of fractions :—

From $\frac{9}{13}$ subtract $\frac{2}{3}$. Since the fractions are dissimilar, they must be changed to similar fractions before they can be subtracted. The least common multiple of the denominators is 39. $\frac{9}{13} = \frac{27}{39}$; $\frac{2}{3} = \frac{26}{39}$; $\frac{27}{39} - \frac{26}{39} = \frac{1}{39}$.

From $5\frac{1}{5}$ subtract $2\frac{4}{5}$. Changing to similar fractions, we have $5\frac{1}{5} = 5\frac{7}{5}$; $2\frac{4}{5} = 2\frac{20}{5}$. Since we cannot take $\frac{20}{5}$ from $\frac{7}{5}$, we add $\frac{30}{5}$ to $\frac{7}{5}$, making $\frac{37}{5}$, and 1 to 2 units, making 3 units. $\frac{30}{5}$ from $\frac{37}{5}$ leaves $\frac{7}{5}$. 3 units from 5 units leave 2 units. Answer, $2\frac{7}{5}$.

EXERCISES.

Find the value of :—

1. $\frac{4}{5} - \frac{7}{10}$; $\frac{7}{8} - \frac{5}{6}$; $1\frac{7}{5} - \frac{4}{5}$.

ARITHMETIC.

2. $\frac{7}{9} - \frac{3}{4}$; $\frac{5}{8} - \frac{2}{7}$; $\frac{1}{3} - \frac{7}{8}$.
3. $6\frac{2}{3} - 4\frac{2}{3}$; $5\frac{1}{2} - 3\frac{1}{3}$.
4. $64\frac{5}{8} - 28\frac{1}{8}$; $680\frac{3}{4} - 250\frac{2}{3}$.
5. A boy gave 20 cents for a slate, $35\frac{1}{2}$ cents for paper, and $6\frac{1}{2}$ cents for envelopes. How much change should he receive if he gave in payment one dollar bill?

LESSON TEN.

Multiplication of Fractions.

The word *of* between fractions is equivalent to the sign of multiplication. Such expressions are sometimes called *compound fractions*. Thus, $\frac{2}{3}$ of $\frac{3}{4} = \frac{2}{3} \times \frac{3}{4}$.

Illustrations of the rule :—

Multiply $\frac{7}{9}$ by $\frac{2}{7}$. $\frac{7}{9} \times \frac{2}{7} = \frac{2}{9}$.

Multiply $3\frac{2}{3}$ by $\frac{1}{5}$. $3\frac{2}{3} \times \frac{1}{5} = \frac{5}{3} = 1\frac{2}{3}$.

Multiply $5\frac{1}{2}$ by $2\frac{1}{3}$. $5\frac{1}{2} \times 2\frac{1}{3} = \frac{77}{6} = 12\frac{5}{6}$.

Multiply $\frac{2}{7}$ by 3. $\frac{2}{7} \times 3 = \frac{6}{7}$.

Rule. Reduce all integers and mixed numbers to improper fractions. Multiply the numerators for a new numerator, and the denominators for a new denominator, canceling when possible. Integers may be expressed in the form of fractions by writing 1 as the denominator. Thus, 5 may be written as $\frac{5}{1}$.

EXERCISES.

Find the value of :—

1. $\frac{1}{3} \times \frac{1}{5} \times \frac{1}{7}$.
2. $\frac{1}{2} \times \frac{2}{3}$, $\times \frac{1}{5} \times \frac{2}{3}$.
3. Multiply $33\frac{7}{9}$ by 62.
4. Multiply 83 by $9\frac{2}{3}$.
5. Find the value of $45 \times 3\frac{5}{9} \times 6\frac{1}{3}$.
6. At $\$1\frac{1}{2}$ each, what will 60 books cost?
7. What will 24 hats cost at $\$3\frac{2}{3}$ apiece?
8. A paid $\$20\frac{3}{4}$ for a wagon and sold it for $\frac{2}{3}$ of what it cost him. How much did he lose?

Division of Fractions.

$$6 \div 2 = 3; \frac{6}{5} \div \frac{2}{5} = 3; \frac{9}{7} \div \frac{3}{7} = 3.$$

Divide $\frac{2}{3}$ by $\frac{1}{6}$; $\frac{3}{5} \div \frac{1}{6} = \frac{18}{30} \div \frac{5}{30}$ (reducing to similar fractions). $\frac{18}{30} \div \frac{5}{30} = \frac{18}{5}$ or $3\frac{3}{5}$.

All fractions can be divided in this way; that is, by first changing (where necessary) to similar fractions and then taking the quotient of the numerator; but a shorter method is to invert the divisor and proceed as in multiplication. This last is known as the *common method*. It gives the same result, as may be seen from the following:—

Divide $\frac{3}{4}$ by $\frac{7}{9}$. First method, $\frac{3}{4} \div \frac{7}{9} = \frac{27}{36} \div \frac{28}{36} = \frac{27}{28}$.

Common method, $\frac{3}{4} \div \frac{7}{9} = \frac{3}{4} \times \frac{9}{7} = \frac{27}{28}$.

Integers and mixed numbers must be reduced to improper fractions before dividing. Thus, $5\frac{1}{2} \div 3$. $\frac{11}{2} \div \frac{3}{1} = \frac{11}{2} \times \frac{1}{3} = \frac{11}{6}$ or $1\frac{5}{6}$.

EXERCISES.

1. Divide $\frac{7}{16}$ by $\frac{7}{4}$; $\frac{8}{9}$ by $\frac{8}{3}$.
2. Divide $15\frac{1}{11}$ by $\frac{1}{33}$; $18\frac{3}{7}$ by $\frac{7}{54}$.
3. Divide 119 by $13\frac{2}{9}$; 43 by $1\frac{2}{3}$.
4. Divide $12\frac{2}{3}$ by $7\frac{8}{9}$; $53\frac{4}{5}$ by $2\frac{5}{7}$.

Complex Fractions.

The numerator or the denominator, or both, may contain fractions. Such an expression is called a complex fraction.

Thus, $\frac{\frac{2}{5}}{\frac{3}{4}}$ means $\frac{2}{5} \div \frac{3}{4}$; $\frac{\frac{7}{8} \times \frac{5}{6}}{\frac{3}{4} \div \frac{1}{7}}$ means that the product of $\frac{7}{8}$ and $\frac{5}{6}$ is to be divided by the quotient of $\frac{3}{4} \div \frac{1}{7}$.

EXERCISES.

Simplify:—

$$1. \frac{1\frac{3}{7}}{\frac{7}{9}}, \frac{1\frac{8}{23}}{\frac{2}{3}}$$

$$2. \frac{6}{\frac{2}{5}}, \frac{\frac{7}{8}}{5}, \frac{1}{1\frac{2}{3} \text{ of } 5}$$

$$3. \frac{2\frac{5}{9}}{1\frac{5}{8}} \times \frac{8}{9}, \frac{5\frac{1}{3}}{6\frac{1}{4}} \div \frac{15}{12}$$

$$4. \quad \frac{3\frac{3}{4} \div 6\frac{1}{8}}{4\frac{1}{5} \times 7\frac{1}{8}} \times \frac{\frac{3}{5}}{\frac{1}{2}}$$

$$5. \quad \frac{2\frac{1}{4} - \frac{7}{8} \times \frac{8}{9} - \frac{5}{7}}{3\frac{1}{3} \times 2\frac{4}{5} \div 1\frac{1}{6}}$$

LESSON ELEVEN.

Decimal Fractions.

A *decimal fraction* is a fraction whose unit is divided into tenths, hundredths, thousandths, etc. $\frac{2^5}{10^5}$ and $\frac{361}{1000}$ are decimal fractions.

A *decimal* is a decimal fraction expressed without its denominator by means of the decimal point. Thus, 0.7 and 0.154 are decimals.

A *mixed decimal* is an integer and a decimal. 18.05 and 50.463 are mixed decimals.

Decimals have the same law of increase and decrease as integers and the denominator may be indicated by the position of the figures.

The figure at the *right of units* expresses tenths; that at the right of tenths expresses hundredths; that at the right of hundredths expresses thousandths, etc. Thus .5 represents $\frac{5}{10}$, .03 represents $\frac{3}{100}$, .125 represents $\frac{125}{1000}$, .0652 represents $\frac{652}{10000}$, .010564 represents $\frac{10564}{100000}$.

The denominator of a decimal, when expressed, is 1 with as many ciphers annexed as there are figures in the decimal. Thus, .561 = $\frac{561}{1000}$.

Read a decimal as a common fraction; first its numerator, then its denominator, in the ordinary form. Thus, 0.65 is read 65 hundredths.

2654459.265445 is read, 2 million, 654 thousand, 459 *and* 265 thousand 445 millionths.

EXERCISES IN NUMERATION.

Write out the reading of the following expressions in the manner indicated above:—

.25 .306 .4156 .0256 5.0606 467.4 50.00001
28.010101, 9.090009.

In reading mixed decimals, the word “and” should be used at the decimal point, but nowhere else; without this understanding *three hundred and six thousandths* might be written either 300.006, or .306.

Rule for notation of decimals. Write the numerator as in common fractions, and place the decimal point so as to make the name of the last order the name of the denominator.

Illustration: Write 345 millionths. Since millionths occupy the sixth place, six figures are required to express the decimal. Hence the number 345 is written and three ciphers are prefixed to cause the figures to occupy their proper position. Hence the decimal is written .000345.

EXERCISES.

Write decimally :—

Ten, and eleven hundredths. Sixty-seven, and seven tenths. Six hundred seven, and nine hundred six thousandths. One thousand five hundred forty-one, and one hundred seventy-eight ten-thousandths. Sixteen, and one hundred twenty-two hundred-thousandths.

Thirty-seven thousand four hundred eighty-eight hundred-thousandths. Nine hundred fifty-eight thousand four hundred thirty-three millionths. Sixty-eight, and three hundred three thousand eight hundred seven and two sevenths millionths.

Forty million three hundred three, and forty-three thousandths.

In expressions of the currency of the United States, the cents, mills, etc., may be read as decimals of a dollar. Thus \$6.255 may be read, six dollars and 255 thousandths, or six dollars $25\frac{5}{10}$ cents.

EXERCISES.

Write out the reading of the following as dollars and decimals of a dollar :—

1, \$6.375 ; 2, \$4.083 ; 3, \$8.005 ; 4, \$10.085 ; 5, \$0.001.

LESSON TWELVE.

Reduction of Decimals.

Principles Annexing ciphers to a decimal, or removing ciphers from the right of a decimal, does not change its value. Thus $.25 = .2500$, $.6050 = .605$.

Each decimal cipher, prefixed to a decimal, diminishes the value of the decimal tenfold. Thus, $.05$ is $\frac{1}{10}$ of $.5$, $\frac{1}{10}$ of $\frac{5}{10} = \frac{5}{100}$.

ARITHMETIC.

To reduce dissimilar to similar decimals. Reduce .4, .15, .016, and 2.0505 to similar decimals.

$$.4 = .4000$$

$$.15 = .1500$$

$$.016 = .0160$$

$$2.0505 = 2.0505$$

Explanation. All the decimals must be changed to ten-thousandths, the lowest order of decimals in the given numbers. This may be done by annexing ciphers. (Principle.)

EXERCISES.

Reduce to similar decimals :—

1. .4, .64, .164.

2. .05, .001, .0101.

3. .0045, .1, .150, .20567.

4. 3.29, .0005, 6.580, 25.04.

5. 200.002, 1, 100, .001.

To reduce decimals to common fractions.

Reduce .375 to a common fraction.

$$.375 = \frac{375}{1000} = \frac{3}{8}$$

Reduce 2.25 to a common fraction.

$$2.25 = \frac{225}{100} = \frac{9}{4} = 2\frac{1}{4}$$

Rule. Omit the decimal point, write the proper denominator, and reduce the fraction to its lowest terms.

EXERCISES.

Reduce to common fractions :—

1. .05, .024, .025.

2. .375, 1.034, 20.005.

3. .75, 11.084, 205.65.

4. .001, 2.0525, 6.0375.

Illustration.

Reduce $37\frac{1}{2}$ to a common fraction.

$$.37\frac{1}{2} = \frac{37\frac{1}{2}}{100} = \frac{75}{200} = \frac{3}{8}.$$

Explanation. Writing the expression as a common fraction we have

$$\frac{\frac{75}{2}}{100}$$

Performing the division indicated, we obtain $\frac{3}{8}$.

EXERCISES.

Reduce to common fractions :—

$$.14\frac{1}{2}, .17\frac{3}{4}, .62\frac{1}{2}, .38\frac{1}{8}, .25\frac{3}{4}, .08\frac{2}{3}, .07\frac{1}{3}, 2.33\frac{1}{3}.$$

To reduce a common fraction to a decimal.

Illustration of rule.

Change $\frac{3}{8}$ to a decimal.

$$\begin{array}{r} 8 \overline{) 3.000} \\ \underline{.375} \end{array}$$

Explanation. $\frac{3}{8}$ means $3 \div 8$, or $\frac{1}{8}$ of 3. In 3 there are 30 tenths, $\frac{1}{8}$ of 30 tenths is 3 tenths and 6 tenths remainder. 6 tenths are equal to 60 hundredths, and $\frac{1}{8}$ of 60 hundredths is 7 hundredths and 4 hundredths remainder. 4 hundredths are equal to 40 thousandths, $\frac{1}{8}$ of 40 thousandths is 5 thousandths. Hence $\frac{3}{8}$ is equal to 3 tenths + 7 hundredths + 5 thousandths, or .375.

Rule. Annex ciphers to the numerator, divide by the denominator, and point off as many decimal orders in the quotient as there are ciphers annexed. When the division is not exact, express the remainder as a common fraction, or use the sign + after the decimal to show the incompleteness of the result. Thus, $\frac{1}{3} = .333\frac{1}{3}$, or $\frac{1}{6} = .166+$.

Change the following to decimals :—

1. $\frac{3}{5}, \frac{1}{4}, \frac{4}{5}, \frac{3}{4}, \frac{3}{8}.$
2. $\frac{5}{8}, \frac{7}{8}, \frac{3}{20}, \frac{17}{25}, \frac{24}{25}.$
3. $\frac{2}{3}, \frac{4}{7}, \frac{5}{18}, \frac{6}{17}.$
4. $\frac{3}{75}, 1\frac{4}{25}, \frac{11}{55}, \frac{63}{71}.$
5. $24\frac{2}{5}, 17\frac{3}{4}, 25\frac{1}{8}, 16\frac{1}{2}.$

ARITHMETIC.

LESSON THIRTEEN.

Addition of Decimals.

Add .32, 2.864, 40.1056.

$$\begin{array}{r} .32 \\ 2.864 \\ 40.1056 \\ \hline 43.2896 \end{array}$$

Write units of the same order in the same column. Add as in integral numbers and place the decimal point in the sum directly under the line of decimal points.

The decimals may be made similar by annexing ciphers and then adding, but this is not commonly done. Thus, —

$$\begin{array}{r} .32 = .3200. \\ 2.864 = 2.8640. \\ 40.1056 = 40.1056. \\ \hline 43.2896 \quad 43.2896. \end{array}$$

EXERCISES.

Find the sum of the following : —

1. .125, .08, .109, .0096, .002.
2. 3.14, 40.096, .006, 4.005, .00006.
3. \$7.28, \$90.60, \$480.375, \$1.125.
4. \$250, \$0.25, \$2.05½, \$10.12½.
5. \$1.37¼, \$25.08½, \$33.01¼, \$200.00½, \$100.

Subtraction of Decimals.

From 62.23 subtract 29.145.

$$\begin{array}{r} 62.23 \\ 29.145 \\ \hline 33.085 \end{array}$$

Write units of the same order in the same column. Subtract as in integers, placing the decimal point in the remainder directly under the line of decimal points.

ELEMENTARY COURSE.

The decimals may be made similar by annexing ciphers but this is unnecessary and unusual. Thus, —

$$\begin{array}{r} 62.23 = 62.230 \\ \underline{29.145} = \underline{29.145} \\ 33.085 \quad 33.085 \end{array}$$

EXERCISES.

Find the value of :—

1. .308 — .206, 2.04 — .005.
2. \$2.625 — \$.94, \$11.10 — \$2.08.
3. \$88.125 — \$1.875, \$100. — \$37½.
4. \$486.37¾ — \$25.18½.

Multiplication of Decimals.

What is the product of .365 multiplied by .256?

$$\begin{array}{r} .365 \\ .256 \\ \hline 2190 \\ 1825 \\ \hline 730 \\ \hline .093440 \end{array}$$

Multiply 6.5654 by 200.

$$\begin{array}{r} 6.5654. \\ \underline{200.} \\ 1313.0800 \text{ or } 1313.08. \end{array}$$

The numbers are multiplied as though they were integers. Since there must be as many decimal places in the product as there are decimal places in both factors, there will be six decimal places in this product, and since the product contains only 5 figures we supply the deficiency by prefixing one cipher.

Rule. Multiply as in integers, and point off as many figures for decimals in the product as there are decimal places in both factors. If there are not figures enough in the product, supply the deficiency by prefixing ciphers.

EXERCISES.

Multiply :—

1. 5.64 by .45.
2. 30.08 by .408.
3. .06 by 25.15.

4. .086 by 200.
 5. \$6.50½ by 8.5.

Division of Decimals.

1. Divide .00896 by .28. 2. Divide 18.312 by 24.

$$\begin{array}{r}
 .28 \overline{) .00896} (.032 \\
 \underline{84} \\
 56 \\
 \underline{56} \\
 0
 \end{array}$$

$$\begin{array}{r}
 24 \overline{) 18.312} (.763 \\
 \underline{168} \\
 151 \\
 \underline{144} \\
 72 \\
 \underline{72} \\
 0
 \end{array}$$

In example 1, since the dividend contains 5 decimal places and the divisor 2, the quotient must contain 5 — 2 or 3 decimal places. Since there are only 2 figures in the divisor, we prefix a cipher.

In 2 there are no decimal places in the divisor. Since there are 3 in the dividend and 0 in the divisor, there must be 3 — 0 or 3 in the quotient.

Rule. Divide as if the numbers were integers, and from the right of the quotient point off as many figures for decimals as the number of decimal places in the dividend exceeds the number of those in the divisor. If the quotient does not contain a sufficient number of decimal places, supply the deficiency by prefixing ciphers. See Ex. 1, above. Before commencing the division make the number of decimal places in the dividend at least equal to the number of decimal places in the divisor. Thus, divide .25 by .0005.

$$\begin{array}{r}
 .0005 \overline{) .2500} \\
 \underline{500} \\
 0
 \end{array}$$

If there is a remainder after using all the figures of the dividend, annex ciphers and continue the division.

1. Divide .088 by .25.

$$\begin{array}{r}
 .25 \overline{) .08800} (.352 \\
 \underline{75} \\
 130 \\
 \underline{125} \\
 50 \\
 \underline{50} \\
 0
 \end{array}$$

2. Divide 25 by .0125.

$$\begin{array}{r}
 .0125 \overline{) 25.0000} (2000 \\
 \underline{250} \\
 000 \\
 \underline{000} \\
 0
 \end{array}$$

EXERCISES.

Find the quotients of

1. $65.125 \div .25$, $783.5 \div 6.25$.
2. $.0189 \div .025$, $.01001 \div .001$.
3. $.05475 \div 15$, $.04905 \div .327$.
4. $\$135 \div \$.375$, $\$68.875 \div \145 .

LESSON FOURTEEN.

United States Money.

The dollar is the unit of which cents are hundredths, and mills are thousandths.

All rules for processes in decimals are applicable to processes in United States Money.

Table.

10 mills (m.)	make 1 cent, c. or ¢.
10 cents	make 1 dime, d.
10 dimes	make 1 dollar, \$.
10 dollars	make 1 eagle, e.

In ordinary business transactions, eagles, dimes, and mills are rarely mentioned, eagles being expressed as dollars, dimes as cents, and mills as a fraction of a cent.

Thus : 4 eagles, 3 dollars, 6 dimes, 5 mills are written \$43.605.

EXERCISES.

1. How are cents changed to dollars? Illustrate.
2. How are dollars changed to mills? Illustrate.
3. Change 6580 mills to dollars.
4. When 7 barrels of onions are worth \$24.50. what are 630 barrels worth?
5. How many yards of cloth at 75 cents a yard can be bought for \$15.375?
6. A man bought 605 pounds of coffee at 19 cents a pound. After using 25 pounds, he sold the remainder at 24 cents a pound. How much did he make?

ARITHMETIC.

Aliquot Parts.

Aliquot parts of a number are such parts of the number as will exactly divide it.

Aliquot Parts of a Dollar.

5 cents = $\frac{1}{20}$ of \$1.	20 cents = $\frac{1}{5}$ of \$1.
$6\frac{1}{4}$ cents = $\frac{1}{16}$ of \$1.	25 cents = $\frac{1}{4}$ of \$1.
$8\frac{1}{2}$ cents = $\frac{1}{12}$ of \$1.	$33\frac{1}{3}$ cents = $\frac{1}{3}$ of \$1.
10 cents = $\frac{1}{10}$ of \$1.	50 cents = $\frac{1}{2}$ of \$1.
$12\frac{1}{2}$ cents = $\frac{1}{8}$ of \$1.	$66\frac{2}{3}$ cents = $\frac{2}{3}$ of \$1.
$16\frac{2}{3}$ cents = $\frac{1}{6}$ of \$1.	75 cents = $\frac{3}{4}$ of \$1.

Applications.

a. What will 1808 caps cost at $\$.37\frac{1}{2}$ cents each?

$$\$375 = \frac{3}{8} \text{ of } \$1.$$

The cost at \$1 each would be \$1808.

$$\text{The cost at } \$\frac{3}{8} \text{ each would be } \frac{3}{8} \text{ of } \overset{226}{\cancel{\$1808}} = \$678.$$

b. What will 475 melons cost at \$20 a hundred?

$475 = 4.75$ or $4\frac{3}{4}$ hundreds. $4\frac{3}{4}$ hundreds at \$20 a hundred will

$$\text{cost } 4\frac{3}{4} \text{ times } \$20. \quad \overset{5}{\$20} \times \frac{19}{4} = \$95.$$

c. What will 3250 feet of boards cost at \$18.50 a thousand feet?

$$3250 = 3.250 \text{ or } 3\frac{1}{4} \text{ thousands. } 3\frac{1}{4} \text{ times } \$18.50 = \overset{37}{\cancel{\$37}} \times \frac{13}{4} = \overset{481}{\cancel{\$481}} = \$60\frac{1}{8} = \$60.125.$$

The above are given as drills, and as illustrations of possible applications. These applications of aliquot parts are not always short processes. Practice will enable the student to determine when to apply aliquot parts. *b* and *c* could be solved as follows: —

(b) $475 = 4.75.$

$$\begin{array}{r} \$20 \\ 4.75 \\ \hline 1.00 \\ 14.0 \\ 80. \\ \hline \$95.00 \end{array}$$

(c) $3250 = 3.250.$

$$\begin{array}{r} \$18.50 \\ 3.25 \\ \hline .9250 \\ 3.700 \\ \hline 55.50 \\ \hline \$60.1250 \end{array}$$

ELEMENTARY COURSE.

EXERCISES.

1. What will 65 pairs of boots cost at $\$1.62\frac{1}{2}$ a pair?
2. At $\$1.62\frac{1}{2}$ a pair, how many pairs of shoes can be bought for $\$32.50$?
3. At 25 cents a yard, how much will 500 yards of cloth cost? At $16\frac{2}{3}$ cents a yard?
4. At $33\frac{1}{3}$ cents a yard, how many yards of cloth can be bought for $\$500$? At $12\frac{1}{2}$ cents a yard?
5. What will 1590 herrings cost at $33\frac{1}{3}$ cents a hundred? (Work by two different methods.)
6. How much will 23,450 bricks cost at $\$9.25$ per thousand?
7. If 8375 bricks are sold for $\$184.25$, what is the cost per thousand?
8. How much will 106,420 feet of plank cost at $\$43.50$ a thousand feet?

LESSON FIFTEEN.

Denominate Numbers.

A *denominate number* is a concrete number in which the unit of measure is established by law or custom; as, 2 dollars, 3 feet.

Simple denominate numbers have units of one denomination only; as, 3 miles.

Compound denominate numbers have units of 2 or more denominations; as 3 yards, 2 feet, 6 inches is a compound denominate number.

Reduction is the process of changing the denomination in which the quantity is expressed, without changing the value of the quantity.

If the change is from a higher denomination to a lower, it is called *reduction descending*; if from a lower to a higher, it is called *reduction ascending*. Thus, 2 yards = 72 inches (reduction descending); 6 feet = 2 yards (reduction ascending).

Reduce 2 yd. 1 ft. 7 in. to inches.

Since there are 3 ft. in 1 yd. in 2 yds. there are 2 times 3 ft. or 6 ft. 6 ft. + 1 ft. = 7 ft. Since there are 12 in. in 1 ft., in 7 ft. there are 7 times 12 in. or 84 in. 84 in. + 7 in. = 91 in.

ARITHMETIC.

$$\begin{array}{r}
 \text{yd.} \quad \text{ft.} \quad \text{in.} \\
 2 \quad 1 \quad 7 \\
 \hline
 3 \\
 \hline
 6 \\
 \hline
 1 \\
 \hline
 7 \text{ ft.} \\
 \hline
 12 \\
 \hline
 84 \\
 \hline
 7 \\
 \hline
 91 \text{ in.}
 \end{array}$$

Reduce 2768 oz. avoirdupois to integers of a higher denomination.

$$\begin{array}{r}
 16)2768 \text{ oz.} \\
 \hline
 100)173 \text{ lb.} \\
 \hline
 1 \text{ cwt. } 73 \text{ lb.}
 \end{array}$$

16 oz. make 1 lb.; 2768 oz. as many lbs. as 16 is contained times in 2768, or 173 lbs. In 173 lbs. there are 1 cwt. 73 lbs.

(a) Reduce .475 bu. to integers of lower denominations.

$$\begin{array}{l}
 .475 \text{ of a bu.} = .475 \text{ of } 4 \text{ pk.} = 1.9 \text{ pk.} \\
 .9 \text{ of a pk.} = .9 \text{ of } 8 \text{ qt.} = 7.2 \text{ qt.} \\
 .2 \text{ of a qt.} = .2 \text{ of } 2 \text{ pt.} = .4 \text{ pt.} \\
 .475 \text{ of a bu.} = 1 \text{ pk. } 7 \text{ qt. } .4 \text{ pt.}
 \end{array}$$

Or,

$$\begin{array}{r}
 .475 \text{ bu.} \\
 \hline
 4 \\
 \hline
 1.900 \text{ pk.} \\
 \hline
 8 \\
 \hline
 7.2 \text{ qt.} \\
 \hline
 2 \\
 \hline
 .4 \text{ pt.}
 \end{array}$$

(b) Reduce $\frac{3}{5}$ of a lb. (Troy) to integers of lower denominations.

$$\begin{array}{l}
 \frac{3}{5} \text{ lb.} = \frac{3}{5} \text{ of } 12 \text{ oz.} = 7\frac{1}{5} \text{ oz.} \\
 \frac{1}{5} \text{ oz.} = \frac{1}{5} \text{ of } 20 \text{ pwt.} = 4 \text{ pwt.} \\
 \frac{3}{5} \text{ lb.} = 7 \text{ oz. } 4 \text{ pwt.}
 \end{array}$$

EXERCISES.

1. Write the tables for Avoirdupois Weight, Troy Weight, Apothecaries' Weight.
2. Write the table for Linear Measure ; for Dry Measure.
3. Reduce to feet : 3 rd. 1 yd. 1 ft. ; 25 rd. 5 ft. ; 2 mi. 16 rd. 7 ft.

ELEMENTARY COURSE.

4. Reduce $\frac{2}{3}$ mi. to integers of lower denominations.
5. Reduce .628 T. to integers of lower denominations.
6. Reduce .625 mi. to integers of lower denominations.
7. Reduce .7854 lb. to integers of lower denominations.
8. Reduce 1012 qt. to higher denominations.
9. Reduce 2 bu. 2 pk. 2 qt. to quarts.
10. How many peck measures will 6 bu. fill?
11. Reduce 5 T. 11 cwt. 92 lb. to pounds.
12. Reduce 1 cwt. 65 lb. 4 oz. to ounces.
13. Reduce 6242 oz. (Troy) to integers of higher denominations.
14. Reduce 8637 gr. (Apothecaries') to integers of higher denominations.
15. Reduce 3846 gr. (Troy) to integers of higher denominations.

LESSON SIXTEEN.

Addition of Denominate Numbers.

Add :—	hr.	min.	sec.
	6	15	12
	27	0	18
		65	42
	1	10	21 12

The sum of the sec. is 72 sec., or 1 min. 12 sec. Carrying 1 to min. column, the sum of the min. is 81 min., or 1 hr., 21 min. Carrying 1 to hr. column, and adding, we have 34 hr., or 1 day, 10 hr.

Subtraction of Denominate Numbers.

From 10 gal., subtract 3 qt. 1 pt.

gal.	qt.	pt.
10	0	0
	3	1
9	0	1

We cannot take 1 pt. from 0 pt. Adding 2 pt. to the minuend, and subtracting, we have 1 pt. Add 1 qt. to 3 qt., and we have 4 qt. In

ARITHMETIC.

order to subtract, we add 4 qt. to minuend. Subtracting, we have 0 qt. Adding 1 gal. to subtrahend and subtracting, we obtain 9 gal.

EXERCISES.

1. Give the tables for Liquid Measure ; Square and Cubic Measures ; Time.
2. What is the sum of 14 cu. yd. 20 cu. ft. 1463 cu. in., 9 cu. yd. 20 cu. ft. 1463 cu. in., 11 cu. yd. 23 cu. ft. 67 cu. in., and 27 cu. yd. 1305 cu. in. ?
3. Find the sum of 18 gal. 3 qt., 60 gal. 3 qt. 1 pt., 61 gal. 3 qt., and 57 gal. 3 qt. 1 pt.
4. Find the sum of 15 d. 23 h. 55 min. 17 sec., 13 d. 15 h. 17 min. 38 sec., 10 d. 23 h. 42 min. 17 sec., 16 d. 16 h. 38 min. 47 sec., and 20 d. 52 min. 57 sec.
5. A farm has 87 A. 137 sq. rd. 17 sq. yd. in tillage land, 13 A. 117 sq. rd. 19 sq. yd. in pasture, 1 A. 96 sq. rd. 29 sq. yd. in orchard, and 27 A. 115 sq. rd. 3 sq. yd. in woodland. Find the area of the farm.
6. A farm containing 160 acres has 47 A. 13 sq. rd. 17 sq. yd. wild land, and the rest is under cultivation. Find the area of the land under cultivation.
7. A wood dealer had 70 cords of wood and sold 37 cords 96 cubic feet. How much had he left ?
8. From 4 mi. 126 rd. 4 yd. 4 in., take 2 mi. 140 rd. 2 yd. 1 ft. 8 in.
9. One train leaves at 6 o'clock 33 min. A. M., and another at 10 o'clock 14 min. A. M. How long after the first did the second start ?
10. What is the sum of $\frac{2}{3}$ T., $\frac{2}{3}$ cwt., and 25 lb. ? (Reduce to lbs.)

Multiplication of Denominate Numbers.

Multiply 3 T. 2 cwt. 45 lb. by 7.

T.	cwt.	lb.
3	2	45
		<u>7</u>
21	17	15

7 times 45 lb. are 315 lb. or 3 cwt. 15 lb. Write 15 in lb. column and carry 3 cwt. 7 times 2 cwt. are 14 cwt. 14 cwt. + 3 cwt. are 17 cwt. 7 times 3 T. are 21 T.

Divide 17 bu. 3 pk. 2 qt. into 6 equal parts.

$$\begin{array}{r} 6) 17 \text{ bu. } 3 \text{ pk. } 2 \text{ qt.} \\ \underline{2 \quad 3 \quad 7} \end{array}$$

$\frac{1}{6}$ of 17 bu. = 2 bu. with a remainder of 5 bu. 5 bu. = 20 pk. 20 pk. + 3 pk. = 23 pk. $\frac{1}{6}$ of 23 pk. = 3 pk. with a remainder of 5 pk. 5 pk. = 40 qt. 40 qt + 2 qt. = 42 qt. $\frac{1}{6}$ of 42 qt. = 7 qt.

EXERCISES.

1. How much wood is there in 6 piles each containing 15 cords and 32 cubic feet?
2. At 3 cents a pound, how many tons of iron can be bought for \$396.18?
3. If 2 A. 60 sq. rd. can be plowed in a day, how much can be plowed in 4 days?
4. How many silver spoons, each weighing 2 oz. 10 pwt., can be made from 11 lb. 5 oz. 10 pwt.? (Reduce to pwt.)
5. If a pendulum vibrates 47 times in a minute, in what time will it vibrate 13,267,583 times?
6. Express $\frac{2}{3}$ rd. in yards and feet.
7. What will be the cost of 3 T. 6 cwt. 27 lb. of coal at \$4.75 a ton?
8. Which is the heavier, and how much, a pound of lead or a pound of gold?

LESSON SEVENTEEN.

Percentage.

Per cent. means *by the hundred*. 5 per cent. means 5 of every hundred, or 5 hundredths.

The sign % is used for the words *per cent.* 6% means 6 per cent., $5\frac{1}{2}\%$ means $5\frac{1}{2}$ per cent.

Percentage treats of processes involving per cent.

The rate per cent. is the number of hundredths taken.

The number on which the per cent. is computed is the *base*; the product is called the *percentage*; the base + the percentage, the *amount*; the base — the percentage, the *difference*.

Illustration: .05 of 1000 = 50, or 5% of 1000 = 50.

1000, *base*.

50, *percentage*.

1050, *amount*.

950, *difference*.

Any rate per cent. may be expressed in the form of a decimal or of a common fraction.

1 per cent. is written 1%, .01, $\frac{1}{100}$

5 per cent. is written 5%, .05, $\frac{5}{100}$, $\frac{1}{20}$

10 per cent. is written 10%, .10, $\frac{10}{100}$, $\frac{1}{10}$

25 per cent. is written 25%, .25, $\frac{25}{100}$, $\frac{1}{4}$

100 per cent. is written 100%, 1.00, $\frac{100}{100}$, 1

12½ per cent. is written 12½%, .12½, $\frac{12\frac{1}{2}}{100}$, $\frac{1}{8}$

½ per cent. is written ½%, .00½, $\frac{1}{1000}$, $\frac{1}{2000}$

215 per cent. is written 215%, 2.15, $\frac{215}{100}$, $2\frac{3}{20}$

EXERCISES.

Express decimally:—

4%, 8%, 9%, 6½%, 2¼%, 108%, 125%, 287½%, 160%, 1000%.

Write in form of a common fraction in its lowest terms:—

8%, 20%, 50%, 37½%, 75%, 90%, 150%, $\frac{2}{3}$ %, 500%, $\frac{5}{8}$ %.

To find any per cent. of a number.

What is 5% of \$72?

(a) \$72

$$\frac{.05}{\$3.60}$$

Since 5% of a number is .05 of it, 5% of \$72 is .05 of \$72, or \$3.60.

$$(b) \quad \$72 \times \frac{1}{20} = \$3.60.$$

Since 5% of a number is $\frac{5}{100}$, or $\frac{1}{20}$ of it, 5% of \$72 is $\frac{1}{20}$ of \$72 =

\$3.60.

Rule. Multiply the given number by the rate per cent.

EXERCISES.

1. Find 15% of \$867.50.
2. Find 10% of \$650.25.

3. Find 50% of \$1000.50.
4. Find $37\frac{1}{2}\%$ of \$1250.60.
5. Find $3\frac{1}{2}\%$ of \$10,500.75.
6. Find $\frac{1}{2}\%$ of \$584.25.
7. A man bought a house for \$5500, and paid down 25%. How much did he then owe?
8. A merchant sold goods which cost him \$6735, at a profit of 10%. What was the selling price?

To find the per cent. one number is of another.

What per cent. of 600 is 200?

(a) 1% of 600 is 6. 200 is as many per cent. of 600 as 6 is contained times in 200, or $33\frac{1}{3}$ times. Hence 200 is $33\frac{1}{3}\%$ of 600.

(b) $200 \div 600 = .33\frac{1}{3}$, or $33\frac{1}{3}\%$.

$$\begin{array}{r} 600 \overline{)200.00} \\ \underline{.33\frac{1}{3}} \\ 200 \text{ is } \frac{200}{600}, \text{ or } \frac{1}{3}, \text{ or } 33\frac{1}{3}\% \text{ of } 600. \end{array}$$

Proof.

$$\begin{array}{r} 600 \\ \underline{.33\frac{1}{3}} \\ 200.00 \end{array}$$

Rule. Divide the percentage by the base, extending the division to hundredths.

While this is the usual rule, students are urged to analyze all examples according to illustration (a).

EXERCISES.

1. What per cent. is 18 of 72?
2. What per cent. is 25 of 225?
3. Of a farm containing 1640 acres there are 246 acres in meadow. What per cent. is in meadow?
4. A farmer raised 250 bushels of oats, and sold all but 65 bushels. What per cent. of his crop did he sell?
5. Define commission. How is it reckoned?
6. An agent sells goods to the amount of \$1,560. What is his commission at $2\frac{1}{2}\%$ per cent.?
7. How much must be paid for purchasing goods to the amount of \$1,000, at 2 per cent. commission?

ARITHMETIC.

8. Bought a horse for \$216, and sold him at a loss of 10 per cent. How much was the loss?
9. If I sell a farm which cost me \$5,000 for \$4,700, what is the loss per cent.?
10. A merchant bought 350 yards of silk at \$1.12½ a yard, and sold it at a profit of \$131.25. What per cent. did he gain?

LESSON EIGHTEEN.

Interest.

Interest of \$1, at 6 per cent.,

- For 12 months, or 1 year, is \$0.06
 For 2 months, or $\frac{1}{6}$ year, is 0.01
 For 1 month, or $\frac{1}{12}$ year, is 0.005
 For 6 days, or $\frac{1}{20}$ month, is 0.001
 For 1 day, or $\frac{1}{30}$ month, is 0.00½

What is the interest of \$360 for 2 yr. 7 mo. 15 da. at 6%?

Interest of \$1.

- For 2 yrs. = \$.12
 For 7 mo. = .035
 For 15 da. = $\frac{.002\frac{1}{2}}{}$
\$.157½

Principal \$360
.157½
 2520
 1800
 360
180
 \$56.700

What is the interest of \$550.50 for 5 yr. 5 mo. 16 da. at 6%?

Interest on \$1.

- For 5 yr. = \$.30
 For 5 mo. = .025
 For 16 da. = $\frac{.002\frac{2}{3}}{}$
\$.327⅔

Principal \$550.50
.327⅔
 385350
 110100
 165150
36700
 \$180.38050

ELEMENTARY COURSE.

EXERCISES.

1. Define interest, principal, amount.
2. What is meant by the legal rate of interest ?
3. What is the interest of \$812 for 3 years, 6 months, 6 days, at 6%?
4. Of \$750 for 2 years, 9 months, 18 days ?

To find the interest of any sum at any rate.

Required the interest of \$780 for 3 years, 3 months, 5 days at 5% ?

First operation.

$$\begin{array}{r} \$780 \\ .195\frac{5}{8} \\ \hline 3900 \\ 7020 \\ 780 \\ \hline 650 \\ \$152.750 \end{array}$$

The int. on \$1. for 3 yr. 3 mo. 5 da.
at 6% is \$.195 $\frac{5}{8}$. The int. for
\$780 would be \$152.75.

At 5% the int. would be
 $\frac{1}{6}$ less or \$127.29.

Second operation.

$$\begin{array}{r} \$780 \\ \hline .05 \\ \hline 39.00 = \text{Int. 1 yr.} \\ 3 \\ \hline 117 = \text{Int. 3 yr.} \\ \frac{1}{2} \text{ of } 39. \text{ or } 3.25 = \text{Int. 1 mo.} \\ \frac{1}{8} \text{ of } 3.25 \text{ or } .54 + = \text{Int. 5 da.} \\ \frac{1}{4} \text{ of } 39. \text{ or } 9.75 = \text{Int. 3 mo.} \end{array}$$

$$\begin{array}{r} \text{Int. 3 yr.} = \$117.00 \\ \text{Int. 3 mo.} = 9.75 \\ \text{Int. 5 da.} = .54 \\ \hline \text{Total int.} = \$127.29 \end{array}$$

For 7%, add to 6 per cent. $\frac{1}{6}$; for 8%, $\frac{1}{3}$; for 9%, $\frac{1}{2}$; for 4%, subtract $\frac{1}{3}$, etc.

EXERCISES.

1. What is the interest of \$12.60 for 5 yr. 6 mo. at 7% ?
2. Of \$480.50 for 2 yr. 3 mo. 6 da. at 8% ?
3. Of \$980 for 5 mo. 17 da. at 9% ?
4. Of \$1,000 for 33 da. at 10% ?
5. Of \$10,500 for 6 yr. 7 mo. 8 da. at 4% ?

Work the above examples by both methods.

Bank Discount.

What is the bank discount on the following note at 6% ?

\$1,000.

NEW YORK, May 20, 1901.

Ninety days after date, for value received, I promise
to pay John Becker, at the First National Bank,
One thousand and $\frac{1}{100}$ dollars.

BURR BLAIR.

ARITHMETIC.

- Interest on \$1 for 1 yr. at 6% = .06.
 Interest on \$1 for $\frac{1}{4}$ yr. at 6% = .015.
 Interest on \$1 for 1 mo. at 6% = .005.
 Interest on \$1 for $\frac{1}{10}$ mo. at 6% = .0005.
 Interest on \$1 for 93 da. at 6% = .0155.
 Interest on \$1,000 for 93 da. at 6% = \$15.50 or 1,000 times \$.0155.

EXERCISES.

1. What is the difference between bank discount and simple interest?
2. What are days of grace?
3. What is the bank discount on a note for \$600, on 60 da. at 8%?
What are the proceeds?
4. Write a note for \$1,000.50 for 3 mo. Maker, John Brown; payee, Henry Small; interest, 6 per cent. Find discount and proceeds.
5. Taking out the bank discount on a note for \$3,000, on 30 da. at 6%, how much of its face will remain?
6. Find the amount due on the following bill:—

BOSTON, Nov. 1, 1901.

MR. GEORGE ELLIS,

Bought of JAMES HATFIELD.

1901.

Sept. 4.	10 lbs. coffee @ 35c,	\$
Sept. 20.	11 lbs. lard @ 9c,	
Oct. 5.	25 lbs. sugar @ 5c,	
Oct. 20.	2 lbs. tea @ 65c,	_____

7. Find the amount due on the following account:—

ST. LOUIS, July 1, 1901.

MR. SILAS W. WARRINER

To HENRY D. DEAN, Dr.

1901.

June 1.	To 365 bu. wheat @ 84c,	\$
June 15.	To 160 bu. corn @ 49c,	
June 20.	To 192 bu. barley @ 48c,	_____

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CR.

1901.		
June 13.	By cash,	\$305.00
June 20.	By merchandise,	256.75
		<hr/>

8. Make out a receipted bill for the following account, supplying dates :
H. Grady sold to Peter Pelissier 14 tons of stove coal at \$6.50 ; 9
cords of pine wood at \$4.25 ; 8 cords of hard wood at \$5.10 ; 22
tons of furnace coal at \$6.05.

LETTER WRITING.

Practical exercises. Business correspondence, etc.

Text-books recommended for study or reference:

Williams and Rogers' Correspondence,	\$0.35
Letter Writing—Loomis, . . . . .	.75

LETTER WRITING.

LESSON ONE.

Materials.

Medium-pointed pens and black ink are recommended for correspondence. The ink should flow freely and make a fine line.

In selecting paper for letter writing, avoid strong colors and secure paper of good quality. For social correspondence, what is known as note paper is almost universally used. This is oblong in shape, usually unruled, and is furnished in three sizes. All have four pages to the sheet.

As a rule, paper for business correspondence is made in single sheets or in half sheets, but certain sizes of note paper are also in use.

Directions for Folding Letters.

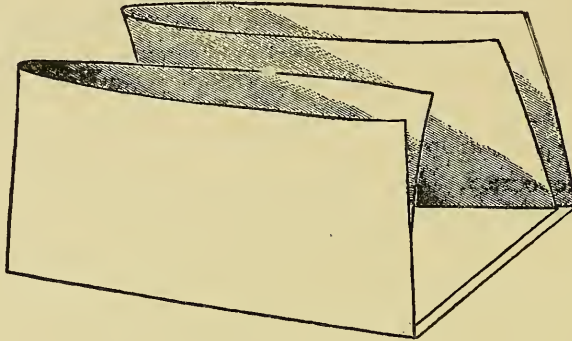
Envelopes and paper should correspond in color, style, and size. For social letters, envelopes that will admit the paper in convenient folds should be used. When the sheet is folded but once, the envelope is nearly square; when it is folded twice, the envelope is oblong. For square envelopes only one fold should be necessary.

For business letters oblong envelopes are used. They are a little larger than the paper after the letter has been folded correctly. There are two sizes in general use; viz., Nos. 6 and $6\frac{1}{2}$, the former measuring $3\frac{3}{8} \times 6$ inches, and the latter $3\frac{5}{8} \times 6\frac{1}{2}$ inches. No. 9, or the *official envelope*, is 4×9 inches. It is the popular envelope for official correspondence, legal documents, etc.

In order to fold note paper correctly, the width of the paper should be less than the length of the envelope. Fold twice; first from the bottom upward, and then from the top down, so as to make the paper, as then folded, a little smaller each way than the envelope.

To fold a sheet of letter paper for an envelope, fold from the bottom upward so as to make the sheet, as then folded, a little shorter than the envelope; then fold equally from the right and left, so that the sheet as

finally folded will be almost as wide as the envelope. The manner of folding a letter sheet is illustrated below.



Cap paper, such as legal cap and foolscap, should never be used for business or social letters. If necessary, cut the cap paper down to letter or note size.

In sending letters that are called for in this syllabus, select suitable paper and envelopes from the supply that is furnished, paying particular attention to the folding.

LESSON TWO.

Skeleton Letter.

.....
Heading.

.....
Address.

.....
Salutation.

.....
Body of letter.

.....
Complimentary close.

.....
Signature.

Margin.

LETTER WRITING.

There are two general classes of letters : 1, private, or personal ; 2, public, or open. Private letters are divided into two classes : social and business. Social letters include all that are not of a business or official character.

EXERCISES.

1. What are business letters ?
2. What are the characteristics of a good business letter ?
3. Name five different kinds of social letters.
4. How do public letters differ from other letters ?

LESSON THREE.

The heading may occupy one, two, or three lines, but it should never occupy more than three. It contains the address of the writer and the date. In business letters it is always written at the top. When ruled paper is used, the heading should begin on the first line ; on unruled paper, it should occupy the same relative position. In cases of very short letters, on either ruled or unruled paper, arrange to have equal spaces above the heading and below the signature. The following illustrate different headings :—

Form 1.

Charleston, S. C., Jan. 1, 1901.

.....
.....
.....

Form 2.

365 Tremont Avenue,
Cleveland, O., Nov. 2, 1901.

.....
.....
.....

In writing from the country or a small place give the post office, county, state, and date.

ELEMENTARY COURSE.

Form 3.

Cleves, Hamilton Co., Ohio,
December 21, 1901.

.....
.....
.....

Form 4.

31 University Place,
Rock Island, Ill.,
July 31, 1900.

.....
.....

Form 5.

36 Wabash Avenue,
St Paul, Minn.

.....
.....

In social correspondence, the address and date are often placed at the close of the letter, and begin on the next line below the signature, near the left of the page, as illustrated in Form 6.

Form 6.

Very truly,
Daniel Thomson.

3640 Hennepin Avenue,
Minneapolis, Minn.
June 6, 1901.

Punctuation. Separate the parts of the heading of a letter by commas, as shown in the forms. Write September 21, 1901 ; and not September 21st, 1901.

EXERCISES.

Arrange and punctuate the following headings :—

1. Springfield Mass Sept 6 1901

LETTER WRITING.

2. 1514 Grace street Chicago Ill April 16 1901
3. Ojata Grand Forks Co N D May 31 1899
4. The Elmwood Portland Oregon Nov 20 1900
5. Write a correct heading of a letter from your home.

LESSON FOUR.

The address of a business letter consists of the name and title of the person addressed and such place as he may designate for the reception of his mail. In social letters, the post office address and even the full name are often omitted ; but no letter should be mailed whose address does not contain information that would insure its delivery to the right person, in case the address on the envelope proved insufficient. Thousands of letters find their way to the dead letter office through the carelessness of writers in giving an incomplete address and signature. Such an address and signature as "Dear Mother," "Your loving son John," would not insure its delivery if the envelope address was defective.

The inside address should correspond in the main to the address on the envelope, excepting that letters addressed to one person in care of another have such information or direction placed only on the envelope. The address is written at the beginning of business letters, and often at the end of social and official letters.

Titles. Some title should be used in the address. The more common titles of courtesy are *Miss*, *Mrs.*, *Mr.*, *Esq.*, and *Messrs.* In business letters *Mr.* is to be preferred to *Esq.* Two titles of courtesy should not be joined to the same name ; as, Mr. John Sibley, Esq., Hon. William Cumback, Esq., Mr. H. L. Armstrong, C. E.

Such instances as The Rev. Mr. Brown, John Banniff, D.D., LL.D., are exceptions to this rule.

Use *Messrs.* in addressing a firm of gentlemen ; *Misses* for young ladies ; *Mesdames* for married or elderly ladies. Use no title if the firm be composed of both ladies and gentlemen.

Punctuation. The address should be punctuated as shown in the following forms. Separate the parts by commas. Put a period after every abbreviation and at the end of the address.

ELEMENTARY COURSE.

Form 1.

Mr. John Glaspell,
Wilmington, Del.

Form 2.

Folger & Sargent,
101 Clay Street,
Binghamton, N. Y.

Form 3.

S. W. Galloway, Esq.,
Pres. First National Bank,
Waverly, N. Y.

EXERCISES.

Write the following headings and addresses, arranging and punctuating them correctly :—

1. June 17 1901 50 No Adams St Bangor Maine
2. Lewis L Cass & Co Missoula Montana
3. Tracy R Bangs Attorney at Law Memphis Tenn
4. Redmond & Brown 1721 Maine Ave Kansas City Mo
5. James C Good 24 Broadway N Y
6. Gus Finger South Heart Stock Co N D

LESSON FIVE.

The salutation is the greeting at the beginning of the letter. Its position depends upon the number of lines in the address ; the wording, upon the relations of the writer to his correspondent.

When writing a business letter to a gentleman, use *Sir*, *Dear Sir*, or *My dear Sir* ; when addressing a firm, *Sirs*, *Dear Sirs*, or *My dear Sirs* are employed. *Sir* is the salutation used in writing to public officials and in

formal business letters. *Dear Sir* is the form most used in business. *My dear Sir* denotes more familiarity.

In addressing a married lady or an elderly unmarried woman, use *Madam* or *Dear Madam*. If the person addressed is a young unmarried woman and a stranger, many proceed with the letter without any salutation, as in Forms 1 and 2 which follow ; others use Form 3.

If *Messrs.* is used in the address, use *Dear Sirs* and not *Gentlemen* in the salutation. Never abbreviate *Dear* to "Dr.", or *Gentlemen* to "Gents."

There is a multitude of forms for social letters. The relation existing between the persons must determine what form to use. A few are given below :—

To a stranger, Decatur, Ill., May 5, 1901.
 1. Miss Della Hanley,
 Will you kindly.....

Respectfully,
 William C. King.

Miss Della Hanley,
 Adrian, Mich.

Decatur, Ill., May 5, 1901.

2. Miss Della Hanley,
 Adrian, Mich.
 Will you kindly

Respectfully,
 William C. King.

Decatur, Ill., May 5, 1901.

3. Miss Della Hanley,
 Adrian, Mich.
 Dear Miss Hanley :—
 Will you kindly

Respectfully,
 William C. King.

4. To an acquaintance. Bay City, Mich., Sept. 20, 1901.

Dear Miss Hawley,

Your name has been

Very truly,

T. L. Hunter.

Miss Ella Hawley,

Hotel St. Clair, Chicago, Ill.

Form 3 is often used as a salutation to an acquaintance.

5. To business firms. Lowell, Mass., Oct. 10, 1900.

Hawthorn & Pyle,

205 Richmond Street,

Richmond, Va.

Gentlemen :—

6. To business firms. Lowell, Mass., Oct. 10, 1900.

Messrs. Hawthorn & Pyle,

205 Richmond Street,

Richmond, Va.

Dear Sirs :—

.....

Salutations to married ladies.

a. Mrs. J. C. Bills,

Albany, Ohio.

Madam :—

.....

b. To an acquaintance.

Mrs. C. E. Trowbridge,

Chestnut, Fla.

Dear Madam :—

.....

c. To a friend.

Dear Mrs. Hilliard,

.....

.....

Very truly,

J. L. Stokes.

Mrs. A. Hilliard,

Orange Grove, Fla.

LETTER WRITING.

Salutations to intimate friends.

1. Friend Brown,

Your welcome message, etc.
.....

Sincerely,

T. R. Jackson.

Mr. Alfred Brown,
Ocean Grove, N. J.

2. My dear Joe,

Is it not time
.....

Faithfully yours,

C. D. Ingram.

Mr. Joseph Ballytine,
656 Arlington Street,
Omaha, Nebraska.

LESSON SIX.

Common forms of complimentary close used in business letters : —

Truly,

Yours truly,

Yours very truly,

Sincerely,

Very sincerely,

Yours very sincerely,

Respectfully,

Very respectfully,

Faithfully yours,

Yours fraternally,

Cordially,

Yours cordially.

For *social* letters a variety of forms could be given ; such as, Affectionately, Your friend, Affectionately your son, Ever yours, Your loving mother, etc.

Official letters have a more formal close than any others ; as,

I have the honor to be (or remain)

Your obedient servant,
.....

ELEMENTARY COURSE.

EXERCISES.

Write the following headings and addresses, with suitable salutations and complimentary closes. Arrange and punctuate correctly :—

1. 25 Broadway N Y April 16 1900 C L Rogers & Co Champaign Ill
2. Anoka Minn March 4 1901 Montgomery Ward & Company Chicago Ill
3. 18 Mangrove st Covington Ky Feb 16 1900 Messrs. Rand & Waller Portland Ore
4. Write the heading, address, salutation, and complimentary close of a letter from yourself to your brother, sister, or mother.
5. To a married lady who is a stranger.
6. To a young lady who is an intimate acquaintance.
7. To a classmate.
8. To a widow who is a friend of yours.
9. To an acquaintance who is president of a bank. The letter is to be strictly a business letter.
10. To the President of the United States.
11. To the officers and members of a literary society.
12. To a commercial corporation.

LESSON SEVEN.

The Superscription.

The superscription consists of the name and title of the person addressed and his residence or post office address.

Form 1.

Miss Anna Pierson,
Los Angeles,
Box 168. California.

Form 2.

Hon. Alexander Sands,
Washington,
D. C.
Introducing
Mr. A. H. Dixon.

LETTER WRITING.

Form 3.

William Darnley, Esq.,
365 Howard Avenue,
New Haven, Conn.

Form 4.

Mr. A. C. Archibald,
Scranton,
Penn.
85 Laurel Street.

Form 5.

The Morning Herald,
Medora,
No. Dak.
Billings Co.

EXERCISES.

Write the following envelope addresses : —

1. Mr W E Scott Fenton Mich
2. John L Goudy D D Denver Colo Please forward
3. Dr M A Robinson Care of Roberts & Co New Orleans La Personal
4. Miss Mary Tierney San Francisco Cal Transient
5. Miss Anna Smith 1005 Pennsylvania Avenue Washington D C Deliver to addressee only
6. Mr R H Madden Billings Montana After one week P M will please forward to Butte Montana
7. Jones & Merrifield Clothiers About 65 Broadway N Y
8. George Bancroft Burlington Iowa General delivery Not a resident
9. Mr and Mrs George L Barker 64 Grove St City Kindness of L H Abbott

LESSON EIGHT.

Miscellaneous Hints.

1. Exercise good taste in selecting paper, envelopes, and ink.
2. Be neat. Cultivate a neat handwriting without flourishes or oddities of any kind. Copy and recopy if necessary. Fold your letter neatly.

ELEMENTARY COURSE.

3. Be careful as to arrangement, punctuation, spelling, and grammar. Avoid interlineations, erasures, and blots.
4. Be prompt in answering letters.
5. Be definite, natural, and courteous in your composition.
6. Always read your letters over carefully before sending them.
7. Do not use the sign $\#$ before the number of the house or the post office box.
8. Postal cards are not intended for friendly correspondence but for brief business notifications.
9. It is a violation of the postal laws to send dunning communications on postal cards.
10. Always name the state in your direction on the envelope.
11. Carefully examine the address on an envelope after it has been directed.
12. Every year 1,500,000 letters fail to reach their destination because writers do not give full names and addresses.
13. A lady, in writing to a stranger, should always sign her name so that the person who receives the letter will know, in answering, whether to address a single or a married lady. If single, she should write Miss in parentheses before her name ; if married, the title Mrs.
14. A married woman usually uses her husband's name or initials ; as Mrs. Thomas J. Bardwell, or Mrs. T. J. Bardwell. She may use her own name, and *should* do so if she be a widow.

EXERCISE.

Write a letter containing not less than 100 words and send to us for criticism.

LESSON NINE.

Miscellaneous Hints.

1. Take pains to write your name plainly in signing letters.
2. In writing letters, place the words, phrases, and clauses so that there can be no mistaking their meaning. Use common words and express yourself as you would in conversation with your correspondent. To friends, be familiar ; to relatives, affectionate ; to inferiors, courteous ; to superiors, respectful ; to children, simple.

LETTER WRITING.

3. In business correspondence, statements should be pointed and direct. Fewer words should be used than in conversation on the same subject.
4. Be natural and original in letter writing, as in conversation. Use specimen letters as models for form and as suggestive of what may be written in your own way.
5. Avoid the use of large words, foreign words, slang words or phrases, and long sentences.

EXERCISES.

Write to the president of some college, asking for a catalogue and for information on some point that is not usually explained in a catalogue.

Write to the publishers of a magazine subscribing for one year. State with what number you wish to begin. Inclose a written copy of a bank draft in payment.

Send both these letters to us for criticism.

LESSON TEN.

Letters of Introduction.

Letters of introduction, especially business letters of introduction, are usually presented in person. They should always be delivered unsealed to the person introduced. When presented in person, the envelope should be addressed as shown in Form 2, Lesson 7. When sent by mail, the name and address of the person introduced should be given so as to enable the person to whom it is addressed to call and offer hospitality.

Form 1.

Columbus, Ohio, Nov. 6, 1901.

Mr. A. C. Bradstreet,
Riverside, California.

My dear Sir :—

This will introduce to you my friend, Mr. C. D. Hathaway, who visits southern California in the interests of his health.

Any courtesies you may show him will be duly appreciated by myself.

Sincerely yours,

Frank L. Sanborn.

ELEMENTARY COURSE.

Form 2.

Detroit, Mich., Oct. 1, 1901.

Messrs. Gould & Hines,
Salt Lake City, Utah.

Dear Sirs :—

I take pleasure in introducing to you our former cashier, Mr. H. E. Lewis, who is about to engage in the grocery business in your city. He is capable, energetic, and high minded, and will, we are confident, be a valuable acquisition to the business community of Salt Lake City.

Any courtesies you may extend to Mr. Lewis I shall regard as a personal favor to myself.

Very truly,
John Courteney.

EXERCISES.

Write a letter introducing a friend to a firm in Atlanta, Georgia, requesting them to assist him, if possible, in securing a situation.

Write a letter to a friend in Portland, Oregon, introducing friends who expect to visit that city on a pleasure trip.

LESSON ELEVEN.

Letters of Application for Employment.

In writing such letters, give qualifications clearly, modestly, and in a business-like tone. Send copies of testimonials, each on a separate sheet, and mark "copy" at the top of each. The application should be carefully written in the applicant's own handwriting, and should usually state his age, education, habits, experience, and qualifications.

Specimen Letter.

Galveston, Texas, Dec. 2, 1900.

Mr. C. W. Collins,
112 Fort Street, City.

Dear Sir :—

In answer to your advertisement in this morning's Herald, I respectfully apply for a position in your office.

LETTER WRITING.

I beg to say that I am nineteen years old and a graduate of our high school. I can refer you, by permission, to the principal of that school.

Trusting that you will grant me an early interview, I am,

Respectfully yours,

E. R. Morrow.

EXERCISES.

1. Apply for a position as cashier in Robinson & Co.'s grocery store.
2. Write a letter applying for some position you would like to obtain.
3. Answer a newspaper advertisement. Cut one from a newspaper and send it to us with your answer.

LESSON TWELVE.

Letters of Recommendation.

What may be called a form for a general letter of recommendation is as follows :—

Sacramento, Cal., Feb. 21, 1901.

To whom it may concern :—

This is to certify that Miss Nina Kinney has been in our employ during the past few years. She has always proved faithful and efficient, and we cordially recommend her to anyone in need of a first class stenographer.

Respectfully,

L. C. Wier & Co.

EXERCISES.

1. Write a general letter of recommendation for a faithful employee.
2. Write a special letter of recommendation for John Hamilton, who has been in your employ ten years.

LESSON THIRTEEN.

Letters Acknowledging Receipt of Money.

Specimen.

Pittsburg, Pa., June 24, 1900.

Mr. C. A. Massey,
Grafton, N. D.

Dear Sir :—

Your letter of the 20th instant, with inclosure of post office order for \$10.50 in payment of your account, has been duly received.

Thanking you for your promptness and hoping to receive further orders from you, we remain,

Yours respectfully,

C. D. Brown & Co.

Letter ordering Goods.

Davenport, Ia., March 31, 1901.

R. M. Bishop & Co.,
Boston, Mass.

Dear Sirs :—

Send at once, by American Express, the following goods :—

- 2 International Dictionaries,
- 50 gross Spencerian Pens, No. 1, in gross boxes.

Please bill at 30 days.

Yours very truly,

Truman B. Handy.

EXERCISES.

1. Write a letter acknowledging the receipt of money paid in settlement of an account of long standing.
2. Write a letter ordering ten kinds of hardware, and state the manner of shipment and payment.

LETTER WRITING.

LESSON FOURTEEN.

Letters inclosing Remittances.

Specimen No. 1.

2500 Chestnut Street,
Milwaukee, Wis., Oct. 6, 1901.

"The Times,"
Chicago, Ill.

Inclosed find post office money order for \$8.00 to pay for the daily Times one year from Oct. 10, 1901. Mail to the address above.

Yours truly,
W. M. Dickinson.

Specimen No. 2.

Baltimore, Md., August 5, 1901.

Messrs. Brown & Hatch,
Portland, Me.

Dear Sirs : —

Inclosed find New York draft for \$65.66 in full payment of our account. Please receipt and return bill, and oblige,

Yours truly,
C. L. Wilby.

EXERCISES.

1. Write a letter inclosing a draft for \$50.00 to be applied on account.
2. Write a letter ordering five different books and inclosing in payment a check on the First National Bank of Chicago.

LESSON FIFTEEN.

Notes.

Notes are sometimes classified as formal and informal ; the formal includes business notes and social notes, and the latter short notes of friendship. Social notes should be written in the third person.

ELEMENTARY COURSE.

Specimen No. 1.

*Mr. and Mrs. Grant S. Hager
request the pleasure of your company on
Tuesday evening, June seventeenth,
from nine to eleven o'clock.*

1048 Magnolia Avenue.

Specimen No. 2.

*Mr. and Mrs. G. A. Bading regret that a
previous engagement will prevent their acceptance of
Mr. and Mrs. Hager's
invitation for Tuesday evening.*

Elmwood,

Wednesday, June 11.

Specimen No. 3.

*Mr. Babcock presents his compliments to
Miss Dewey, and begs her to accept
this little remembrance, with his best wishes
for the New Year.*

65 Cortlandt Street,

Jan. 1, 1901.

Specimen No. 4.

*Mrs. Fanning requests the pleasure of
Miss Johnson's company on
Friday evening, at a little gathering
in honor of Miss Paddock.*

2860 Drexel Avenue,

Monday, June tenth.

LETTER WRITING.

EXERCISES.

1. Write a formal note inviting a friend to take dinner at your home.
2. Write a note to a relative, returning thanks for a present.
3. Send a Christmas greeting to a friend.

Superscriptions. The following miscellaneous titles for use in addressing letters or notes of invitation cover the ordinary field of superscriptions: His Excellency and Mrs. Theodore Roosevelt ; Gōvernor and Mrs. Roger Allin ; Hon. and Mrs. Melville W. Fuller ; Dr. and Mrs. G. A. Bading ; Mr. and Mrs. S. T. Holland ; Rev. and Mrs. J. P. Lytton ; Professor and Mrs. George T. Martin.

LESSON SIXTEEN.

Letters of Friendship.

In writing letters of friendship, be natural, and use a conversational style. Your friend should feel that he has been favored with a delightful visit, not a formal call. Cultivate freshness and originality in expression, especially in the opening and closing sentences, avoiding the old time-worn phrases, such as, "I thought I would write you letting you know," "I now take my pen in hand," "I will now close," "I must bring my letter to a close, as I have told you all I know," etc.

EXERCISES.

1. Write a letter to one of your relatives about matters of mutual interest.
2. Write a letter to an intimate friend.

LESSON SEVENTEEN.

Letters of Condolence.

Letters of condolence are written to friends who have suffered reverses, losses, or bereavement. They are difficult to write, as they require good taste and sympathetic feeling. This should not, however, excuse us from

doing our duty. If we refrain from sending such letters when occasion calls for them, it might be interpreted in the light of neglect or indifference.

In offering condolence do not recite the details of the case, and do not argue on the subject. The letter should be brief. Show your grief and sympathy in a few lines coming from the heart. Of course you should not insinuate that your friend is in the least to blame.

The following is one of the best specimens of a letter of condolence that can be found : —

Executive Mansion,
Washington, Nov. 21, 1864.

Dear Madam, —

I have been shown in the files of the War Department a statement of the Adjutant General of Massachusetts that you are mother of five sons who have died gloriously on the field of battle. I feel how weak and fruitless must be any word of mine which should attempt to beguile you from the grief of a loss so overwhelming. But I cannot refrain from tendering to you the consolation that may be found in the thanks of the Republic they died to save. I pray that our Heavenly Father may assuage the anguish of your bereavement and leave you only the cherished memory of the loved and lost, and the solemn pride that must be yours to have laid so costly a sacrifice on the altar of freedom.

Yours very sincerely and respectfully,
Abraham Lincoln.

To Mrs. Bixby,
Boston, Mass.

EXERCISES.

1. Recall some actual event in your recollection in which a friend suffered bereavement. Write the letter you should send under such circumstances.
2. Write to a friend who has lost his home by fire, assuring him of your sympathy

LESSON EIGHTEEN.

Telegrams.

In telegraphic dispatches the salutation and complimentary close are omitted. Telegrams should be expressed in the fewest possible words

LETTER WRITING.

to make the meaning clear, but they should not be condensed so much as to make the message unintelligible. A good practice is to read important telegrams to a disinterested person, to see if the meaning is clear.

EXERCISES.

1. Write a telegram not exceeding ten words, ordering a small invoice of dry goods sent by express.
2. Write a letter of congratulation to a friend just married.

For a list of abbreviations in general use, see syllabus for Composition.

COMPOSITION.

Exercises in language. Punctuation, capitals, etc.

Text-books recommended for study or reference:

Hyde's Two-Book Course in English—Book one,	\$0.40
Metcalf's Elementary English, . . . . .	.45
Patterson's Elements of Grammar and Composition, . . . . .	.55
Elements of Composition and Grammar—Southworth and Goddard, . . . . .	.65

COMPOSITION.

LESSON ONE.

Master the following rules:

CAPITALS.—Begin with a capital:—

1. Every sentence and every line of poetry.

Examples.—Forget others' faults. How bright the day! What is fame? Custom forms us all.

“Time is the warp of life; oh! tell
The young, the fair, to weave it well.”

2. All proper nouns, and titles of office, honor, and respect.

Examples.—Henry the Fowler, Emperor of Germany; Robert Roe, Esquire; His Honor the Mayor; Elizabeth Barrett Browning; the Red River; Union Square; the Superior Court of the City of New York.

3. All adjectives formed from proper names.

Examples.—African, Italian, Welsh, Ciceronian.

Also adjectives denoting a sect or religion.

Examples.—Methodist, Puritan, Catholic.

4. Common nouns, where personified in a direct and lively manner; not where sex is merely attributed to an inanimate object.

Examples.—Then *War* waves his ensanguined sword, and fair *Peace* flees sighing to some happier land. But, the *sun* pursues his fiery course; the *moon* sheds her silvery beams.

5. All appellations of the Deity. The personal pronouns *Thou* and *He* standing for His name are sometimes capitalized.

Examples.—The Almighty; the King of kings; the Eternal Essence; Jehovah; the Supreme Being; our Father.

In the standard editions of the Bible, the pronouns, when referring to God, are never capitalized, not even in forms of direct address to the Deity.

6. The first word of a complete quoted sentence not introduced by *that*, *if*, or any other conjunction.

Examples.—Thomson says, "Success makes villains honest." But Thomson says that "success makes villains honest."

7. Every noun, adjective, and verb in the title of books and headings of chapters.

Examples.—Butler's "Treatise on the History of Ancient Philosophy"; Cousins' "Lectures on the True, the Beautiful, and the Good."

8. Words that denote the leading subjects of chapters, articles or paragraphs.

A word defined, for instance, may commence with a capital. Do not introduce capitals too freely under this rule. When in doubt use a small letter.

9. The pronoun *I* and the interjection *O*.

10. Words denoting great events, eras of history, noted written instruments, extraordinary physical phenomena and the like.

Examples.—The Creation; the Confusion of Languages; the Restoration; the Dark Ages; the Declaration of Independence; the Aurora Borealis.

11. Letters standing for words are generally written as capitals.

Examples.—A. D. for *Anno Domini*, the year of our Lord.

12. The months of the year, and the days of the week. The names of the seasons, however, should not generally be capitalized, although it is customary with some authors.

13. The words *North*, *South*, *East*, and *West*, and their compounds, as *Northwest*, when they signify a section of country. Also adjectives derived therefrom. This class of words should not be capitalized, however, when merely denoting direction.

EXERCISES.

Give an example of each rule.

COMPOSITION.

LESSON TWO.

EXERCISES.

Correct the capitalization of the following:—

1. This is inconsistent with christian charity.
2. The ceremony will take place next wednesday or thursday.
3. The earl of clarendon is dead.
4. He delights in the Study of the holy scriptures.
5. We are all americans.
6. The Ambassador was received by president roosevelt.
7. The prince of wales succeeded queen Victoria.
8. He is also called the almighty, the king of kings, the eternal, the infinite.
9. He was a devout methodist.
10. In point of real force and originality of Genius, neither the age of pericles, nor the age of augustus, can compare with that of elizabeth.

Write the following words, using capital letters when needed: city of memphis, straits of magellan, state of new york, isthmus of corinth, sea of marmora, king of england. bay of biscay, empire of japan, great britain, north carolina, lower california, henry clay, south america, new bedford, declaration of independence, gibbon's "decline and fall of the roman empire," webster's reply to hayne, milton's "paradise lost," son of man, paul and virginia, ridpath's history of the united states. erie canal, mount washington, pennsylvania central railroad, long island sound, new testament, governor devine, pope's "essay on man," "the bible for learners."

LESSON THREE.

PUNCTUATION POINTS.—The Punctuation Points are as follows:—

Period	.	Paragraph	¶
Colon	:	Brace	}
Semicolon	;	Acute accent	´
Comma	,	Grave accent	`
Interrogation Point	?	Circumflex accent	ˆ
Exclamation Point	!	Tilde, or Circumflex	˜
Dash	—	The Long, or Macron	—
Parenthesis	()	The Short, or Breve	˘
Brackets	[]	Diaeresis	¨
Hyphen	-	Cedilla	¸
Quotation Marks	“ ”	Asterisk	*
Apostrophe	'	Dagger, or Obelisk	†
Ellipsis	{ . . . }	Double Dagger	‡
Caret	^	Section	§
Index	☞	Parallel	||

PUNCTUATION is the art of dividing composition by points or stops for the purpose of showing more clearly the sense and relation of the words, and of noting the different pauses and inflections required in reading.

The usage of to-day is not that of the past and will not be that of the future.

The following rules are the most important and are compiled from the best modern authorities:—

THE PERIOD must be placed after every declarative and imperative sentence and every abbreviated word.

Examples.—Obey your parents. Virtue is the only nobility. We write Jas. for James, N. Y. for New York, No. for number, George I. for George the First.

After all abbreviations.

Examples.—Mdse.—Amt.—Ph. D.—LL. D.

After numbers written in the Roman notation.

COMPOSITION.

Example.—XIX.—Psalm XC.

A nickname which is not really an abbreviation is not followed by a period.

Examples.—Dave Bidwell; Sam Slick.

A COLON is placed after a sentence which formally introduces a distinct quotation.

Examples.—We are often reminded of this remark of Marshal Lannes: "Know, Colonel, that none but a poltroon would boast that he was never afraid."

The colon may be used to separate the great parts of a long complex sentence when the minor sentences therein are separated by the semicolon.

The colon is passing out of use, its place being taken by the dash, the semicolon, and the period.

A SEMICOLON is placed before *as, to wit, viz., namely,* and *that is* when they introduce examples or illustrations.

Example.—Every solid has three dimensions; namely, length, breadth, and thickness.

Place a semicolon at the close of a sentence which by its terms promises another sentence.

Example.—"Tic-tac, tic-tac, go the wheels of thought; our will cannot stop them; they cannot stop themselves; sleep cannot still them; madness only makes them go faster; death alone can break into the case."

A semicolon may be used to separate short sentences which have but a slight connection with each other.

Example.—He was a poor boy; he had no showy accomplishments; he had no influential friends; but he was rich in youth, courage, and honesty of purpose.

EXERCISES.

Send an example of each rule mentioned above.

LESSON FOUR.

COMMA.—Set off by the comma an explanatory modifier when it does not restrict the modified term.

Example.—The order, to fire, was given.

Set off by the comma a word or phrase that is independent.

Example.—To tell the truth, he was not at home.

Set off by the comma a phrase that is out of its natural order.

Example.—Shifting his burden, he hurried on.

Set off by the comma a participle used as an adjective.

Example.—The water, expanding, burst the pipe.

Set off by the comma connected words and phrases unless the conjunctions are all expressed.

Example.—“From the mountain, from the river, from the hill, and from the plain, we are sweeping to the rescue.”

A comma is used before a direct quotation unless it is formally introduced. Greeley said, “The way to resume is to resume.”

Set off by commas all parenthetical expressions and the following words when used as such: however, that is, indeed, of course, finally, again, first, second, also, therefore, yes, no, too, etc.

Example.—He is, indeed, worthy.

Use the comma *after* as, viz., to wit, namely, and that is, when they introduce examples.

Example.—We will promote the man; that is, if he is worthy.

The parts of a complex sentence should be separated by a comma when the *auxiliary* precedes the *principal* sentence.

Example.—If the messenger calls, give him the letter.

Separate by the comma a phrase or sentence used as a subject and its verb.

Example.—“That all men are created equal, is a self-evident truth.”

Words used in direct address should be separated by the comma.

Example.—“Stranger, I am Rhoderick Dhu.”

THE INTERROGATION POINT must be placed after every interrogative sentence, member, and clause; also after the interjections *eh* and *hey* implying a question.

Example.—Has the air weight? Air has weight; do you not believe it? You thought it would rain, eh?

An interrogation point inclosed in parentheses denotes doubt.

COMPOSITION.

Example.—Your friend (?) told me this.

THE EXCLAMATION POINT should be placed after every exclamatory sentence, member, clause, and expression.

Examples.—How disgusting is vice! Life is short; how careful we should be to use it aright! For shame!

An exclamation point placed in parentheses denotes peculiar surprise.

A DASH is usually placed before the answer to a question when both are in the same paragraph.

Example.—Are you acquainted with the defendant?—I am.

A dash is often used in place of the parenthesis.

Example.—With a firm step—for he was brave—he advanced.

Use the dash where there is an omission of such words as, *namely, that is, as*, introducing equivalent expressions and when letters or figures are omitted.

Example.—“Some wit has divided the world into two classes—the wise and the otherwise.” General M—— was present.

Use the dash when there is a sudden transition.

Example.—We have learned the bitter lesson—let us bury the past.

EXERCISES.

Send an example of each rule.

LESSON FIVE.

PARENTHESES. Marks of Parenthesis are used to inclose words which explain, modify, or add to the main proposition, when so introduced as to break the connection between dependent parts and interfere with the harmonious flow.

Example.—The Saxons (for they descended from the ancient Sacæ) retained for centuries the energy and morality of their ancestors.

BRACKETS. Brackets are used principally in quoted passages, to inclose words improperly omitted or added by way of correction, observation, or explanation.

Example.—She is weary with [of] life.

In regard to the use of points before and after the brackets, and the punctuation of any sentence or clause within the brackets, the same rules apply that are given for the punctuation of other clauses.

THE APOSTROPHE denotes the omission of a letter or letters, and the possessive case of nouns.

Examples.—'Tis for *it is*; e'en for *even*; don't for *do not*; o'clock for *on [the] clock*. So in the possessive: *hero's*, *Charles's*, *men's*, *heroes's*, *children's*.

Pronouns never take the apostrophe in the possessive case.

THE HYPHEN is used to connect the elements of a compound word, when each retains its own accent.

Example.—Castle-builder, father-in-law.

The hyphen is also used after a complete syllable at the end of a line, to connect the parts of a divided word; also to denote that the final vowel of a prefix does not form a diphthong with the first vowel of a primitive; but in this latter case a mark of diæresis is more appropriate.

Example.—Pre-engagement, re-establish [preëngagement, reëstablish].

QUOTATION POINTS are used to inclose words quoted from an author or speaker; or represented in narrative as employed in dialogue.

Example.—"Remember now thy Creator in the days of thy youth."

When the substance merely is given, and not the exact words, quotation points are unnecessary.

Matter within quotation points is to be punctuated just as if it stood in any other position.

When quotation points are needed at the end of a sentence, they come after whatever other point is required there if this point applies to the quotation alone, but before this point if it applies to the whole sentence and not exclusively to the quotation.

Example.—Pilate asked, "What is truth?" Where now is the "man of destiny"?

When a quotation incloses within it another quotation, the external quotation has the double marks, and the one included has only the single marks.

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Example.—It has been well said, “The command, ‘Thou shalt not kill,’ forbids many crimes besides that of murder.”

If the inclosed or secondary quotation ends a sentence, three apostrophes will there come together, of which the first will belong to the inclosed quotation, and the other two to the original. When an inclosed quotation itself contains words or phrases that are quoted, those words or phrases have the double marks.

Example.—“French says, ‘What a lesson the word “diligence” contains!’”

When the sentence becomes more involved than this, the additional marks of quotation would create confusion, and may therefore be omitted.

EXERCISES.

Send an example of each rule.

LESSON SIX.

THE PARAGRAPH is used to indicate a new subject of remark. The sign is retained in the Holy Scripture, but in ordinary composition is indicated to the eye by beginning a little to the right of the marginal line of the page.

ACCENT MARKS are used to denote the proper pronounciation of words. They are:—

The *Acute* [^], which marks the syllable which requires the principal stress in pronounciation; or to denote a rising inflection of the voice, or a close or short vowel.

The *Grave* [`] is used in opposition to the acute to distinguish an open or long vowel, or to denote the falling inflection of the voice.

The *Circumflex* [^] generally denotes a broad sound or a combination of the acute and grave.

The *Breve* [ˇ] is used to denote either a close vowel or a syllable of short quantity.

The *Macron* [-] is used to denote either an open vowel or a syllable of long quantity.

The *Diaeresis* [¨] is placed over the latter of two vowels to show that they are to be pronounced in separate syllables, as *aërial*. In German this character is called the *Umlaut*, and denotes a modification of the sound of a vowel over which it is placed, peculiar to the Germanic languages.

The *Cedilla* [¸] is placed under the letter *c* to give it the sound of *s* before *a* or *o*; as in the words *façade*, *Alençon*.

The *Tilde* [˜] is placed over the letter *n* in Spanish words to give it the sound of *ny*; as, *señor*, *miñon*.

OTHER MARKS.—The *Ellipsis* or *Suppression* denotes the omission of some letters or words.

Examples.—K——g, for King; G****m, for Graham; A...s, for Adams; H—m—hr—y, for Humphrey.

The *Caret*, used only in writing, shows where to insert words or letters that have been accidentally omitted.

would

Example.—James said he [^] be home to-night.

The *Index* or *Hand* [☞] points out something remarkable, or what the reader should particularly observe.

The *Brace* [}] serves to unite a triplet, or to connect several terms to something to which they are related.

Examples.—

Case	{	Nominative. Possessive. Objective.	Committee	{	W. Brown. H. Jones. R. Smith. M. Mills.
------	---	--	-----------	---	--

The *Section* [§] marks the smaller divisions of a book or chapter, and, with the help of numbers, serves to abridge references.

The *Paragraph* [¶] denotes the commencement of a new subject. The parts of discourse which are called paragraphs are in general sufficiently distinguished by beginning a new line and carrying the first word a little backwards.

Leaders [.....] are used in contents and indexes of books and similar matter to lead the eye to the end of the line for the completion of the sense.

Example.—Wharfage, \$50

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LESSON SEVEN.

Common Mistakes.

A and AN. A is used before all words beginning with consonants except those beginning with silent H, or when the word beginning with H is accented on some other syllable than the first. An is to be used before all vowel sounds, silent H, and when the words beginning with H are accented on some other syllable than the first.

ABILITY (for capacity). Capacity is the power of receiving and retaining knowledge with facility. Ability is the power of applying knowledge to practical purposes.

ABORTIVE (for unsuccessful). A plan may be abortive, but an act cannot.

ACCEPTANCE (for acceptance). "No word is more vague in its general acceptance," should be "in its acceptance."

ACCIDENT (for wound). "Witch hazel cures accidents."

ACCREDIT (for credit). Few, except very bad writers, employ it as a robust substitute for credit or believe.

ADMINISTER (for deal). "The blows were administered [dealt] by Policeman Johnson."

ADMIRE (for desire). It is an error to follow this verb with an infinitive, as "I admire to see a man consistent." Doubly wrong, therefore, is the expression, "I should admire to go with you."

AGGRAVATE (for irritate, worry, annoy). "There would be no danger in aggravating Violet by this expression of pity." Better "irritating."

AGRICULTURALIST (for agriculturist). The first is never correct.

AIN'T. The only legitimate contraction of I am not is I'm not.

ALLOW (for say, assert, express opinion). We may allow or admit that which we have disputed, but of which we have been convinced; or we may allow certain premises as the basis of argument; but we assert, not allow, our own opinions.

ALLUDE (for say or mention). Allude (from *ludo, ludere*, to play) means to indicate jocosely, to hint at playfully; and so to hint at in a slight, passing manner. Allusion is the byplay of language.

ALONE (for only). Alone means "quite by one's self," and is always an adjective, differing herein from only, which is both an adverb and an adjective. In some cases the words may be used indifferently, but as a rule there is a marked distinction between alone and only, as "I did it alone," quite by myself; "an only daughter;" "they differ on one point only."

ALTERNATELY (for by turns). This word should be used only in speaking of two objects or classes of objects. Whately rightly defines alternative as a choice between two objects.

AMATEUR (for novice). A professional actor who is new and unskilled in his art is a novice, and not an amateur. An amateur may be an artist of great experience and extraordinary skill.

AMONG (for between, when speaking of two). Gould says it should not be written amongst, but Worcester and Webster give both forms.

AND. The commonest case in which it is violated is where *and* introduces a relative clause, no relative having occurred before, as "I have a book printed at Antwerp, and which was once possessed by Adam Smith." *And* for *to* is a frequent misuse. "Try to do it," not "try and do it."

ANYWAYS (for anyway). This is a frequent misuse.

ANYWHERE (for anywhere). Belongs to the class of words frequently misused.

APPREHEND (for comprehend). Apprehend denotes the laying hold of a thing mentally, so as to understand it clearly, at least in part. Comprehend denotes the embracing or understanding it in all its compass and extent. We may apprehend many truths which we do not comprehend.

AS (for that). "I don't know as [that] I can go."

ASSURANCE (for fire insurance). Webster and Worcester agree that this word is limited to life insurance.

AT (for by). "I bought it at auction" is correct English, but "It is to be sold at auction" is American only.

AT ALL. A needless expletive, as "I did not like the play at all."

AVOCATION (for vocation). Vocation is one's pursuit, employment, business; avocation refers to incidental or pleasure pursuits.

ACOUSTICS takes a singular verb. Names of sciences, such as mathe-

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matics, economics, politics, physics, gymnastics, etc., are now regarded as singular in number.

AWFUL (for very or for ugly). "The crowd present was awfully boisterous."

BAD. "I feel bad," not "I feel badly."

BALANCE (for rest, remainder). Balance refers to the ledger account, and does not properly convey the same meaning as remainder.

BANQUET (for dinner, supper). A banquet is a public, sumptuous feast.

BEAU, a word used by the uneducated instead of escort.

BEEN TO (for been). "Where have you been to?"

BETWEEN (for among). Between is only for two—by and twain. Carefully avoid such expressions as "Between every stitch."

BLAME IT ON (for accuse). A common vulgarism.

BOUNTIFUL (for plentiful). Bountiful applies to persons, not to things, and has no reference to quantity.

BOURN (for place, instead of boundary). Frequently misused.

EXERCISES.

Write sentences that will illustrate the correct use of the above words and phrases.

LESSON EIGHT.

Common Mistakes.

BRAVERY (for courage). Bravery is inborn, instinctive. Courage is the product of reason, calculation. Men who are simply brave are careless, while the courageous man is always cautious.

BRING (for fetch). Bring expresses motion toward, not away. A boy is properly told to take his books to school and to bring them home. A gardener may say to his helper, "Go and bring me yonder rake," but he might better say, "Fetch me yonder rake."

BOUND (for determined). "He is bound to go West."

BURSTED (for burst). "The pipes bursted doing the cold weather."

BUT (for that or if). "I have no doubt but he will come to-night."

BUT THAT (for that). "I should not wonder but that was the case."

BY (for upon). "By [upon] returning it to this office the finder will be rewarded."

CALCULATE (for expect). "I calculate [expect] to go to-morrow."

CAN (for may). The boy says, "Can I go down street?" when he means "May I?" It is a question not of possibility but of permission.

CAPTION (for heading). Not sanctioned by good writers.

CASKET (for coffin). A newspaper writer facetiously intimated that a man in a casket is not quite so dead as a man in a coffin.

CITIZEN (for person). A citizen is a person who has certain political rights. To say "Several citizens carried the victims of the accident into a shop," would be as absurd as to say, "several church members."

COME (for go). "I am coming to pay you a visit." Coming is right.

COMMENCE TO (for begin). Omit to. We begin to write. We commence writing.

COMPULSION (for obligation). The former is a physical, the latter a moral, necessity.

CONFESS TO (for confess). "I confess to a little curiosity on this subject." The natural rejoinder was, "Well, did the little curiosity absolve you?"

CONSTRUE (for construct). Writers construct; readers construe.

CONSUMMATE (for perform). "The marriage was consummated [performed] at Paris, last April."

CONTEMPTIBLE (for contemptuous). "To a gentleman who, at the close of a fierce dispute with Porson, exclaimed, 'My opinion of you is most contemptible, sir,' he retorted, 'I never knew an opinion of yours that was not contemptible.'"

CONTINUAL (for continuous). A continuous action is one which is uninterrupted; continual is that which is constantly renewed and recurring, though it may be interrupted as frequently as it is renewed.

CONTINUE ON is often erroneously used for continue.

CORPOREAL, frequently misused for corporal, especially of punishment.

CORTEGE (for procession). A cortege is a procession, but every procession is not a cortege.

CREDIBLE (for credulous). "He is very credible [credulous]."

CREDITABLE (for credible). "I am creditably [credibly] informed."

DEAD AND BURIED, dead and gone, and similar expressions are to be deprecated. Those who have died have usually been buried, and they are also gone.

DEAREST. "A gentleman once began a letter to his bride, thus: 'My dearest Maria.' The wife replied: 'My dear John, I beg that you will mend either your morals or your grammar. You call me your "dearest Maria"; am I then to understand that you have other Marias?'"

DEDUCTION (for induction). Induction is the mental process by which we ascend to the delivery of special truths; deduction is the process by which the law governing particulars is derived from a knowledge of the law governing the class to which particulars belong.

DEMORALIZED (for scared). "The horse, in addition to losing all the hair on his tail, became considerably demoralized."

DEPARTURE. To take one's departure is a corruption of the accurate form, "to take one's leave."

DIFFER WITH, in opinion; differ from, in appearance.

DIE WITH (for die of). A man dies *of* smallpox, not *with* smallpox.

DOCK (for wharf or pier). A dock is an open place without a roof, into which anything is received, and where it is inclosed for safety. The shipping around a city lies at wharfs and piers, but goes into docks.

DONE should be used only with has, had, or have; frequently misused for did.

DON'T (for doesn't). Don't is the contraction for do not; doesn't the contraction for does not.

DOUBT BUT (for doubt). "I have no doubt but that it is so."

EACH AND EVERY (often followed by a plural verb). "When I consider how each of these professions are [is] crowded."

EMBLEM (for motto, sentiment). The figure is the emblem; not the accompanying motto.

ENTHUSE (for inspire). This word is not sanctioned by good usage.

EPITHET (as necessarily degrading). Is usually and erroneously applied to derogative adjectives.

EQUALLY AS WELL (for equally well). "He plays equally as well [equally well]."

EVERY ONCE IN A WHILE is an absurd and meaningless expression.

EVERY (for entire or all). "Rendered them every assistance," is absurdly wrong. Every is separated, and can be applied only to a whole composed of many individuals. It is always singular in number.

EXERCISES.

Write sentences that will illustrate the correct use of the above words and phrases.

LESSON NINE.

Common Mistakes.

EXECUTE does not mean to put to death. The law is executed when the criminal is hanged or imprisoned.

EXPECT (for suppose). Expect refers only to that which is to come, and which, therefore, is looked for. We cannot expect backward.

FEMALE (for woman). A vulgar misuse of English.

FROM OUT (for from). "From out the castle."

FARTHER, FURTHER. Farther properly signifies distance, further signifies degree or quantity. "As he walked farther he saw they were further along with the work."

FUTURE (for subsequent). "Her future life was virtuous and fortunate."

FIRST TWO. Often written and spoken, two first.

GENT AND PANTS. "Let these words go together, like the things they signify. The one always wears the other."

GENTLEMAN, LADY (for man, woman). The most important rule to observe is that where adjectives are used the nouns must be man, woman—not a polite gentleman, or a lovely lady; but a polite man, a lovely woman.

GIRL (for daughter). A father, on being requested by a rich and vulgar fellow for permission to marry "one of his girls," gave this rather

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crushing reply: "Certainly. Which one would you prefer—the waitress or the cook?"

GRADUATED (for was graduated). Students do not graduate, but are graduated. "I graduated [was graduated] in 1876."

GREAT, BIG. Frequently used for large.

GUMS (for overshoes). "Emily is outside, cleaning her gums upon the mat."

GET signifies possession obtained by exertion. He has [not has got] red hair."

HAD OUGHT (for ought). "You had ought to have been with me."

HAVEN'T NO. Omit no. Do not use two words meaning no in the same sentence.

HEALTHY, HEALTHFUL, WHOLESOME. Healthy refers to living things. "The man is healthy." "The surroundings are healthful." "The food is wholesome."

Is (for are). "Their general scope and tendency is [are] not remembered at all."

IT IS I (not me). It is he (not him). It is she (not her).

JEWELRY (for particular jewels). Its use in the latter sense is always to be preferred. Think of Cornelia pointing to the Gracchi, "These are my jewelry."

KIDS (for kid gloves). Colloquial and should not be used.

LAST (for latest). "I have received your latest [not last] letter."

LAY (for lie). Remember that lay expresses transitive action, and lie means rest. We lay the book on the table and the book lies where we have placed it.

LEARN (for teach). Learn means to acquire knowledge; teach, to impart it. This use of learn is found in respectable writers, but is now deemed improper, as well as inelegant.

EXERCISES.

Write sentences that will illustrate the correct use of the above words and phrases.

LESSON TEN.

Common Mistakes.

LEAVE (without an object). Annie Louise Carey will leave the stage," announces an exchange. "Thanks, Annie; we were afraid you would take the stage with you. So kind to leave it," rejoins the critic.

LEAVE (for let). "Leave [let] me be."

LET'S (for let). "Well, farmer, let's you and I go by ourselves."

LIABL. Frequently misused for likely.

LIT (for lighted). Much censured as an Americanism.

LOOK (followed by an adverb). "Miss Marlowe looked charmingly." Just as correct to say "Miss Marlowe looked gladly, or madly, or sadly, or delightedly."

LOAN (for lend). The former word is a noun, the verbal form of which is to lend.

MUTUAL (for common). It should always convey a sense of reciprocity.

NICE is now applied to a sermon, to a jam-tart, to a young man, in short, to everything. The word should be used with extreme caution.

NOR (for than, after comparative). "Better nor fifty bushel."

NOTION (for inclination). "I have a notion to go." Of course incorrect.

NONE is etymologically singular. "None but the brave deserves the fair," wrote Dryden.

OFF OF (for off). "A yard off of the cloth."

OVER HIS SIGNATURE (for under his signature). A letter is issued under or by the authority of the writer's signature.

PARTICLE (for at all). As "not a particle," for "not at all."

PAST TWO WEEKS. Better, the last two weeks.

PATRON (for customer) is wrong.

PILE (for amount). "He owed me quite a pile."

PARTY (for person). Avoid it.

POSTED (for informed). A colloquialism in the United States. Must be used with caution.

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PREVIOUS (for previously). "Previous to my going."

PROLIFIC (for frequent). "It was a prolific [frequent] source of annoyance."

PROMISE (for assure). "I promise [assure] you I was astonished."

PROOF (for evidence). Proof is the result of evidence.

QUITE is not to be used for nearly. Quite means wholly, completely or thoroughly.

RAISE (for bring up, educate). A peculiarity of the Southern states.

REAL (for very). "Real [very] nice."

RECKON (for conjecture, conclude). Provincial and vulgar.

RESTIVE (for restless). Restive signifies stubborn, unwilling to move, balky.

REMEMBER (for recollect). We remember without effort. Recollect with some exertion.

RETIRE (for to go to bed). A vulgar but unfortunately very common euphemism.

REVEREND (for the reverend). The article is absolutely required.

RIGHT (for obligation). "The cars have as good a right to be stopped as the carriages."

RISE UP (for rise). "He rose up and left the room."

EXERCISES.

Write sentences that will illustrate the correct use of the above words and phrases.

LESSON ELEVEN.

Common Mistakes.

SABBATH (for Sunday). Sunday is the name of the day, while Sabbath is the name of an institution.

SHALL AND WILL. *Shall*, in an affirmative sentence, in the first person, and *will* in the second and third persons, merely announce future action. Thus, "I *shall* go to town to-morrow." "I *shall* wait for better weather."

"We *shall* be glad to see you." "I *shall* soon be twenty." "We *shall* set out early, and *shall* try to arrive by noon." "You *will* be pleased." "You *will* soon be twenty." "You *will* find him honest." "He *will* go with us."

Shall, in an affirmative sentence, in the second and third person, announces the speaker's intention to control. Thus, "You *shall* hear me out." "You *shall* go, sick or well." "He *shall* be my heir." "They *shall* go, whether they want to go or not."

Will, in the first person, expresses a promise, announces the speaker's intention to control, proclaims a determination. Thus, "I *will* [I promise to] assist you." "I *will* [I am determined to] have my right." "We *will* [we promise to] come to you in the morning."

Shall, in an interrogative sentence, in the first and third person, consults the will or judgment of another; in the second person, it inquires concerning the intention or future action of another. Thus, "*Shall* I go with you?" "When *shall* we see you again?" "When *shall* I receive it?" "When *shall* I get well?" "When *shall* we get there?" "*Shall* he come with us?" "*Shall* you demand indemnity?" "*Shall* you go to town to-morrow?" "What *shall* you do about it?"

Will, in an interrogative sentence, in the second person, asks concerning the wish, and, in the third person, concerning the purpose or future action of others. Thus, "Will you have an apple?" "Will you go with me to my uncle's?" "Will he be of the party?" "Will they be willing to receive us?" "When *will* he be here?"

Will cannot be used interrogatively in the first person singular or plural. We cannot say, "Will I go?" "Will I help you?" "Will I be late?" "Will we get there in time?" "Will we see you again soon?"

Official courtesy, in order to avoid the semblance of compulsion, conveys its commands in the *you will* form instead of the strictly grammatical *you shall* form. It says, for example, "You will proceed to Key West, where you will find further instructions awaiting you."

Should and *would* follow the regimen of *shall* and *will*. *Would* is often used for *should*; *should* rarely for *would*. Correct speakers say, "I *should* go to town to-morrow if I had a horse." "I *should* not; I *should* wait for better weather." "We *should* be glad to see you." "We *should*

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have started earlier, if the weather had been clear." "I *should* like to go to town, and *would* go if I could." "I *would* assist you if I could." "I *should* have been ill if I had gone." "I *would* I were home again!" "I *should* go fishing to-day if I were home." "I *should* so like to go to Europe!" "I *should* prefer to see it first." "I *should* be delighted." "I *should* be glad to have you sup with me." "I knew that I *should* be ill." "I feared that I *should* lose it." "I hoped that I *should* see him." "I thought that I *should* have the ague." "I hoped that I *should* not be left alone." "I was afraid that we *should* have bad weather." "I knew I *should* dislike the country." "I *should* not like to do it, and *will* not [determination] unless compelled."

SHUT TO (for shut). "Shut the door to."

SOMEWHERE (for somewhere). "The farmer had gone out somewhere."

SPARROWGRASS, a corruption of asparagus.

SPOONFUL (for spoonfuls). "Two spoonful [spoonfuls] at bedtime."

STOPPING (for staying). "At what hotel are you stopping?"

SUCH (for so). "Such an extravagant young man," for "So extravagant a young man."

THAN (for when). "The admiral was hardly in the channel than [when] he was driven to sea by the storm."

THINK FOR (for think). "You will find that he knows more than you think for."

THOSE SORT OF THINGS. "I never approved of those [that] sort of things."

THOSE WHO (for they that). That and those, as demonstrative adjectives, refer backward, and are not therefore well suited for forward reference.

TO (for at). "When I was to [at] home."

TRY AND (for try to). "I will try and [to] come to-morrow."

UNIQUE (for beautiful). A thing is unique when it is the only one of its kind, whether it is good or bad, ugly or beautiful.

VENGEANCE (for revenge). Vengeance should never be ascribed save to God or to men acting as the executors of his righteous doom.

VULGAR (for immodest). The word vulgarity was formerly thought to mean indecent; now it simply means bad manners. Vulgar people are

low, mean, coarse, plebeian, no matter where the wheel of fortune has placed them.

WARN'T (for wasn't). Heard only as a vulgarism.

WAS (for is, of general truths). "Truth is eternal." In the expression of general and necessary truths the present tense is to be preferred to the past tense.

WAYS (for way). "He was a long ways [way] behind."

WHAT (for that). "I don't know but what [that] I shall go."

WHICH (for that). "She would be all which [that] the emperor could desire."

WIDOW WOMAN (for widow). Uselessly redundant.

YOU WAS (for you were). You takes the plural form of a verb.

EXERCISES.

Write sentences that will illustrate the correct use of the above words and phrases.

LESSON TWELVE.

Means of acquiring a vocabulary.

Note new words.

Use a dictionary.

Study etymology.

Seek good society.

Read the best books.

Synonyms.

Different words are used to designate the same thing, or nearly the same thing. Such words are called synonyms. Webster says. "If no words are synonymous except those which are identical in use and meaning, so that one can in all cases be substituted for the other, then we have scarcely ten such words in our language. The term more properly denotes that the words in question approach so near

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to each other, that, in many or most cases, they can be used interchangeably."

EXERCISES.

Write sentences showing the correct use of the following: allow, admit; brute, beast; apology, excuse; ability, capacity; affliction, distress; active, busy; doubtful, uncertain; begin, commence; pardon, excuse; among, between; educate, instruct.

NOTE. In preparing this exercise, the student must consult a good dictionary.

Paragraphing.

All sentences that pertain to one distinct topic should be combined into one paragraph.

Study carefully the various sentences. Select the leading statements and express them by means of independent propositions.

Very short paragraphs should not be used unless they exhaust the topic. Avoid abrupt transitions from one paragraph to another.

Begin each paragraph on a new line leaving, on paper the width of foolscap, a margin of about an inch. Allowing an inch for the indentation, each paragraph should begin two inches or so from the edge of the paper. If the paper used is narrower than foolscap, both margin and indentation for the paragraph should be proportionally less.

LESSON THIRTEEN.

Writing Compositions.

In learning to write compositions, begin by writing about familiar things concerning which you have some knowledge. After the subject has been selected, study it, making a memorandum of each thought as it occurs to you. If you fail to note down your thought at the time it occurs to you, it will likely slip your memory. Consult authorities, but never copy

the language. When you read on a subject, read until you become so familiar with it that you can easily express the ideas in your own language. If possible, visit that concerning which you are to write, for instance, cities, manufactories, etc.

Next make a complete outline. The value of this will depend on your knowledge of the subject and on the materials that you have collected. Write and rewrite, one topic at a time, until you are satisfied that you cannot improve upon the expression. After the entire outline has been developed, neatly copy the composition.

Parts of a Composition.

The introduction.

The discussion.

The conclusion.

Hints on Writing Good English.

Avoid stiffness in sentences, provincialism and slang, exaggeration, tautology, hackneyed expressions, long words: Cultivate simplicity, brevity, and naturalness.

EXERCISE.

Submit to us, for criticism, a composition on The Assassination of President McKinley. Use the following outline:—

- a. Introduction.
- b. Causes.
 - 1.
 - 2.
- c. Principal events.
 - 1.
 - 2.
 - 3.
 - 4.
- d. Results.

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In this and in all other similar exercises be careful as to spelling, punctuation, use of capitals, etc.

LESSON FOURTEEN.

EXERCISE.

Send to us a biographical sketch of Abraham Lincoln.

LESSON FIFTEEN.

EXERCISE.

Submit an original composition that will represent your best effort. You can select your own subject.

Two more compositions will be required. The subjects will be announced after the composition that is called for above has been criticised.

The following list of abbreviations in general use should be studied until it has been mastered:—

LESSON SIXTEEN.

Abbreviations in General Use.

A. B.	<i>Artium Baccalaureus</i> , Bachelor of Arts.	Acad.	Academy.
Abp.	Archbishop.	Acct.	Account ; Accent.
Abr.	Abridgment.	A. D.	<i>Anno Domini</i> , in the year of our Lord.
A. C.	<i>Ante Christum</i> , before Christ ; Arch-Chancellor.	A. D. C.	Aide-de-camp.
		Ad.	Advertisement.

- Adj. Adjective.
 Adjt. Adjutant.
 Adjt.-Gen. Adjutant-general.
 Ad lib. *Ad libitum*, at pleasure.
 Adm. Admiral ; Admiralty.
 Admr. Administrator.
 Admx. Administratrix.
 Adv. Adverb ; Advent ; Adver-
 tisement.
 Æt. *Ætatis*, of age ; aged.
 Agr. Agriculture.
 Agt. Agent.
 Ala. Alabama.
 A. M. *Anno mundi*. In the year of
 the world ; *Artium Magister*,
 Master of Arts ; *Ante Meridiem*,
 Before noon, morning.
 Ang. Sax. Anglo-Saxon.
 Anon. Anonymous.
 Ans. Answer.
 A. R. A. Associate of the Royal
 Academy.
 Arab. Arabic, or Arabia.
 Ariz. Arizona.
 Ark. Arkansas.
 Atty. Attorney.
 Atty.-Gen. Attorney-General.
 A. U. A. American Unitarian As-
 sociation.
 Aug. August.
 B. A. Bachelor of Arts.
 Bal. Balance.
 Bart. or Bt. Baronet.
 Bbl. Barrel.
 B. C. Before Christ.
 B. C. L. Bachelor of Civil Law.
 B. D. Bachelor of Divinity.
 B. E. Bachelor of the Elements.
 B. M. Bachelor of Medicine.
 B. Mus. Bachelor of Music.
 Brig.-Gen. Brigadier-General.
 Bro., Bros. Brother, Brothers.
 B. S. Bachelor of Science.
 B. V. Blessed Virgin.
 B. V. M. Blessed Virgin Mary.
 C., Ch. or Chap. Chapter ; Consul.
 C. or Cent. A hundred, *Centum*.
 Cal. California ; Calends ; Calen-
 dar.
 Caps. Capitals.
 Capt. Captain.
 Capt.-Gen. Captain-General.
 C. E. Civil Engineer ; Canada East.
 Cel. or Celt. Celtic.
 C. H. Court-house.
 Chap. Chapter ; Chaplain.
 Chron. Chronicles.
 Clk. Clerk.
 C. M. Common Meter.
 C. M. G. Companion of the Order
 of St. Michael and St. George.
 Co. Company ; County.
 C. O. D. Cash (or collect) on de-
 livery.
 Col. Colonel ; Colossians ; Colo-
 rado.
 Colo. Colorado.
 Con. Against ; In opposition ; *Con-
 tra*.
 Conn. or Ct. Connecticut.
 Cor. Sec. Corresponding Secre-
 tary.
 Cr. Creditor ; Credit.
 Ct., cts. Cent., Cents ; Connecticut.
 Cwt. Hundredweight.
 d. Penny or Pence.

COMPOSITION.

D. C.	District of Columbia.	fcap. or fcp.	Foolscap.
D. C. L.	Doctor of Civil Law.	Feb.	February.
D. D.	Doctor of Divinity.	Fig.	Figure ; Figurative.
D. D. S.	Doctor of Dental Surgery.	Fla.	Florida.
D. E.	Dynamic Engineer.	F. R. A. S.	Fellow of the Royal Astronomical Society.
Dec.	December ; Declaration.	F. R. C. S. L.	Fellow of the Royal College of Surgeons, London.
Def. or Dft.	Defendant.	F. R. G. S.	Fellow of the Royal Geographical Society.
Del.	Delaware ; Delegate.	Fri.	Friday.
Dept.	Department.	F. R. S.	Fellow of the Royal Society.
Deut.	Deuteronomy.	F. R. S. E.	Fellow of the Royal Society, Edinburgh.
Disc.	Discount.	F. S. A.	Fellow of the Society of Arts.
Dist.-Atty.	District-Attorney.	Ga.	Georgia.
D. M.	Doctor of Music.	Gal.	Galations ; Gallon.
D. M. D.	Doctor Dental Medicine.	Gen.	Genesis ; General.
Do.	The Same, <i>Ditto</i> .	Goth.	Gothic.
Dol., Dols., \$.	Dollars.	Gov.	Governor.
Doz.	Dozen.	Gov.-Gen.	Governor-General.
Dr.	Debtor ; Doctor.	H. B. M.	His or Her Britannic Majesty.
Eccl.	Ecclesiastes.	Heb.	Hebrews.
Ed.	Editor ; Edition.	Hhd.	Hogshead.
e. g. or ex. g.	For example, <i>Exempli gratia</i> .	H. R.	House of Representatives.
Eng.	England ; English.	H. R. H.	His or Her Royal Highness.
Ep.	Epistle.	Ia.	Iowa.
Eph.	Ephesians ; Ephraim.	Ib. or ibid.	In the same place.
Esq., Esqs.	Esquire, Esquires.	Id.	The same, <i>Idem</i> .
et al.	And others, <i>Et alii</i> .	i. e.	That is, <i>Id est</i> .
etc. or &c.	And other things ; And so forth.	I. H. S.	Jesus the Saviour of men.
et seq.	And what follows, <i>Et sequentia</i> .	Ill.	Illinois.
Ex.	Example.	incog.	Unknown, <i>Incognito</i> .
Fahr.	Fahrenheit.	Ind.	Indiana ; Index ; Indian.
F. A. M.	Free and Accepted Masters.		
F. A. S.	Fellow of the Antiquarian Society.		

Ind. Ter. Indian Territory.	I. N. R. I. Jesus of Nazareth,
Indef. Indefinite.	King of the Jews.
in loc. In the place ; on the pas- sage, <i>In loco</i> .	Inst. Instant, of this month ; Insti- tute.

LESSON SEVENTEEN.

Abbreviations in General Use.

Inv. Invoice.	Knt. Knight.
I. O. F. Independent Order of For- esters.	Ky. Kentucky.
I. O. O. F. Independent Order of Odd Fellows.	Lev. Leviticus.
I. S. M. <i>Jesus Salvator mundi</i> , Jesus the Saviour of the world.	Lex. Lexicon.
Ital. Italic ; Italian.	L. I. Long Island.
Jan. January.	Lib. <i>Lib</i> , book.
J. C. D. <i>Juris Civilis Doctor</i> , Doctor of Civil Law.	Lieut. Lieutenant.
J. D. <i>Jurum Doctor</i> , Doctor of Laws.	LL. B. <i>Legum Baccalaureus</i> , Bache- lor of Laws.
J. P. Justice of the Peace.	LL. D. <i>Legum Doctor</i> , Doctor of Laws.
Jr. or Jun. Junior.	loc. cit. <i>Loco citato</i> , in the place cited.
J. U. D. or J. V. D. <i>Juris utriusque Doctor</i> , Doctor of both Laws (of the Canon and the Civil Law).	Lond. London.
Jul. July ; Julius.	L. S. <i>Locus sigilli</i> , Place of the seal.
Kas. Kansas.	Lt. Lieutenant.
K. B. King's Bench ; Knight of the Bath.	M. <i>Meridies</i> , noon.
K. C. King's Counsel ; Knight of the Crescent, in Turkey.	M. <i>Mille</i> , a thousand.
K. C. B. Knight Commander of the Bath.	M. or Mons. <i>Monsieur</i> , Sir.
K. G. Knight of the Garter.	M. A. Master of Arts.
K. G. C. Knight of the Grand Cross.	Maj. Major.
K. G. C. B. Knight of the Grand Cross of the Bath.	Maj.-Gen. Major-General.
	Mar. March.
	Mass. Massachusetts.
	Math. Mathematics ; Mathema- tician.
	Matt. Matthew.
	M. B. <i>Medicinæ Baccalaureus</i> , Bachelor of Medicine.

COMPOSITION.

- M. B. *Musicæ Baccalaureus*, Bachelor of Music.
- M. C. Member of Congress.
- Mch. March.
- M. D. *Medicinæ Doctor*, Doctor of Medicine.
- Md. Maryland.
- Mdlle. or Mlle. *Mademoiselle*.
- Mdse. Merchandise.
- M. E. Methodist Episcopal ; Military or Mechanical Engineer.
- Me. Maine.
- Mech. Mechanics, or Mechanical.
- Med. Medicine.
- Mem. Memorandum. *Memento*, remember.
- Messrs. or MM. *Messieurs*, Gentlemen.
- Mex. Mexico, or Mexican.
- Mich. Michigan.
- Minn. Minnesota.
- Miss. Mississippi.
- MM. Their Majesties ; *Messieurs*, Gentlemen ; Two Thousand.
- Mme. Madame.
- M. M. S. S. *Massachusettsensis Medicinæ Societatis Socius*, Fellow of the Massachusetts Medical Society.
- No. Missouri ; Month.
- Mon. Monday.
- Mons. *Monsieur*, Sir.
- Mont. Montana.
- M. P. Member of Parliament ; Metropolitan Police.
- M. P. P. Member of Provincial Parliament.
- Mr. Mister.
- M. R. A. S. Member of the Royal Asiatic Society ; Member of the Royal Academy of Science.
- M. R. C. C. Member of the Royal College of Chemistry.
- M. R. C. S. Member of the Royal College of Surgeons.
- M. R. G. S. Member of the Royal Geographical Society.
- M. R. I. Member of the Royal Institute.
- Mrs. Mistress.
- M. R. S. L. Member of the Royal Society of Literature.
- M. S. *Memorie sacrum*, Sacred to the memory ; Master of the Sciences.
- MSS. Manuscripts.
- Mus. B. Bachelor of Music.
- Mus. D. Doctor of Music.
- N. A. North America.
- N. B. New Brunswick ; North British ; *Nota bene*, mark well, take notice.
- N. C. North Carolina ; New Church.
- N. E. New England ; Northeast.
- Neb. Nebraska.
- Nev. Nevada.
- New Test. or N. T. New Testament.
- N. F. Newfoundland.
- N. H. New Hampshire ; New Haven.
- N. J. New Jersey.
- N. Mex. New Mexico.
- No. *Numero*, number.
- Nol. pros. *Nolens prosequi*, I am unwilling to prosecute.
- Non pros. *Non prosequitur*, He does not prosecute.

ELEMENTARY COURSE.

Non seq. <i>Non sequitur</i> , It does not follow.	P. E. Protestant Episcopal.
Nov. November.	P. E. I. Prince Edward Island.
N. S. New Style (after 1752); Nova Scotia.	Penn. Pennsylvania.
Num. Numbers; Numeral.	Per. or pr. By the.
N. V. M. Nativity of the Virgin Mary.	Per cent. <i>Per centum</i> , by the hundred.
N. Y. New York.	Phar. Pharmacy.
O. Ohio.	Ph. B. <i>Philosophiæ Baccalaureus</i> , Bachelor of Philosophy.
O. K. A slang phrase for "All correct."	Ph. D. <i>Philosophiæ Doctor</i> , Doctor of Philosophy.
Oct. October.	Pinx. or Pxt. <i>Pinxit</i> , He (or she) painted it.
Old Test. or O. T. Old Testament.	Pl. or Plur. Plural.
Or. Oregon.	Plff. Plaintiff.
O. S. Old Style (before 1752).	P. M. <i>Post meridiem</i> , Afternoon, Evening; Postmaster; Past Midshipman; Paymaster.
O. S. F. Order of St. Francis.	P. O. Post Office.
Oxon. <i>Oxoniensis</i> , <i>Oxonii</i> , of Oxford, at Oxford.	Pop. Population.
Oz. Ounce.	P. P. C. <i>Pour prendre congé</i> , to take leave.
Pa. Pennsylvania.	Pp. or pp. Pages.
Par. Paragraph.	
Pd. Paid.	

LESSON EIGHTEEN.

Abbreviations in General Use.

Pro tem. <i>Pro tempore</i> , for the time being.	Pub. Publisher; Publication; Published; Public.
Prov. Proverbs; Provost.	Pwt. Pennyweight; Pennyweights.
Prox. <i>Proximo</i> , next (month).	q. e. d. <i>Quod erat demonstrandum</i> , which was to be proved.
P. S. <i>Post scriptum</i> , Postscript.	q. l. <i>Quantum libet</i> , as much as you please.
P. S. Privy Seal.	Q. M. Quartermaster.
Ps. Psalm or Psalms.	Qr. Quarter.
Pt. Part; Pint; Payment; Point; Port; Post-town.	

COMPOSITION.

- q. s. *Quantum sufficit*, a sufficient quantity.
- Qt. Quart.
- Ques. Question.
- q. v. *Quod vide*, which see ; *quantum vis*, as much as you will.
- R. *Recipe*, Take ; *Regina*, Queen ; *Rex*, King ; River ; Rod ; Rood ; Rises.
- R. A. Royal Academy ; Royal Academician ; Royal Arch ; Royal Arcanum ; Royal Artillery.
- Recd. Received.
- Ref. Reference ; Reform.
- Rev. Reverend ; Revelation (Book of) ; Review ; Revenue ; Revise.
- R. I. Rhode Island.
- R. M. S. Royal Mail Steamer.
- R. N. Royal Navy.
- Rom. Cath. Roman Catholic.
- R. S. A. Royal Society of Antiquaries ; Royal Scottish Academy.
- R. S. D. Royal Society of Dublin.
- R. S. E. Royal Society of Edinburgh.
- R. S. L. Royal Society of London.
- R. S. V. P. *Répondez s'il vous plaît*, Answer, if you please.
- Rt. Hon. Right Honorable.
- Rt. Rev. Right Reverend.
- S. A. South America ; South Africa ; South Australia.
- Sat. Saturday.
- S. C. *Senatus consultum*, A decree of the Senate ; South Carolina.
- Sc. Sculp. or sculp. *Sculpsit*. He (or she) engraved it.
- sc. or scil. Namely.
- Scot. Scotland.
- S. D. Doctor of Science.
- Sec. Secretary ; Second ; Section.
- Sept. September ; Septuagint.
- Seq. *Sequentia*, Following. *Sequitur*, It follows.
- Serg. Sergeant.
- Serg. Maj. Sergeant Major.
- S. J. Society of Jesus.
- S. J. C. Supreme Judicial Court.
- S. P. *Sine prole*, Without issue.
- Sp. Spain.
- Sq. ft. Square foot or square feet.
- Sq. in. Square inch or inches.
- Sq. m. Square mile or miles.
- Sq. r. Square rood or roods.
- Sq. yd. Square yard.
- Sr. Sir or Senior ; Sister.
- SS. or ss. *Scilicet*. To wit.
- St. Saint ; Street ; Strait.
- Stat. Statute.
- S. T. D. Doctor of Sacred Theology.
- Ster. or Stg. Sterling.
- S. T. P. Professor of Sacred Theology.
- Subj. Subjective.
- Subst. Substantive.
- Supt. Superintendent.
- Surg. Surgeon ; Surgery.
- Surg.-Gen. Surgeon-General.
- Surv. Surveyor.
- Surv.-Gen. Surveyor-General.
- Syn. Synonym ; Synonymous.
- Tenn. Tennessee.
- Ter. Territory.
- Tex. Texas.
- Th. or Thurs. Thursday.
- Tr. Transpose ; Translator ; Translation.

Trans. Translator ; Translation ; Transactions.	Ver. Verse ; Version.
Treas. Treasurer.	Vice.-Pres. or V. P. Vice-President.
Tues. or Tu. Tuesday.	Visc. Viscount.
Typ. Typographer.	viz. or vi. <i>Videlicet.</i> To wit ; Namely ; That is to say.
U. J. D. <i>Utriusque Juris Doctor.</i> Doctor of both Laws (Civil and Canon).	Vo. <i>Verso.</i> Left hand page.
U. K. United Kingdom.	Vol. Volume.
ult. <i>Ultimo.</i> Last ; of the last month.	V. R. <i>Victoria Regina.</i> Queen Victoria.
Unit. Unitarian.	V. S. Veterinary Surgeon.
Univ. University.	Vt. Vermont.
U. S. United States.	Vul. Vulgate (Latin version of the Bible).
U. S. A. United States Army.	Wash. Washington.
U. S. A. United States of America.	Wed. Wednesday.
U. S. M. United States Mail.	Wis. Wisconsin.
U. S. M. United States Marine.	Wk. Week.
U. S. M. A. United States Military Academy.	X. Ten or Tenth.
U. S. N. United States Navy.	Xmas. or Xm. Christmas.
U. S. N. A. United States Naval Academy.	Xn or Xtian. Christian.
U. S. S. United States Senate.	Yd. Yard.
v. or vs. <i>Versus ; Versiculo.</i> Against : In such a way.	Y. M. C. A. Young Men's Christian Association.
Va. Virginia.	Y. M. Cath. A. Young Men's Catholic Association.
Vat. Vatican.	Yrs. Years ; Yours.
Ven. Venerable.	&. And.
	&c. And the rest ; And so forth ; <i>Et cætera.</i>

LESSON THIRTEEN.

Letters of Introduction are of two kinds, *social* and *business*. They should be short and devoid of extravagant eulogy. When delivered to the persons introduced, they should be unsealed.

PENMANSHIP.

Slant and vertical.

Text-Books recommended for study.

Spencerian Theory of Penmanship,	. . . . .	\$0.25
Teachers' Manual. Natural System of Vertical Writing,	. . . . .	.25

PENMANSHIP.

LESSON ONE.

Copies can be written either slant or vertical.

Writing should be treated as a means to an end, and not an end in itself.

The letters should be formed in the simplest possible way.

This course is intended to help the student to a plain, legible, easy style for writing, either slant or vertical.

Get the form well pictured in your mind before trying to make it.

See that you have a good position at the desk before commencing to write.

The three great requisites in penmanship are Position, Form, and Movement. These should have about equal attention.

Materials.

In selecting material, secure good, medium-pointed pens, and paper of a good quality. No one can do his best writing with a poor pen or with inferior paper. The ink should flow freely, and make a fine line. Black ink or writing fluid is recommended.

Position for Writing.

An easy position in writing should be strictly enforced. To give all the same position is an impossibility, therefore we suggest that a position be taken to suit the general make-up of the hand, arm, and body. All may take a front or a right oblique; these two positions we recommend. The body should be straight and erect, sitting well back in the chair, bending at the hips, and about two inches from the desk. Feet should be flat on the floor. The muscles of the forearm before the elbow rest on the table.

Holding the Penholder.

The penholder should be placed between the thumb and first and second fingers. The point of the pen should be about one inch from the end of the first finger. In writing, the hand and forearm must slide *bodily*, resting for support on the thick part of the forearm and on the third and fourth nail tips, the wrist being clear of the desk or the paper under it, and the first and second fingers having no motion.

Having learned how to sit and to hold the pen, practice sliding the hand and forearm according to the above directions. This exercise should be repeated frequently, as it will develop lateral swing to the hand and forearm as a unit.

LESSON TWO.

In early instruction and practice, emphasis should be put on the letter forms, to get them as near right as possible.

A space in height is the assumed height of short letters, as m, n, etc.

Motion has reference to the direction in which the pen moves.

The base line is the horizontal or imaginary line on which the letters rest.

In these lessons you are expected to write the letter, word, or sentence many times before sending them to us and, after mistakes are pointed out to you, you must use your best skill to overcome them by extended practice.

The height and proportion of short letters to capitals and tall letters should be that of one to two spaces.

With the exception of the base line, no guide lines whatever should be used.

Write the word "man" fifty times and send to us for inspection.

LESSON THREE.

If you wish to write with the forearm movement, you must practice with that movement. If you wish to learn to write freely, you must practice freely. Win by proper practice is the road to success, and proper practice is doing your very best at all times. Now do your best.

Write all the following letters one space high, writing a line for each letter, n, m, i, u, w, v, x, e, c, r, s, o, a, and five lines of the following words : moon, wine, crown, vein, oxen.

LESSON FOUR.

Slow writing is dead ; rapid writing is valuable. Therefore make each form with a quick movement. Persons of all ages should be taught to write rapidly.

Commence with a form slowly and carefully until you can write it correctly. Keeping the form in view as to correctness, write as fast as you can. With this in view, see how many small o's you can make in one minute. Also send two lines each of the following words : rivers, mirror, saucer, cocoon, scours.

LESSON FIVE.

To cultivate freedom and gain control of the arm and shoulder muscles, keep the paper in the position you intend to use in actual writing and learn to make the forms well and freely. Practice some good movement exercise, the oval exercise for instance. Make them at the rate of one hundred or more revolutions a minute. Ease of execution is the chief medium of good forms and speed. Therefore, aim to develop an easy action. The combined movement is chiefly used for loop letters, although it has been recommended and is used for general business writing.

The combined movement is writing with the muscles of the arm between the elbow and wrist, moving the first and second fingers in connection with the arm.

Practice on all letters that are more than one space in length.

Write ten lines of the following words : that, drum, dart, deer, dog, down, dagger.

Send to us the above exercises.

LESSON SIX.

Are you sure that you have a good position and movement?

The elbow should rest. The little finger should glide easily, either upon the nails or upon the side of the little finger.

Learn to practice systematically. Aim to produce good forms in the right manner. Remember that care is the chief essential. Perseverance is

to be commended. Exercise good judgment, and learn to write well, much on the same plan that you would endeavor to learn to do anything well.

Keeping this in view, write the following five times :—

nine minutes to wait
 some queer questions
 little silver quarters
 nests bells and tassels

LESSON SEVEN.

An important part of the training of a good penman is the cultivation of a habit of neatness. It is not only necessary to exercise care, but to study to discover what it is in every particular that contributes to, or detracts from, the general appearance of the work done.

It is certainly true that the lack of neatness is one of the principal causes, if not the main cause, of poor writing. A blotter should be kept under the hand to prevent the hand from touching the paper where it is to be written upon.

Make it a point to be neat with all of your writing. Send us the following, five lines for each :—

hither and thither
 kicks and crooks
 ships at anchor
 skaters and hawks

LESSON EIGHT.

Guard against carelessness of every kind. Make every copy present a neat, finished appearance. Write the copy, all of the copy, and nothing but the copy. Keep the pen flat on the paper and make a smooth, even line. Do not bend the wrist to the right or left. Write all carefully, but with vigor.

Practice on your corrected forms. See that you get them just right in every way.

Send us two lines of each of the following words : pen, pump, pear, quill, lion, lance, box, broom, bean, hat, hand, horn, sleeves, position, forms, time, movement.

PENMANSHIP.

LESSON NINE.

Keep up your practice in movement drills. Commence at the left hand side of the paper, write the letter m and continue across the page without lifting the pen. Write u in the same way, v, x, a, o.

Hold the hand well over to the left so the point of the pen rests squarely on the paper. The letters should be made at the rate of about two a second. Test your speed by a watch and send the rate to us, together with the writing.

No movement practice is of any benefit whatever, unless an effort is made to make something and to make it well. Keep this in mind, to do your best at all times.

In connection with the above, write the following words :—

common, command, running, numbered, instructions. Five lines for each word.

LESSON TEN.

In this lesson the capital letters are introduced. Make them about twice as high as the one space letters.

If any exercise or letter is difficult for you to make, that is the one you need to practice. Careful and rapid, is the royal road to success. Practice daily, do everything you can to improve. Write the following capital letters, two lines for each : A, B, C.

Ten lines of each sentence :—

A good life is eloquence.

Be very careful how you write.

Cultivate firmness, sureness, and strength.

LESSON ELEVEN.

The new way of doing nearly all things and the true way, is that of co-operation or association. The same is true of writing.

The muscles of the hand, arm, and shoulder can act better together than

ELEMENTARY COURSE.

separately. Use, therefore, all of the powers that nature has so bountifully supplied you with, and use them wisely, and good writing will follow.

Write two lines of each, D, E, F.

Ten lines of each sentence : —

Do by doing is very good.

Every day is serious.

Faith is the sheet anchor of life.

LESSON TWELVE.

An important part of learning to write well, is learning to see accurately. Cultivate the faculty. Have fixed in your mind a picture of what you wish to make, then command your hand to guide the pen to make the form.

Make the form of the letter that you can make the best and send to us the capital letters, G, H, I, two lines for each.

Ten lines of each of the following sentences :—

Good penmanship is desirable.

Happiness is not the end of life.

I am willing to work.

LESSON THIRTEEN.

Legibility is the chief essential in a handwriting that is intended for everyday use. Unless writing is readable it is worthless, and unless it is *easily* read, it is not good.

Write two lines each of J, K, and L.

Ten lines of each sentence : —

Light travels very rapidly.

James went to writing school.

Keep trying, you will win.

LESSON FOURTEEN.

Simplicity of form makes writing more legible. Ease of execution enables one to write for a long period with but normal fatigue, and it enables one to write well.

PENMANSHIP.

See that all of your downward strokes stand on the same slant, smooth and alive.

M, N, O. Write two lines of each, and ten lines of each of the following sentences : —

Mozart was born 1756.

Now is the time to improve.

Onward ever, be your motto.

LESSON FIFTEEN.

Cultivate a light, unshaded stroke.

Keep the back of the pen upward, and the holder pointing toward the right shoulder. Keep the little finger turned well back under the hand.

Correct your own mistakes by the suggestion this course has given you.

Write two lines each of P, Q, R.

Also ten lines of each sentence below : —

Pennsylvania produces coal.

Quarrels should be avoided.

Read from nature.

LESSON SIXTEEN.

Make letters as though you were to get a dollar for each good one, and you will soon learn how to make them well. You will not accomplish much unless you try and try with all your might. Earnest effort is the price of success.

S, T, U, are for your next practice. Get these letters just right, then write ten lines of each sentence : —

Sailors are generous.

Time is money.

Union is strength.

LESSON SEVENTEEN.

Remember that scribbling never counts. The less you do of this, the better off you are ; so, never scribble, no, never.

Learn to be your own critic. It is more practical and less humiliating. See wherein your writing lacks force or legibility, and then correct it. Select some one conspicuous fault at a time, and eradicate it. Do not scatter your forces, but concentrate them on one thing at a time.

Now write V, W, X. Concentrate your forces, and see how well you can make them. Five lines of each :—

Venice, William.

Very sincerely yours.

Win by proper practice.

K is a difficult letter.

LESSON EIGHTEEN.

These lessons and instructions are but aids to lay a foundation for a good penman. They offer but suggestion. You must apply them to the best of your ability.

Continually and everlastingly at it, is the way to become great.

If you want a practical hand, be content with plainness and swiftness. If you want an ornamental hand, be content with beauty and moderate speed

Take your choice. Work for that end by writing : Y., Z., &

Yours truly,

Yazoo, Yearling, Zip, Zone, Zion, Zeal, Zebra.

The last and closing exercise is a general review of all letters in the alphabet, both capitals and small.

Before beginning to write this lesson, study carefully, critically, minutely the large forms, so that you are familiar with their proportions, height, width, shape, turns, angles, crossings, loops, retracings, etc. Fasten them in your mind and then proceed to write this lesson.

GRAMMAR.

Parts of speech, parsing, analysis, and diagraming.

Text-books recommended for study or reference :

Graded Lessons in English—Reed and Kellogg,	\$0.45
Harvey's Elementary Grammar—Revised, . . . . .	.45
Patterson's Elements of Grammar and Composition, . . . . .	.55
Elements of Composition and Grammar—Southworth and Goddard, . . . . .	.65

GRAMMAR.

LESSON ONE.

EXERCISES.

1. What is English Grammar?
2. Name the different divisions.
3. Distinguish between orthoëpy and orthography.
4. What is an elementary sound? How many in the English language?
5. Name the vowels. The consonants.
6. How many sounds has *a*? Illustrate.
7. How many sounds has *e*? Illustrate.
8. How many sounds has *i*? Illustrate.
9. How many sounds has *o*? Illustrate.
10. How many sounds has *u*? Illustrate.
11. What are double consonants? Illustrate.
12. What are proper diphthongs? Illustrate.
13. What are improper diphthongs? Illustrate.
14. Words are classified as monosyllables, dissyllables, trisyllables, and polysyllables. Define each and give illustrations.
15. Give five illustrations each of primitive, derivative, and compound words.
16. Give five words containing prefixes; five containing suffixes.
17. What is a syllable?
18. Why are some words divided into syllables?
19. How may a word having two or more syllables be divided at the end of a line? Illustrate.
20. Insert the hyphen in those places only in which the division appears best at the end and the beginning of lines: belonging, correspond, acquaintance, introduction, improper, happiness, considering, teacher, moreover, national.
21. Divide the following words according to their pronunciation: habit, individual, progress, animal, separate, prisoner, profitable, metal, democracy, cylinder.

LESSON TWO.

The Use of the Hyphen in Compound Words.

Compounds sanctioned by long continued use are consolidated, while those of more recent or less general use are distinguished by a hyphen ; as bookseller, penman, well-meaning, mirth-provoking.

Phrases used as epithets or as modifiers use the hyphen ; as up-to-date, never-to-be-forgotten.

Cardinal numbers from twenty to one hundred are written with a hyphen ; thus, sixty-nine, eighty-three. So also fractions ; as three-fourths.

To-day, to-night, to-morrow should be written with a hyphen.

Prefixes, or similar parts, are separated by a hyphen if they stand before capital letters ; as anti-Republican.

In the following use hyphens where needed : Allwise, incense breathing, bookkeeping, shoemaking, forthcoming, barefaced, slaveholding, needle-woman, marketwoman, unheard of project, four footed instinct, many languaged, worn out cloth, out of door sports.

The compounding of words is sometimes necessary to make the meaning clear ; as highlands, high lands, nobleman, noble man, roundhead, round head, freemason, free mason.

EXERCISES.

1. What is meant by the etymology of a word? Illustrate.
2. What is meant by the derivation of a word?
3. Explain the meaning of the prefixes and suffixes in the following words (consult any good dictionary) :—

ashore.	childhood.
before.	rebellion.
enclose.	westward.
outlive.	thoughtless.
withstand.	bestly.
atheist.	banishment.
antarctic.	readable.
autograph.	perimeter.

GRAMMAR.

LESSON THREE.

The Noun.

EXERCISES.

1. Name the different parts of speech.
2. What is a noun?
3. How do proper nouns differ from common nouns? Give examples.
4. Give five examples each of abstract, collective, and verbal nouns.
5. Tell to which class each of the following belongs: horse, boy, William, Boston, seeing, door, gentleness, pride.
6. Form abstract nouns from hard, dull, slow.
7. Classify the nouns in the following sentences:—
Congress meets in December.
Seeing is believing.
America is the land of freedom.
A host of Indian warriors appeared.
Milton is the Homer of English literature.

Gender.

EXERCISES.

1. Distinguish between sex and gender.
2. There are three ways of denoting differences in gender:—
 - a. By inflection (changing the form; as baron, baroness).
 - b. By composition (using prefixes and suffixes; as man-servant, maid-servant).
 - c. By the use of different words; as boy, girl.Illustrate each of the above by five examples.
3. How many genders are there?
4. Give the gender of the following: uncle, governess, bird, cattle, pen, ink, ship, fox, heirs, poets, bee, child, executrix, signora.
5. Give the feminine of actor, count, duke, emperor.
6. Give the masculine of hostess, lass, mistress, murderess, niece, nun, madam.

LESSON FOUR.

Number.

EXERCISES.

1. What is *number*? How many?
2. How is the plural of nouns regularly formed?
3. Form the plural of the following : buffalo, potato, piano, solo, trio, cuckoo, attorney, turkey, knife, belief, Mr., father-in-law, s, +, 9, if, and.
4. Give two nouns that have no plural, two that have no singular, and two that have the same form in both numbers.
5. How is the number of collective nouns determined? Illustrate.

Person.

EXERCISES.

1. Define the different persons.
2. When is a noun said to be of the first person? Illustrate.
3. When of the second person? Illustrate.
4. When of the third person? Illustrate.
5. "Mr. Smith requests the pleasure of Mr. Larkin's company on Thursday evening, at a gathering in honor of Professor Thomas."
368 Drexel Avenue.
Monday, June 19.
Give the gender, person, and number of each noun in the above invitation.
6. Classify each noun.

LESSON FIVE.

Case.

EXERCISES.

1. Define *case*.
2. Compose a sentence in which a noun shall be put in the nominative case as the subject of a finite verb.

3. Explain the case of the nouns in the following sentences :—
 They are brave *men*.
 Mr. Brown, the *banker*, is present.
John, you must not talk.
 The *train* having left, we were obliged to walk.
4. What does the possessive case denote?
5. Write the possessive singular and plural of farmer, ox, woman, deer, 9, x.
6. Compose sentences in which the following nouns shall indicate possession : President Grant, John, James, everybody else, knight templar.
7. What is meant by the objective case ?
8. Compose a sentence in which a noun shall be put in the objective case as the object of a transitive verb.
9. As the object of a preposition.
10. Explain the case of the italicized nouns in the following sentences :—
 Mary requested *James* to go *home*.
 He gave *John* five *dollars*.
11. Write the declension of child, Alice, lady, boy.

Model Parsing.

John loves his horse.

John, noun, proper, third person, singular number, masculine gender, nominative case, subject of loves. Rule : The subject of a verb is in the nominative case.

Horse, noun, common, third person, singular number, masculine gender, objective case. Rule : The object of an active transitive verb is in the objective case. Parse the nouns in the following sentences, using the above model :—

John, teach the boy manners.

Schley's success was a surprise to his enemies.

LESSON SIX.

The Pronoun.

EXERCISES.

1. Define pronouns. Antecedent.
2. Name the personal pronouns.
3. Decline, I, he.
4. Distinguish between personal and relative pronouns.
5. Decline who, which, that.
6. What is meant by a double relative? Illustrate.
7. What are interrogative pronouns? Name them.
8. What two purposes do relatives serve in sentences?
9. Illustrate the use of *what* as a double relative.
10. In what ways do nouns and pronouns resemble each other? In what ways do they differ?
11. How do we determine the gender, number, and person of pronouns?
12. What are possessive pronouns?
13. How is the case of pronouns determined?
14. Illustrate the use of a pronoun as the subject of a sentence.
15. As the object of a transitive verb.
16. As the object of a preposition.
17. As an attribute complement.
18. Correct and give reasons :—

I, you and John must not attend.

James, he was present.

He is noble which does his duty.

This is the horse whom they bought.

19. Classify the pronouns in the following sentences :—

Who says that he failed to keep *his* word?

Who will prove *it*?

He, himself, announced the verdict.

The boy *who* was lost has been found.

It rained yesterday.

20. Explain the case of he, himself, and who in the fourth sentence.

LESSON SEVEN.

The Adjective.

EXERCISES.

1. What is an *adjective* ?
2. Distinguish between descriptive and definitive adjectives. Give examples.
3. Give two examples each of the following descriptive adjectives : common, proper, compound, participial.
4. What are numerals ? Give two examples each of cardinals, ordinals, multiplicatives.
5. What are pronominal adjectives ?
6. Name the different kinds of pronominal adjectives and give examples of each kind.
7. What is meant by *comparison* of adjectives ?
8. How are the comparative and superlative degrees formed ? Illustrate.
9. Give five adjectives that do not admit of comparison.
10. Compare soft, yellow, golden, good, little, much, worthy, beautiful.
11. Give the plurals of *this* and *that*.
12. Correct and give reasons : —
 An eagle is the bird of prey.
 He was more cheerfuller yesterday.
 Sing the two first verses.
 They arrived safely.
13. Write five sentences that will contain adjectives. Underline all adjectives. Give the class and comparison of each.
14. Full many a gem, of purest ray serene,
 The dark, unfathomed caves of ocean bear ;
 Full many a flower is born to blush unseen,
 And waste its sweetness on the desert air. — Gray.
 Name the adjectives in the above selection and tell what noun each adjective modifies.

LESSON EIGHT.

The Verb.

EXERCISES.

1. What is a *verb*? Name five.
2. Distinguish between regular and irregular verbs. Illustrate.
3. Give the principal parts of beat, begin, bite, buy, come, do, eat, go, see, sit.
4. What is a transitive verb? Illustrate.
5. What is an intransitive verb? Illustrate.
6. What is a finite verb? Illustrate.
7. What is meant by the conjugation of a verb? Synopsis?
8. Write a synopsis of the verb love, third person, singular.
9. Explain the use of auxiliary verbs. Illustrate by sentences.
10. Give five examples of infinitives.
11. What is an infinitive? How may it usually be known?
12. When is the sign of the infinitive omitted? Illustrate.
13. Write the infinitives of see, do, eat, go, sit, lie, come, buy.
14. What is a participle? Name the different kinds.
15. Write the different participles of the verbs that are given in question 13.
16. Give five participles that end in *ing*; five adjectives that end in *ing*; five nouns that end in *ing*.

Use of Participles.

(*a*) As adjective modifiers, (*b*) as attribute complements with adverbial force, (*c*) as objective or object complements, (*d*) as principal words in prepositional phrases, (*e*) as principal words in phrases used as subjects or as object complements, (*f*) as mere nouns, (*g*) as mere adjectives, (*h*) as independent or absolute phrases.

Illustrations of the above :—

(*a*) He lived in a house *made* of stone. (*b*) The boy sat at the desk *absorbed* in his lessons. (*c*) I saw the boat *sailing* faster. He studies *singing*. (*d*) We learn to read by *reading*. (*e*) His *speaking* that piece secured applause. We should avoid *injuring* the downfallen. (*f*) The *reading* of the Declaration of Independence is a feature of

GRAMMAR.

some patriotic gatherings. (*g*) It is a *flowing* well. (*h*) The time *having arrived*, we departed. *Speaking* of hats, how do you admire the new style?

LESSON NINE.

Voice, Mode, Tense.

EXERCISES.

1. What is *voice*? How many *voices* are there?
2. How does the *active* voice differ from the *passive* voice?
3. How is the *passive* voice formed? Illustrate.
4. What is *mode*?
5. Define the different modes.
6. Illustrate the different modes.
7. What is *tense*?
8. Define the different tenses.
9. Illustrate the different tenses in each mode.
10. Give the voice, mode, and tense of each verb in the following sentences :—

We were anxious to return that night.

The definitions are so arranged as to be easily learned.

All the circumstances must be considered.

The curfew tolls the knell of parting day.

He went yesterday to the city.

My time might have been improved better.

Take care, lest you lose it.

The Laplanders may be divided into fishers and mountaineers.

A smile played on his lips and in his voice was heard paternal
sweetness.

I will not do it, come what may.

If he were honest, he would pay me.

11. What determines the person and number of verbs?
12. Correct the following and give reasons :—

I always learns my lessons before I goes to school.

Such accommodations as was necessary, was provided.

“ Reveries of a Bachelor ” were written by D. G. Mitchell.
No wife, no mother, and no child was there to comfort him.
Mary and her cousin was at our house last week.

LESSON TEN.

The Adverb.

EXERCISES.

1. What is an *adverb* ?
2. Compose a sentence in which an adverb shall modify a verb.
3. One in which an adverb shall modify an adjective.
4. One in which an adverb shall modify another adverb.
5. In the sentence, They sailed *nearly* around the globe, what does *nearly* modify ?
6. Give an adverb of *time*. Of *place*. Of *cause*. Of *manner*. Of *degree*.
7. Use the above adverbs in sentences.
8. What are modal adverbs ? Illustrate.
9. What are interrogative adverbs ? Illustrate.
10. Compose a sentence that will contain a conjunctive adverb.
11. How do conjunctive adverbs differ from other adverbs ?
12. Compare *firmly*, *often*, *ill*, *little*, *well*, *much*.
13. What is the error in the following sentence ? We did not find nobody at home.
14. Will you accompany me ? — No.
How do you dispose of *no* ?
15. Classify the adverbs in the following sentences and tell what each one modifies : —
How rapidly the bird flew !
When summer comes, he will return.
They studied very faithfully.
Perhaps he will come.

GRAMMAR.

LESSON ELEVEN.

The Preposition.

EXERCISES.

1. Define preposition. Give the derivation of the word.
2. What is meant by a *complex preposition*? Illustrate.
3. What is meant by the *antecedent* of a preposition? Illustrate.
4. Compose a sentence that will contain a preposition, (*a*) with a verb for an antecedent, (*b*) with a noun for an antecedent.
5. Compose sentences that will illustrate four different kinds of objects of prepositions.
6. What are prepositional phrases? Give examples.

The Conjunction.

7. Define *conjunction*.
8. How do *coördinate* conjunctions differ from *subordinate* conjunctions?
9. Name five *coördinate* conjunctions; five *subordinate* conjunctions.
10. What are *correlative* conjunctions? Illustrate.
11. Certain combinations of words have the force of connectives and should be parsed as conjunctions or conjunctive adverbs: *e. g., as well as*. Give other illustrations.

The Interjection.

12. What are *interjections*? Give derivation of the word.
13. Name ten interjections.
14. What are interjectional phrases? Illustrate.
15. Look! Your house is burning. What two uses has *look*?

LESSON TWELVE.

Outlines for Parsing.

<i>Noun.</i>	<i>Pronoun.</i>	<i>Verb.</i>
1. Class.	1. Class.	1. Class.
2. Gender.	2. Antecedent or subsequent.	2. Principal parts.
3. Person.	3. Gender, person, number.	3. Voice.
4. Number.	4. Declension.	4. Mode.
5. Case.	5. Case.	5. Tense.
6. Rule.	6. Rule.	6. Person and number.
		7. Rule.

<i>Adjective.</i>	<i>Adverb.</i>	<i>Preposition.</i>
1. Class.	1. Class.	1. Class.
2. Comparison.	2. Comparison.	2. Antecedent.
3. Construction.	3. Construction.	3. Object.
4. Rule.	4. Rule.	

Conjunction.

1. Class.
2. What does it connect?

EXERCISES.

According to outlines for parsing, parse the italicized words in the following sentences : —

1. *It* is said *that some thieves who once* robbed a traveler, very gravely charged him with dishonesty for *concealing a part* of *his* money.
2. “*My friends,*” said he, “*I* have seriously considered our manners and our prospects ; and I find that we *have mistaken* our own interest. Let *us* therefore *stop,* while to stop *is* in our power.”
3. “Tell me not, in *mournful* numbers,
Life is *but* an empty *dream* !—
For the soul is dead that slumbers,
And things are not *what they seem.*”

LESSON THIRTEEN.

Sentences.

EXERCISES.

1. What is a *sentence* ? *Subject* ? *Predicate* ?
2. What is *analysis* ? Model — *Dogs fight.* This is a sentence because it expresses thought. *Dogs* is the subject because it is that of which something is asserted. *Fight* is the predicate because it is that which is affirmed of the subject.
3. Analyze the following according to the model : Birds sing. Wood burns. Tops spin. Bullets kill. Deer run.

4. Illustrate the difference between the *grammatical* and the *logical* subject.
5. The subject may be any word, phrase, or sentence used as a noun. Illustrate.
6. What are *compound* subjects? Illustrate.
7. Illustrate the difference between the *grammatical* and the *logical* predicate.
8. What are *compound* predicates? Illustrate.
9. What is a *simple* sentence? Illustrate.
10. What is a *complex* sentence? Illustrate.
11. What is a *compound* sentence? Illustrate.
12. What are *adjective* modifiers?
13. What are *adverbial* modifiers?
14. Compose a sentence in which the subject has an adjective modifier.
15. One in which the predicate has an adverbial modifier.
16. The *attribute complement* of a sentence completes the predicate and belongs to the subject. Thus : Sneaks are contemptible. *Contemptible* is the attribute complement, completing the predicate and expressing a quality of sneaks ; *are contemptible* is the entire predicate.

Write five sentences containing attribute complements.

NOTE. In instances like the above the verb may be called the incomplete predicate, because it is followed by an attribute complement. Some authors would call the expression *are contemptible* the predicate, of which *contemptible* is the attribute and *are* the copula ; others would call *are* the copula and *contemptible* the predicate.

17. The *object complement* of a sentence completes the predicate, and names that which receives the act : Electricity annihilates *space*. *Space* is the object complement ; *annihilates space* is the entire predicate.

Compose five sentences containing *object complements*.

18. The *objective complement* completes the predicate and belongs to the object complement. They made him leader. *Leader* is an objective complement, completing *made* and belonging to *him* ; *made him leader* is the complete predicate.

Compose five sentences containing *objective complements*.

LESSON FOURTEEN.

Phrases and Clauses.

EXERCISES.

1. What is a phrase? Illustrate.
2. A phrase that contains another phrase as a modifier is called a complex phrase; as, He studied in the school by the brook. The phrase *in the school by the brook* contains the phrase *by the brook* which modifies *school*. Give five complex phrases.
3. A *compound* phrase is composed of two or more phrases connected by a conjunction. He was known in every county and in every state. *In every county and in every state* is a compound phrase modifying *was known*.
Give five compound phrases.
4. What is an infinitive phrase? Illustrate.
5. What is an absolute phrase? Illustrate.
6. Illustrate the use of a phrase as the subject of a sentence. As an attribute complement.
7. Define *clause*. *Complex* clause. *Compound* clause.
8. Compose a sentence containing a clause used adjectively. One that is used adverbially.

Analysis.

Distinguish between the analysis and the diagramming of a sentence.

The analysis of a sentence may be performed mentally or it may be indicated on paper. There is some danger that the average student will depend too much on graphical representations of analysis.

Directions for analysis:

In analyzing simple sentences, find (1) The subject, (2) the predicate, (3) the object, (4) the modifiers of the subject, (5) the modifiers of the predicate, (6) the modifiers of the object. Modifiers of the subject or object must be adjectival, and may be adjectives, adjective phrases, or adjective clauses. Modifiers of the predicate must be adverbial and may be adverbs, adverb phrases, or adverb clauses.

In analyzing complex sentences, (1) find (*a*) the principal proposition, (*b*) the subordinate propositions; (2) reduce complex propositions to

simple sentences and then analyze, commencing with the principal proposition.

In compound sentences each member should be analyzed as a simple or complex sentence.

If necessary for analysis or parsing supply all ellipses.

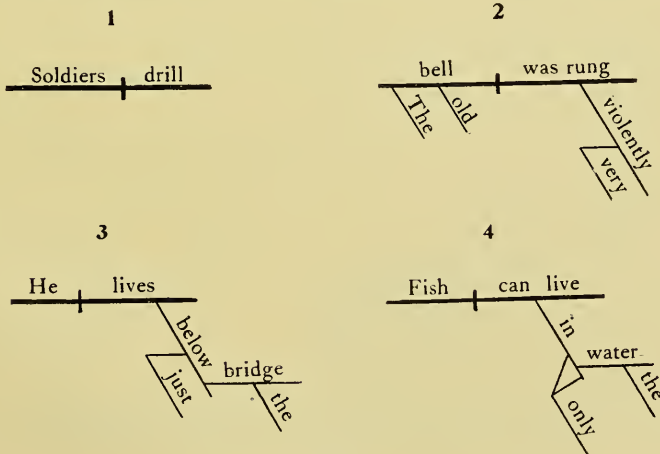
Model Analysis.

Those who strive earnestly will succeed. This is a declarative, complex sentence. *Those will succeed* is the principal proposition. *Who strive earnestly* is a subordinate proposition. The principal proposition is a simple declarative sentence of which *those* is the subject and *will succeed* the predicate. The clause *who strive earnestly* is an adjective modifier of *those*. *Those who strive earnestly* is the modified subject of the principal proposition. The subordinate proposition is a simple declarative sentence of which *who* is the subject and *strive* the predicate. *Strive* is modified by *earnestly*, an adverbial modifier. *Strive earnestly* is the complete predicate.

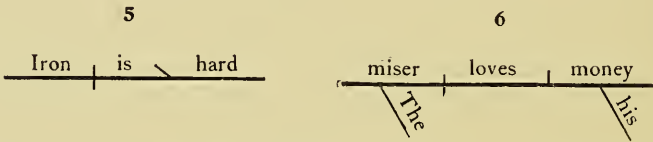
LESSON FIFTEEN.

Diagramming.

The following illustrates Reed and Kellogg's system of diagramming :—

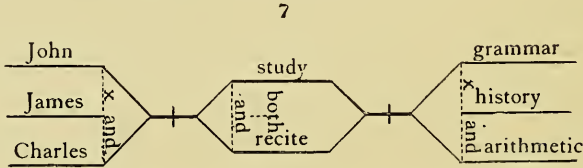


Explanation.— The two lines shaded alike and placed uppermost stand for the subject and the predicate, and show that these are of the same rank, and are the principal parts of the sentence. The lighter lines, placed under and joined to the subject line, stand for the less important parts, the modifiers, and show what is modified. Notice that the lines on which prepositions are placed extend below the lines on which their objects are placed. In the fourth sentence, *only* modifies the whole phrase. In the third, *just* modifies the preposition.

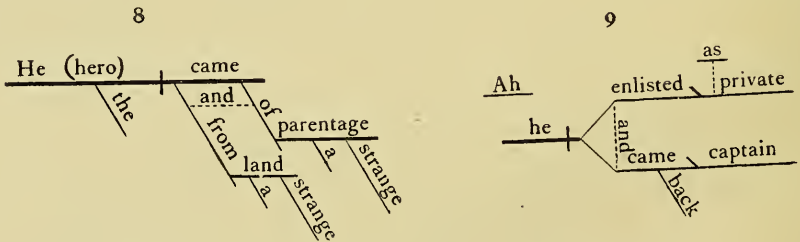


The slanting and perpendicular lines used with complements do not extend below the base line. See five and six.

In five, the line that separates *is* from *hard* slants toward the subject to show that *hard* is an attribute of the subject.



In seven, *x* shows that a conjunction is understood. *Both* is used to strengthen the real connective *and*. *Either* and *neither* do the same for *or* and *nor* in *either — or*, *neither — nor*.

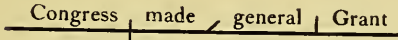


In eight, *hero* is inclosed in curves as it is explanatory of *he*.

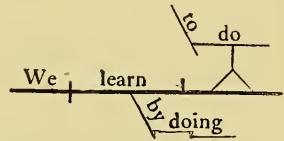
In nine, *private* and *captain* are attribute complements. The compound

predicate is represented by two horizontal lines which are connected by a dotted line. *Ah* is an interjection and is detached from the sentence. The diagram indicates that *as* is introductory.

10



11



In ten, the line before *general* slants toward *Grant* to show that the objective complement *general* belongs to *Grant*, the object.

In eleven, the line representing the participle is broken; the first part representing the participle as a noun, and the other as a verb. *To do* is the object complement.

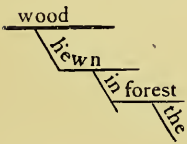
EXERCISES.

Write an analysis of each of the above sentences.

LESSON SIXTEEN.

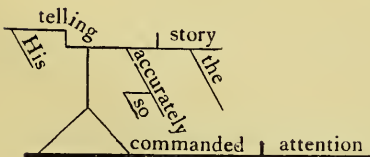
Diagraming Continued.

12



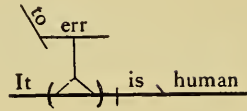
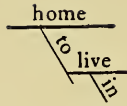
The line standing for the participle is broken; one part slants to represent the adjective nature of the participle, and the other is horizontal to represent its verbal nature. *In the forest* is a prepositional phrase. It is adverbial and modifies *hewn*. It is made to modify that part of the line which represents the participle as a verb.

13



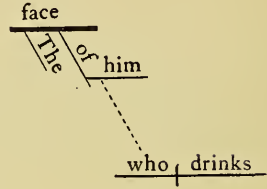
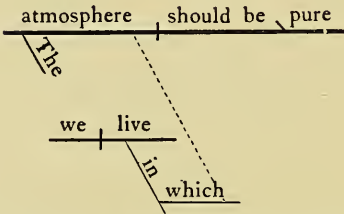
All that rests on the subject line is regarded as the subject. *His* is made to modify that part of the line which represents the participial as a noun; and *accurately* the part which represents the participle as a verb.

14



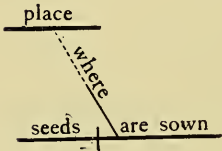
Notice that *to* is considered a preposition.

15



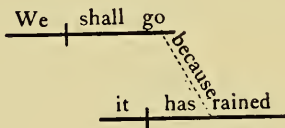
In fifteen, the subordinate clause is placed below the principal proposition on a line that is lightly shaded. The dotted line indicates the connection of the two clauses, and by its slant it shows that the subordinate proposition is a modifier of atmosphere.

16

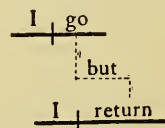


The upper, or dotted part, of the line represents *where* as a connective; the lower, or heavy part, represents it as modifying *are sown*.

17



18



In seventeen, *because* being a mere conjunction, stands on a line wholly dotted.

In eighteen, the clauses are of equal rank, and so the lines on which they stand are shaded alike, and the line connecting them is not slanting.

GRAMMAR.

The foregoing illustrate the principles of Reed and Kellogg's system of diagramming. There are other good systems, any one of which the student is privileged to use.

EXERCISES.

Write an analysis of thirteen, fifteen, and eighteen

LESSON SEVENTEEN.

1. The wild animals turned, looked, and ran away.
2. Temperance and exercise preserve the health both of the body and the mind.
3. Riding on horseback is a beneficial exercise.
4. We should always desire to obey the dictates of conscience.
5. The silver age is reckoned to have commenced at the death of Augustus.
6. The object of punishment should be, to reform the wicked.
7. A man of integrity will never listen to any reason against conscience.
8. It is a great crime to deceive the innocent and confiding.
9. All obstacles having been overcome, he finally reached the goal of his ambition.
10. She had now to learn what it is to be a slave.
11. The sovereigns requested Columbus to return.
12. My hope is that you will regain your liberty.
13. The scholar who is attentive and persevering, is sure to excel.
14. It was with the utmost difficulty that the American union was formed.
15. The clouds of sorrow gathered round his head; and the tempest of hatred roared about his dwelling.

EXERCISES.

1. Diagram the first ten sentences.
2. Write an analysis of the last five sentences.

LESSON EIGHTEEN.

EXERCISES.

NOTE. The questions in parsing, etc., refer to the sentences as printed in lesson 17.

1. Parse *riding* and *beneficial* in the third sentence.
2. Parse the verbs in the fifth sentence.
3. Parse *innocent* and *confiding* in the eighth sentence.
4. Parse *having been overcome*, sentence number nine.
5. Parse *what* and *slave* in sentence number ten.
6. Parse *persevering*, *sure*, and *to excel* in the thirteenth sentence.

Correct errors in the following and give reasons : —

7. The work is near done.
8. I bought a new pair of shoes.
9. He is considered generally honest.
10. A lecture on the methods of teaching geography at ten o'clock.
11. She is a poor widow woman.
12. Who first discovered America?
13. In their discussing of the subject they became angry.
14. He is not now in the condition he was.
15. He was raised in the North.
16. He died with the consumption.
17. The soil is adapted for oats.
18. I shall neither depend on you nor on him.
19. Neither his learning, or his piety, protects him.
20. The neck connects the head and trunk together.

UNITED STATES HISTORY.

Text-books recommended for use.

Swinton's First Lessons in our Country's History,	\$0.50
Montgomery's Beginners' American History, . . . . .	.60
First Steps in the History of our Country (Mowry), . . . . .	.60
Eggleston's First Book in American History, . . . . .	.60
Barnes' Primary History of the United States, . . . . .	.60

UNITED STATES HISTORY.

LESSON ONE.

Aborigines.

- a.* Savage Indians. Lived west of Hudson Bay and southward, between the Rocky Mountains and the Pacific Ocean, to North Mexico. Had little or no agriculture. Lived chiefly on fish and game. Migratory.
- b.* Barbarous Indians. Inhabited all of North America east of the Rocky Mountains.
- c.* Half Civilized Indians. Occupied Mexico and the mountainous country as far south as Chili.

Mound Builders.

Location.

Relics.

Theories.

Northmen.

Iceland. Settled 874.

Greenland. Settled 986.

New England sighted by Bjorne (986), visited by Leif Ericsson (1000), and by Thorfinn Karsefni, who attempted to colonize.

EXERCISES.

1. Define *history*.
2. Describe the Barbarous Indians according to the outline that is given below : (*a*) origin, (*b*) number, (*c*) character and habits, (*d*) language, (*e*) government, (*f*) religion, (*g*) agriculture and manufactures, (*h*) society.
3. Using the same outline describe the Half Civilized Indians.
4. Name the most interesting of the Half Civilized Indians. Describe their cities.
5. In what valleys of the United States do we find the most interesting relics of the Mound Builders ?
6. Describe these relics.
7. What different theories are advanced concerning the Mound Builders ?

8. Who were the Northmen ?
9. Give facts in reference to the discovery of America by the Northmen, observing (*a*) time, (*b*) persons who came, (*c*) places visited, (*d*) results of their coming.
10. Draw a map, tracing on it the voyages of the Northmen.

LESSON TWO.

Discoverers and Explorers.

EXERCISES.

1. Sketch the life of Columbus, using the following outline : (*a*) birth, (*b*) education, (*c*) theories, (*d*) disappointments, (*e*) voyages, (*f*) character, (*g*) death and burial.
2. Tell the story of Ponce de Leon.
3. With what great event is the name of Balboa associated ?
4. Trace the wanderings of De Soto.
5. Name four other Spanish discoverers.
6. How did Vasco de Gama win fame ?
7. What did the Cabots do for England ?
8. Why was the voyage of Henry Hudson important ?
9. Name the sections that Champlain explored.
10. Name four other French explorers.
11. Who were the famous Jesuit missionaries ? Tell what each did.
12. Explain why the voyages of Columbus, Gama, Vespucius, and Magellan should be considered the four great voyages.
13. What were the aims and motives of the Spanish discoverers ?
14. What brought English sailors to the New World ? French explorers ?
15. Classify the leading explorers and discoverers using the following form : —

Name.	Nationality.	Date.	Regions Explored.

LESSON THREE.

Colonial Settlements.

- 1565. St Augustine (Spanish), by Menendez.
- 1582. Santa Fé (Spanish), by Espejo.
- 1607. Virginia settled at Jamestown by English emigrants.
- 1620. Landing of Pilgrims. Plymouth Colony.
- 1628-30. Massachusetts Bay Colony. Settled by Puritans.
- 1622. New Hampshire founded. Settled by colonists from Massachusetts and England.
- 1623. New York settled at New Amsterdam by the Dutch.
- 1634. Maryland settled at St. Mary's.
- 1634-36. Connecticut settled at Wethersfield, Windsor, and Hartford.
- 1636. Rhode Island settled at Providence.
- 1638. New Haven settled.
- 1638. Delaware settled by the Swedes.
- 1663. North Carolina settled at Albemarle.
- 1664. New Jersey settled at Elizabethtown.
- 1670. Charleston, S. C., settled.
- 1682. Pennsylvania settled.
- 1733. Georgia settled at Savannah.

EXERCISES.

- 1. Sketch the life of Captain John Smith.
- 2. What were the London and Plymouth companies?
- 3. What was Bacon's Rebellion?
- 4. What was the beginning of slavery in the United States?
- 5. Name four men who were prominent in the settlement at Jamestown.
- 6. Give a brief history of the Pilgrims before they came to America.
- 7. Give names that are prominent in the history of Plymouth.
- 8. What was the Mayflower Compact?
- 9. What was the Salem Witchcraft?
- 10. What was the government of the New Haven colony?
- 11. What led to the founding of Rhode Island?
- 12. What wars did the New England settlers have with the Indians?

ELEMENTARY COURSE.

13. What was the object of the New England Confederation?
14. Name the colleges that were founded in New England before the Revolution. Give dates.
15. Why did the settlers of New Hampshire put themselves under the protection of Massachusetts in 1641? How long did New Hampshire continue a part of Massachusetts?

LESSON FOUR.

Colonial Settlements (concluded).

EXERCISES.

1. Name four men prominent in the early history of New York.
2. Tell the story of Leisler's execution.
3. Who were the Patroons?
4. For what was William Penn famous?
5. What was the character of the settlers in the Carolinas?
6. For what is the early government of Maryland distinguished?
7. Tell the story of Mason and Dixon's Line.
8. Who were the proprietors of New Jersey?
9. How did the English get possession of New York?
10. What was the character of the settlers of Georgia?
11. What name is associated with the history of Georgia?
12. Name the Quaker colonies.
13. What was the leading business of the colonists?
14. What is meant by charter government?
Give instances?
15. Why were royal governors objectionable to the colonists?

LESSON FIVE.

Intercolonial Wars.

EXERCISES.

1. What intercolonial wars from 1680 to 1770?
2. What brought on these contests?

UNITED STATES HISTORY.

3. Give the results of each.
4. Why was the French and Indian war of great importance?
5. How long did it last?
6. What young man became distinguished in this war? When and where was he born?
7. Describe the battle near Fort Du Quesne.
8. Tell how Quebec was captured.
9. In what way were the colonial wars a benefit to the colonists?
10. What is a congress?
11. What was the purpose of the colonial congresses?
12. Tell about Pontiac's Conspiracy.

LESSON SIX.

The American Revolution (Causes).

EXERCISES.

1. Explain how the life of the colonists developed capacity for self-government.
2. The English government claimed that the colonists should pay part of the expenses of the French and India War. What were the American views of taxation? The British?
3. What were the Navigation Acts?
4. Who were the Sons of Liberty?
5. What was the effect of the Stamp Act?
6. What was England's reason for sending troops over to Boston?
7. Tell about the Boston Massacre and the New York Riot.
8. Give the story of the Boston Tea Party.
9. When and where was the First Continental Congress held? Results?
10. When and where did the Second Continental Congress meet? How long did it continue in session?
11. Read the Declaration of Independence and give the most important reasons for the revolt of the colonies.
12. Who wrote the Declaration of Independence?
13. How were the colonies governed during the Revolution?
14. Tell what took place when the Declaration of Independence was announced. How did the people answer?

ELEMENTARY COURSE.

LESSON SEVEN.

The American Revolution (Campaigns).

EXERCISES.

1. Name important events at or near Boston, New York, Philadelphia, Saratoga, Yorktown, Charleston, Savannah.
2. Describe the battle of Bunker Hill.
3. Repeat the story of Sergeant Jasper.
4. What forced Washington to retreat through New Jersey?
5. What battles forced the British to fall back from the Delaware?
6. What route did the British take to capture Philadelphia in 1777? What victory did they win before the city was captured?
7. Tell the story of Valley Forge.
8. Describe General Burgoyne's plan to separate New England from the rest of the country.
9. To whom did he surrender? What other officer won distinction in this campaign?
10. What cheering event for the Americans happened in 1788?
11. Why did not Congress heed the proposals of England for peace? What did the English commissioners offer?
12. Why did the British evacuate Philadelphia? What was their route to New York? What battle was fought on the way?
13. Tell about the massacre of Wyoming. How did Washington avenge this deed?
14. Tell about Marion and Sumter.
15. Where was the greatest battle in the South?
16. Who was Benedict Arnold? Give the story of his life.
17. Describe the siege of Yorktown.
18. When was the treaty of peace signed? Give its terms.

LESSON EIGHT.

The Constitution.

EXERCISES.

1. What was the state of the country at the close of the war?
2. Tell of the destruction of property. Of the debt.

UNITED STATES HISTORY.

3. What body had managed matters during the war?
4. What were the Articles of Confederation?
5. Was the confederation a *real* union? Explain.
6. Explain why a convention was called to make "a more perfect union."
7. Where and when did the convention meet?
8. What was their plan of government called?
9. Tell about its adoption.
10. When did it go into effect?
11. Who was chosen the first president?
12. How many states were represented in the first congress?

LESSON NINE.

The Great Men of the Revolution.

EXERCISES.

1. Explain why Washington is considered the greatest character of the war.
2. What is said of Washington compared with other officers?
3. Give examples of trying scenes where Washington kept his firmness and faith.
4. Give examples that show his unselfishness.
5. What was Benjamin Franklin's greatest service to his country?
6. Patrick Henry was called the leading orator of the Revolution. What was his greatest service?
7. Tell the story of Lafayette.
8. What was the greatest service that Thomas Jefferson rendered?
9. What was General Greene's greatest campaign?
10. Who, in your opinion, was the ablest British general? Give reasons.
11. What famous battles did John Paul Jones fight?
12. Name other famous leaders in the Revolution.
13. Name two distinguished officers who were killed in battle.
14. Why were the services of Robert Morris important?

ELEMENTARY COURSE.

LESSON TEN.

Washington's Administration.

EXERCISES.

1. Tell how the government was put in motion under Washington.
2. What is the legislative branch? The executive? The judicial?
3. Of what does each branch consist?
4. Who composed Washington's cabinet?
5. What financial difficulties had to be met during his administration?
6. What difficulties at home about taxes?
7. What Indian troubles?
8. What disputes with England?
9. With France?
10. Who negotiated a treaty with England?
11. Explain why the invention of the cotton gin was an important event.
12. What states were admitted during his administration?

NOTE. In studying the administrations, learn from what state each president came and what party elected him.

LESSON ELEVEN.

Administration of John Adams.

1. Who was vice-president during this administration?
2. What were the Alien and Sedition Laws?
3. When did Washington die?

Administration of Thomas Jefferson.

1. Why is the purchase of Louisiana considered an event of unusual importance?
2. Draw a map outlining the extent of the Louisiana purchase and the explorations of Lewis and Clark.
3. What was the purpose of the Embargo Act? Its effects?
4. What famous duel occurred during Jefferson's administration? Give the circumstances.

UNITED STATES HISTORY.

5. What was the invention of Fulton ?
6. Tell the story of the Impressment of American Seamen.
7. What is meant by Jeffersonian Democracy ?

LESSON TWELVE.

Administration of James Madison.

1. What was the cause of the War of 1812 ?
2. Why was it so called ? How long did it last ?
3. Name four famous American naval officers.
4. Tell the story of the loss of Michigan Territory.
5. Describe the battle of Lake Erie.
6. What American officer distinguished himself at Lundy's Lane ?
7. Give an account of the burning of Washington.
8. Under what circumstances was "The Star Spangled Banner" composed ?
9. What great battle was fought after the treaty of peace had been signed at Ghent ?
10. Give an account of this battle.
11. Give an account of the Hartford Convention.
12. What was its effect upon politics ?

LESSON THIRTEEN.

Administration of James Monroe.

1. When and from whom was Florida purchased ?
2. What were the main features of the Missouri Compromise ?
3. What name is associated with it ?
4. What is meant by the Monroe Doctrine ?

Administration of John Quincy Adams.

1. Explain the importance of the Erie Canal.
2. What is its extent ? When was it built ?

ELEMENTARY COURSE.

3. When and where was the first railroad constructed in the United States?
4. Why did President Adams favor tariff? How did the South look at it?

Administration of Andrew Jackson.

1. With what great events are the following names associated? Webster, Clay, Calhoun.
2. Explain the meaning of "Spoils System," "Rotation in Office."
3. What is meant by "State Rights"? Nullification?
4. What was the Webster-Hayne Debate?

LESSON FOURTEEN.

Administration of Martin Van Buren.

1. What caused the financial panic of 1837?
2. Tell the story of Professor Morse's great invention.

Administrations of Harrison and Tyler.

1. When did President Harrison die?
2. What were the terms of the treaty of Washington, or Webster-Ashburton Treaty?
3. Tell the story of the Annexation of Texas.

Administration of James K. Polk.

1. What were the causes of the Mexican War? Results?
2. Name the principal victories of General Taylor. Of General Scott.
3. Explain how we acquired California and New Mexico.
4. When was gold discovered in California?

Administrations of Taylor and Fillmore.

1. When did General Taylor die?
2. What were the provisions of the Omnibus Bill?
3. Tell of the invasion of Cuba by Lopez.

UNITED STATES HISTORY.

LESSON FIFTEEN.

Administration of Franklin Pierce.

1. What was the Gadsden Purchase ?
2. What is meant by " Squatter Sovereignty " ?
What name is associated with it ?
3. What was the Kansas-Nebraska Bill ?
4. What was the " underground railroad " ? The Dred-Scott Decision ?

Administration of James Buchanan.

1. Why was the Lincoln-Douglass debate important ?
2. Describe the John Brown Raid.
3. What was the " Fugitive Slave Law " ?
4. Name two prominent abolitionists.
5. Tell the story of the secession of the Southern states.
6. The most important dates in the history of American slavery are,
1619, 1793, 1808, 1820, 1828, 1832, 1845, 1850, 1854, 1857, 1859,
1860, 1861, 1863, 1865, 1868, 1870. What does each recall ?

LESSON SIXTEEN.

Administration of Abraham Lincoln.

1. What effect did the news of the fall of Sumter have ?
2. Describe the battle of Bull Run.
3. Where did General McClellan first win military distinction ? How
long did it take him to organize the Army of the Potomac ?
4. Why was Fort Donelson important ? Who captured it ?
5. Name the five principal victories of General Grant. Of General Lee.
6. Name two great naval commanders of the North and give the leading
battles of each.
7. Explain the importance of the battle between the " Monitor " and the
" Merrimac. "
8. How many invasions of the North did General Lee make ? Give
results.
9. What military campaigns made General Sherman famous ? General
Sheridan ? General Meade ? General Thomas ?

ELEMENTARY COURSE.

10. What battles were fought to open the Mississippi?
11. When and where did General Lee surrender?
12. What was the most important battle of the war? Give commanders.
13. What was the comparative military strength of the North and the South?
14. What advantages did the North possess? The South?
15. When did President Lincoln issue his Proclamation of Emancipation?
16. Tell the story of his assassination.

Administration of Andrew Johnson.

1. How did the reconstruction policy of President Johnson differ from that of Congress?
2. Why was he impeached?

LESSON SEVENTEEN.

Administration of Ulysses S. Grant.

1. What caused the panic of 1873?
2. What is meant by the demonetization of silver?
3. What were the Alabama Claims?
4. Where was the Centennial Exposition held? Why?
5. Why was the Joint Electoral Commission organized?

Administration of Rutherford B. Hayes.

1. Give an account of the railroad strike in 1877.
2. Name two other important events of his administration.

Administrations of Garfield and Arthur.

1. Tell the cause of President Garfield's assassination.
2. What was the Anti-Polygamy Bill? The Anti-Chinese Bill?

The First Administration of Grover Cleveland.

1. Tell the story of the Haymarket riot at Chicago.
2. What are the provisions of the Presidential Succession Bill?
3. What is meant by civil service reform?

UNITED STATES HISTORY.

The Administration of Benjamin Harrison.

1. What was the object of the Pan-American Congress of 1889?
2. What was the Australian Ballot Reform?
3. What was the object of the Columbian Exposition? Where was it held?

The Second Administration of Grover Cleveland.

1. What was Coxe's Army?
2. What caused the financial panic of 1893?
3. What was the Venezuelan boundary dispute?

LESSON EIGHTEEN.

Administration of William McKinley.

Important events : The Dingley Tariff Bill ; Trouble with Spain ; The blowing up of the Maine ; War with Spain ; Dewey's victory at Manila ; Destruction of Cervera's fleet off Santiago ; Capture of Santiago ; Treaty of Paris ; Annexation of Hawaiian Islands ; Wake Island ; Samoan Islands ; Tutuila ; Death of Vice-President Hobart ; Reëlection of President McKinley ; His assassination ; Theodore Roosevelt becomes president.

EXERCISES.

1. Name the members of President Roosevelt's Cabinet.
2. What was the cost of the war with Spain? How were the expenses of this war met?
3. What were the terms of the Treaty of Paris, 1898?
4. What is the so-called Sampson-Schley controversy?
5. Tell the story of the assassination of President McKinley.
6. What is meant by the " Billion Dollar Trust " ?

Miscellaneous.

1. Name five great literary characters in the history of our country and mention their works.
2. Contrast the United States of 1790 with the United States of the present day (*a*) as to population, (*b*) wealth, (*c*) territory, (*d*) manufactures, (*e*) agriculture, (*f*) influence among the nations of the world, (*g*) commerce, (*h*) cities, (*i*) education.

PHYSIOLOGY AND HYGIENE.

Text-books recommended for use :

Cutter's Intermediate Anatomy, Physiology and Hygiene,	\$0.50
Steele's Hygienic Physiology—Abridged, . . . . .	.50
Martin's Human Body—Elementary Course, . . . . .	.75

PHYSIOLOGY AND HYGIENE.

LESSON ONE.

Definitions, etc.

1. Define *physiology*.
2. Of what does *hygiene* treat?
3. Define *function*. Illustrate.
4. What is an organ? Illustrate.
5. What is protoplasm?
6. Is protoplasm found in vegetables?
7. Name some of nature's laws.
8. What is the penalty of their violation?
9. Can one in youth lay up health, as he can money, for middle or old age?
10. What is suicide?

LESSON TWO.

The Bones.

EXERCISES.

1. Name three uses of the bones.
2. Explain why bones are hollow.
3. Give examples of each of the different kinds of bones.
4. Give illustrations of how bones protect delicate organs.
5. What is the composition of bones?
6. How can you remove the mineral matter?
7. How are the bones nourished?
8. Explain the effect of injuries to the bones.
9. Why are not the bones of children as easily broken as those of aged persons?

ELEMENTARY COURSE.

10. Why is milk a valuable food for infants?
11. How do bones grow?
12. How does a broken bone heal?

LESSON THREE.

The Skeleton.

EXERCISES.

1. How many bones are there in the body?
2. Is the number fixed? Explain.
3. Which bone of the skull is movable? How is the lower jaw hinged?
4. Describe the spine.
5. What is the object of the projections? Of the pads?
6. The backbone is one of the most beautiful pieces of mechanism in the body. Explain.
7. What are free or floating ribs?
8. How do the hip bones give solidity?
9. Name the bones of the hand. In what lies the perfection of the hand?
10. Name the bones of the foot. What is the use of the arch of the foot?
11. What are the effects of high heels?
13. What is the cause of bow-legs?

LESSON FOUR.

Muscles and Joints.

EXERCISES.

1. What are the muscles? How many?
2. How do the muscles move the limbs?
3. Name and define the two kinds of muscles. Illustrate each.
4. Describe the tendons. What is their use?
5. What advantages are gained by the enlargement of the bones at the joints?
6. Why cannot a child walk at once as many young animals do?

PHYSIOLOGY AND HYGIENE.

7. Why cannot an animal stand erect as man does?
8. Describe the process of walking.
9. Where is the "Tendon of Achilles"?
10. What is the effect of alcohol and tobacco upon the muscles?
11. What are sprains? Why are they painful?
12. Illustrate the different kinds of joints; viz., ball and socket, hinge, pivot, sliding.
13. What are dislocations?
14. What is the office of the synovial membrane?

LESSON FIVE.

The Skin.

EXERCISES.

1. What are the uses of the skin? What is its function as an organ?
2. How is the skin constantly changing?
3. Why is a scar white?
4. What are freckles? What is the cause of "tanning"?
5. Why are hairs and nails spoken of under the head of "skin"?
6. How does a hair grow? How do nails grow?
7. What are the perspiratory glands? What is the perspiration?
8. When is the best time for a bath? Why?
9. Explain the use of linen as an article of clothing. Cotton. Woolen. Flannel.
10. What are corns? Warts? Chilblains?

LESSON SIX.

EXERCISES.

1. Name and describe the different kinds of teeth.
2. Which one comes first? Last?
3. Describe the structure of the teeth.
4. Why do the teeth decay?

ELEMENTARY COURSE.

5. What care should be taken of the teeth?
6. Which teeth cut like a pair of scissors?
7. Which teeth cut like a chisel?
8. Do the edges of the upper and lower teeth meet?
9. What is the effect of paint and powder on the skin?
10. What are the best means of preventing skin diseases, colds, and rheumatism?
11. What causes the difference between the hard hand of a blacksmith and the soft hand of a woman?
12. Why should we not use the soap or the soiled towel at a hotel?

LESSON SEVEN.

Digestion.

1. What is the alimentary canal? How is it lined?
2. Define secretion. How is the saliva secreted?
3. What is the construction of the stomach?
5. What is the use of the gastric juice?
5. Describe the construction of the intestines.
6. What juices are secreted in the duodenum?
7. What is the bile? Describe the liver.
8. What is the pancreatic juice? Its use?
9. What is absorption?
10. In what two ways is the food absorbed?
11. Of what system do the lacteals form a part?
12. What is their office?

LESSON EIGHT.

The Circulation.

1. Name the organs of circulation.
2. Describe the heart, give size, shape, position.
3. Draw a cross section of the heart. Name the parts.
4. How do arteries differ from veins?
5. What blood do the veins carry? The arteries?

PHYSIOLOGY AND HYGIENE.

6. What is the function of the capillaries?
7. Does the heart ever rest?
8. How can you tell by the flow of the blood whether a vein or an artery is cut?
9. What is the lymphatic circulation? What is the thoracic duct?
10. What is the cause of "a cold"?
11. What is a congestion? Its cause?
12. What is the average temperature of the body?

LESSON NINE.

Respiration.

1. Name the organs of respiration.
2. What are the bronchi?
3. Describe the structure of the lungs.
4. Describe the pleura.
5. What are the cilia? Their use?
6. What two acts constitute respiration?
7. What is the use of the diaphragm in breathing?
8. How does coughing differ from sneezing?
9. What is the action of the oxygen in the lungs? What does the blood give up? What does it gain?
10. What is meant by the breathing capacity? How does it vary?
11. Describe the process of inspiration.
12. Describe the process of expiration.

LESSON TEN.

Ventilation.

1. What are the evil effects of re-breathing the air?
2. What is meant by "oxygen starvation"?
How is it caused?
3. What diseases are largely owing to bad air?
4. When is the ventilation of a room perfect?
5. What is the general principle of ventilation?

ELEMENTARY COURSE.

6. Must pure air necessarily be cold air ?
7. What is meant by germs of disease floating in the air ?
8. How should bedrooms be ventilated ?
9. Describe the effects of living in an overheated room.
10. Should a hat be thoroughly ventilated ? How ?

LESSON ELEVEN.

The Voice.

1. Describe the vocal cords.
2. What is their use ?
3. How is sound produced ?
4. How are the higher tones of the voice produced ? The lower ?
5. Upon what does loudness depend ?
6. What is the cause of the voice changing ?
7. What is speech ?
8. What is vocalization ?
9. What is meant by training the voice of a singer ?
10. How do vowel sounds differ from those of consonants ?

LESSON TWELVE.

The Nervous System.

1. What are the organs of the nervous system ?
2. What is the gray matter ? Its use ?
3. What is the white matter ? Its use ?
4. What is the office of the brain ?
5. How much blood goes to the brain ?
6. Describe the cerebrum. What is the effect of removing it ?
7. Describe the cerebellum.
8. Describe the spinal cord.
9. What is the medulla oblongata ?
10. What are the nerves ?

LESSON THIRTEEN.

The Nervous System (Concluded).

1. What are the motory nerves?
2. The sensory?
3. When will motion be lost and feeling remain, and *vice versa*?
4. What are the spinal nerves?
5. Describe the origin of the spinal nerve.
6. What are the cranial nerves?
7. What is the sympathetic system?
8. What is its use?
9. What is reflex action? Illustrate.
10. What are the uses of reflex action?
11. What kind of work requires most sleep?
12. What danger is there in obtaining sleep by medicine?

LESSON FOURTEEN.

The Eye.

1. Name the coats of the eye.
2. What liquids fill the eye?
3. What is the object of the crystalline lens?
4. What is the pupil?
5. What is the lachrymal gland?
6. What is the blind spot?
7. Give the theory of sight.
8. What is near-sightedness? How is it remedied?
9. What is far-sightedness?
10. What is the cataract?
11. Give general directions for taking care of the eyes.
12. Should we ever read or write at twilight? Explain.

ELEMENTARY COURSE.

LESSON FIFTEEN.

The Ear.

1. Describe the ear.
2. What is the tympanum or drum of the ear?
3. What is the theory of sound?
4. What advice can you give concerning the care of the ear?
5. If there were no ears could there be any sound?

Taste.

6. Describe the sense of taste.
7. What substances are tasteless?
8. Why do acids "pucker" the face?
9. Why is vomiting induced by salt and bitter flavors?
10. What is the use of the sense of taste?

LESSON SIXTEEN.

Smell.

1. Describe the organ of smell.
2. Must objects that are to be smelled touch the nose?
3. What are the uses of this sense?
4. Are agreeable odors healthful, and disagreeable ones unhealthful?
5. What is the object of the hairs in the nostrils?
6. Why do we often hold the nose when we take unpleasant medicine?

Touch.

7. Describe how the hand is adapted to be the instrument of touch.
8. What are the uses of this sense?
9. Where are the papillæ?
10. Where are they most abundant?

LESSON SEVENTEEN.

Alcohol.

When alcohol is taken into the stomach, its influence upon the nervous system is marked by four successive stages, viz. : excitement, muscular weakness, mental weakness, unconsciousness.

1. Describe the stage of excitement.
2. Describe the stage of muscular weakness.
3. Describe the stage of mental weakness.
4. Describe the stage of unconsciousness.
5. Describe the effect of alcohol upon the brain.
6. Describe the effect upon the mental and moral powers.
7. Upon the heart.
8. Upon the membranes.
9. Upon the blood.
10. Upon the lungs.

LESSON EIGHTEEN.

Tobacco.

1. Is tobacco a food?
2. What are the chief constituents of tobacco?
3. What are the physiological effects of tobacco?
4. What is the influence of tobacco upon the nervous system?
5. What is its influence upon youth?

GEOGRAPHY.

Text-books recommended for use :

Natural Elementary Geography,	\$0.60
Frye's Elements of Geography, . . . . .	.65

GEOGRAPHY.

LESSON ONE.

Familiar Geography.

EXERCISES.

1. How does a hill differ from a valley?
2. Which is the finer, loam or sand? Loam or clay?
3. What becomes of plants that die, and of leaves that fall?
4. Brooks often flow in dry seasons. Where does the water come from?
5. How does a river system differ from a river basin? Illustrate.
6. How are valleys formed?
7. How does a mountain differ from a hill?
8. What is a *plain*? Name the different kinds.
9. What are the effects of heat, wind, and rain upon the surface of the earth?
10. What determines the vegetation of a place?
11. What are minerals?
12. What usually determines the location and size of cities? Illustrate.

LESSON TWO.

Geography: definition, derivation, divisions.

The Earth: form, size, rotation, position in the solar system, volume, motions, orbit.

Measurements: great circles, small circles, cardinal points, horizon, zenith, axis, the poles, meridians, diameter, tropics, zones, equator.

Motions of the Earth: annual, daily, causes.

Changes of seasons: causes, time.

Globes. Maps.

NOTE. Be sure to master all terms in the outlines.

EXERCISES.

1. What is the derivation of the term *geography*?
2. What is the difference between *political* and *physical* geography?
3. Give proofs of the rotundity of the earth.
4. What are the *poles* of the earth?
5. What is the *equator*?
6. Name the different *zones*. Give their respective widths.
7. Distinguish between great and small circles. Name some of each kind.
8. How many motions has the earth?
9. How do you account for the change of day and night?
10. Explain the change of seasons.

LESSON THREE.

Water.

Divisions of water : oceans, gulfs, bays, lakes, rivers, straits, channels.

Movements : waves, currents, tides.

Ground water : springs, geysers, hot springs.

Rivers : source, bed, mouth, banks.

River basins and divides.

River systems.

Lakes : fresh, salt, distribution, cause of salt lakes.

Stream features : rapids, cataracts, sand banks, bars, deltas, flood plains, oxbow loops.

Glaciers : formation, movements, drumlins, glacial period, icebergs.

Barrier beaches. Sandy hooks.

Coral reefs and islands.

Land.

Natural divisions of land : continents ; islands, — oceanic, continental, archipelago.

Forms of land : coast lines, isthmuses, peninsulas, capes, promontories, mountains, mountain ranges, mountain systems, plateaus, plains, valleys, deserts, oases.

GEOGRAPHY.

Coasts : rising coasts, sinking coasts.

Volcanoes : causes, distribution.

Atmospheric erosion.

EXERCISES.

1. Name the different oceans according to their size.
2. What is the *Gulf Stream*?
3. Give illustrations of artesian wells, of geysers.
4. Name two famous glaciers of Alaska. Two of the Alps.
5. What is the cause of salt lakes?
6. What are continental seas? Name two.
7. Distinguish between *continental* and *oceanic* islands. Give illustrations.
8. How are canyons made?
9. What are deserts? Name five.
10. What is atmospheric erosion?

LESSON FOUR.

The Atmosphere.

Winds : causes, kinds, constant, periodical, variable.

Trade winds : location, cause, uses.

Periodical winds : monsoons, sea breezes, etesian northern, harmattan.

Variable winds : simooms, siroccos.

Cyclones and *tornadoes* : causes, distribution.

Moisture : evaporation, saturation, condensation.

Forms of condensation : dew, frost, fog, clouds, rain, hail, snow.

Distribution of rain : in the torrid zone, in temperate zones.

Zones of light : how determined, position of the tropics.

Climate as affected by latitude, altitude, proximity to large bodies of water and to mountain ranges.

EXERCISES.

1. Define and explain *winds*.
2. What are the *trade winds*?
3. What are *monsoons*?
4. What is the difference between *cyclones* and *tornadoes*?

ELEMENTARY COURSE.

5. How does the distribution of rain differ in the different zones ?
6. When does the arctic circle have its longest daylight ?
7. What is meant by *zones of light* ?
8. Illustrate how climate is affected by latitude, by altitude.
9. By proximity to large bodies of water and to mountain ranges.
10. What is the meaning of the word *tropic* ?

LESSON FIVE.

Vegetation.

Vegetation : conditions of growth, distribution of plants.

Forests : dense, open, kinds of trees.

Prairies. Deserts. Oases.

Medicinal plants. Examples.

Food plants. Examples.

Plants cultivated : cereals, with edible roots, with edible fruit, cultivated for leaves, cultivated for fiber.

EXERCISES.

1. In what zone are most of the dense forests ?
2. Give the different names for grassy land.
3. What are tundras ?
4. What are deciduous trees ? Examples.
5. Name two plants that yield fiber from which cloth is made.
6. Name three that are used in making medicine.
7. What is india rubber ?
8. Name five food plants.
9. Describe the vegetation of the hot belt.
10. Name five plants of the cool belt.

LESSON SIX.

Study of the Continents (Outlines).

Location : Latitude. Longitude.

Extent : length, width, area.

GEOGRAPHY.

Comparative size.

Coast features : gulfs, bays, harbors, sounds, straits, channels.

Forms of land : isthmuses, peninsulas, capes, islands.

Physical features.

Mountain systems : ranges, peaks.

Slopes.

Plateaus.

Valleys.

Plains.

River systems.

Lakes.

Climate : temperature, winds, rainfall.

Vegetation.

Animals.

Distribution of races.

Political divisions : boundaries, capitals, cities, physical features, climate, soil, productions, industries, routes of commerce, exports, imports, government, religion, education.

NOTE. This outline is intended for use in the study of each continent.

North America.

EXERCISES.

1. What part of North America is in the same latitude as England and Ireland?
2. Why does the climate of Labrador differ so materially from that of England?
3. Why are the winters more mild at Puget Sound than in the region of Lake Superior?
4. Name the political divisions of North America.
5. Give their capitals and governments.
6. Draw an outline map of North America.
7. Name the mountain systems of North America.
8. The river systems. The great lakes.
9. What are the products of Canada? Of Mexico?
10. Name the Canadian provinces and give the capital of each.
11. Describe the routes of the proposed interoceanic canal.
12. Name the principal gulfs and bays of North America.

ELEMENTARY COURSE.

LESSON SEVEN.

South America.

EXERCISES.

1. Name the political divisions of South America, giving capitals, government, religion, language, and industries of each. Arrange in tabular form.
2. How do the river systems of South America compare with those of North America?
3. What island of South America is situated similarly to Newfoundland?
4. Compare in number and size the continental islands of South and of North America.
5. Why does the eastern part of South America have more rainfall than the eastern part of North America?
6. What commerce is carried on between the countries of South America and the United States?
7. How do North America and South America compare as to natural resources?
8. Describe the grassy plains of South America.
9. What language is most generally used in South America? Explain.
10. What influence does the Andes mountain system exert on the climate of South America?

LESSON EIGHT.

Europe.

EXERCISES.

1. Describe the mountain systems of Europe.
2. Describe the river systems of Europe.
3. Give the political divisions of Europe.
4. Locate their capitals.
5. Name the chief exports of Europe.
6. For what are the following places noted : Pisa, Venice, Greenwich, Naples, Paris, Berlin, Constantinople, Madrid?

GEOGRAPHY.

7. What does Germany comprise? Which are the free cities?
8. Name the colonial possessions of Great Britain.
9. What and where is the Vatican? Kiel Canal?
10. What are *heaths*? Where is the Zuyder Zee?
11. What parallel crosses the central portion of Spain and through which of the United States does it pass?
12. Name and locate ten of the principal seaports of Europe.

LESSON NINE.

Asia.

EXERCISES.

1. What does the Chinese Empire include? What are the productions of China?
2. Name the political divisions of Asia and locate the capital of each.
3. Give an account of a merchant's voyage from Bombay to Hong Kong, telling what goods he carries on each trip. From Marseilles to Yokohama.
4. Name the principal islands of Japan. What are the chief productions of these islands?
5. Locate the following cities: Tobolsk, Irkoutsk, Bokhara, Khiva, Tiflis, Smyrna, Damascus, Jerusalem, Mecca, Muscat.
6. Name the seas which wash the shores of Asia.
7. Describe the mountain systems of Asia.
8. Describe the river systems of Asia.
9. Which is the most elevated lake in the world? The highest mountain?
10. Describe the Chinese Wall.
11. Name the Russian possessions in Asia. The Dutch. The English. Those of the United States.
12. Describe the Siberian railroad.

LESSON TEN.

Africa.

1. Name the countries of Africa.
2. What nations own territory in Africa? What does each own?

ELEMENTARY COURSE.

3. What is the Kongo State? How is it governed?
4. Describe the lake system of Africa.
5. Describe the surface of Africa.
6. Locate the following islands : Azores, Canary Cape Verd, Ascension, St. Helena, Madeira, Peak of Teneriffe.
7. What capes project from the four extremities of Africa?
8. Describe the Sahara.
9. How does Africa compare with other grand divisions in regularity of coast line?

Australia.

1. Explain how the Australian life region differs from all others.
2. In what season does Christmas occur in Australia? Why?
3. What is the Australian Confederation?
4. Describe the surface of Australia.
5. Locate its principal cities.
6. Describe its river and mountain systems.

LESSON ELEVEN.

The United States (Surface).

EXERCISES.

1. Describe the Pacific highlands.
2. Describe the Atlantic highlands.
3. In which states do the prairies merge into the Western plains?
4. Describe the delta of the Mississippi.
5. Where are the prairies? The Western plains?
6. What bounds the basin of the Mississippi on the west? On the east? On the north?
7. Between what high mountains does the Great Basin lie?
8. Describe the park region of Colorado.
9. Locate Guam. Why is it valuable?
10. How many important islands in the Philippines? Which is the largest?
11. What are our possessions in the West Indies?
12. Describe the surface of Alaska.

GEOGRAPHY.

LESSON TWELVE.

The United States (Waters).

EXERCISES.

1. Of what does the United States consist?
2. Name the principal capes of the United States.
3. Give the principal seas, gulfs, and bays.
4. Name the great watersheds.
5. Name the great river systems.
6. Name the principal tributaries of the Missouri. The Mississippi. The Ohio.
7. What are the principal rivers of the Pacific system? Of the Atlantic system? Of the Gulf system?
8. Name the navigable rivers.
9. Name the Great Lakes in the order of their size. What can you say of their commerce?
10. Name other large lakes.

LESSON THIRTEEN.

The United States (Map Studies of the States).

1. Name the states that border on the Atlantic ocean.
2. What states are separated by the Potomac river? By the Ohio river?
3. Name the states on the east bank of the Mississippi.
4. On the west bank.
5. What states are crossed by the Missouri river?
6. Which states border Lake Erie? Lake Michigan? Lake Superior?
7. What states are crossed by the Rocky Mountains?
8. What states border on Canada?
9. What states border on the Pacific ocean?
10. What states border on the Gulf of Mexico?

ELEMENTARY COURSE.

LESSON FOURTEEN.

The United States (Cities).

EXERCISES.

Locate the following cities, telling what each is noted for and which are capitals :—

1. New York, Chicago, Philadelphia, St. Louis, Boston.
2. Baltimore, San Francisco, Cincinnati, Cleveland, Buffalo.
3. New Orleans, Pittsburg, Washington, Detroit, Milwaukee.
4. Minneapolis, St. Paul, Louisville, Omaha, Kansas City.
5. Denver, Richmond, Nashville, Atlanta, Portland (Ore.), Seattle.
6. Los Angeles, Tacoma, Salt Lake City, Des Moines, Butte.
7. Austin, Savannah, Charleston, Jacksonville (Fla.), Mobile.
8. Chattanooga, Little Rock, Wilmington (N. C.), Wilmington (Del.),
Portland (Me.).
9. Fargo, Bois  City, Cheyenne, Indianapolis, Wheeling.
10. Name the ten largest cities of the state in which you reside.

LESSON FIFTEEN.

The United States (Productions).

EXERCISES.

1. Where is the cotton belt of the United States? Name other products of this belt.
2. Where are the great cotton mills of the United States?
3. Where is the wheat belt? Locate the great flour mills.
4. Where are the chief tobacco districts?
5. Name the states that are in the corn belt.
6. What valuable forest trees grow on the Gulf coastal plain? Around Puget sound?
7. What sections are noted for raising oranges and lemons?
8. Name the principal pork-packing centers. Where are the great cattle ranches?

GEOGRAPHY.

9. What states are noted for their dairy products?
10. What is the great wool market? What city is the center of the oyster trade?
11. Where are there important salmon fisheries?
12. What states are noted for their lumber?

LESSON SIXTEEN.

The United States (Minerals, etc.).

EXERCISES.

1. Describe the coal fields of the United States.
2. Name the four principal iron ore districts.
3. Where are the principal iron manufacturing centers?
4. Where are the great oil fields?
5. Where are the most valuable gas wells? What are the uses for natural gas?
6. Where are the rich gold mines of the United States?
7. Where are the rich silver mines of the United States?
8. Where are the rich copper mines of the United States?
9. Where are lead and zinc obtained?
10. Locate the great quarries of the United States.

LESSON SEVENTEEN.

The United States (Commerce).

EXERCISES.

1. Locate and give termination of five important canals.
2. Give terminals of the following railroads: Northern Pacific, Central Pacific, Southern Pacific, Great Northern.
3. Name four great trunk lines of the Eastern states.
4. Name the principal United States salt water routes.

ELEMENTARY COURSE.

5. What are the chief manufacturing interests of New England? Of the Southern states?
6. What are the chief manufacturing cities of your state? What do they manufacture?
7. Answer same questions for states which bound your state.
8. In the following voyages, tell what important cities you might stop at and what large rivers you would pass : From Galveston, Texas, to Portland, Maine. From San Diego to San Francisco. From San Francisco to Sitka. From Duluth to Buffalo.
9. What products would you carry on each voyage, both going and returning?
10. What are the important industries of your state? Of the states which border your state?

LESSON EIGHTEEN.

Miscellaneous.

1. What is commerce?
2. What is the most important commercial water way in the world?
3. What are the chief routes of commerce from Western Europe?
4. From San Francisco?
5. Name the great canals of the world.
6. Name valuable fur-bearing animals.
7. Where in the United States are the following animals raised in greatest abundance : horses, cattle, hogs, sheep?
8. Draw an outline map of your own state and locate its principal cities and rivers.
9. Draw an outline map of the United States.
10. What part of the United States produces the largest amount of corn? Of wheat? Of lumber? Of coal? Of gold and silver? Of iron? Of beef? Of cotton?



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