

L4.48

2 of 4

Math - 8<sup>th</sup> Grade

6/7/14  
C



REPORT FOR DECEMBER 15

Science 8-3 and 8-4

General Aim: Understanding of the general aspects of the earth's surface and preliminary concepts of flotation.

Text: Beauchamp, Mayfield, West--Science Problems, Book 2.  
Pages 185 to 211.

Units: Review and test over the unit on Earth's Surface  
Start the unit on Flotation.

Next Period: Finish unit on Flotation and start the unit on Energy and its Use.

Arithmetic 8-3 and 8-4

General Aim: Understanding of the words and problems containing gross proceeds, net proceeds, cost price, overhead, and selling price.

Text: Ruch, Knight, Studebaker, Mathematics and Life, Book 2  
Pages 92 to 113

Next Period: Study of the metric system, banks, and checking.

Arithmetic 8-3 and 8-4

General Aim: Understanding of beginning work in percent and commission.

Text: Ruch, Knight, and Studebaker, Mathematics and Life, Book 1  
Pages 104 to 121.

Next Period: Study of budgets and further work in percent.

Priscilla Drummond



Report for January 15 to February 29

Science--8<sub>3</sub> and 8<sub>4</sub>

Text: Beauchant-Mayfield-West, Science Problems, Book 2

Pages: 259 to 349

Units: How Do We Control Heat? and Weather.

Next Period: Unit on The Human Body

Arithmetic--8<sub>1</sub>, 8<sub>3</sub>, and 8<sub>4</sub>

Text: Ruch, Knight, Studebaker, Mathematics and Life, Book 2

Pages: 150 to 240

Material covered: Self Testing Drills number 5, 6, 7, and 8 and a matching test on words and their meaning. Study of banks, interest, corporations, stocks and bonds, and insurance, and an introduction to algebra and geometrical construction.

Next Period: More algebra, taxes, community funds, and practice in skills.

Arithmetic--7<sub>3</sub> and 7<sub>4</sub>

Text: Ruch, Knight, Studebaker, Mathematics and Life, Book 1

Pages: 148 to 207

Material covered: Self Testing Drills number 5, 6, and 7 and a review test in skills. Study of decimals, percents, and an introduction to interest.

Next Period: Further study of percents and interest, practice in skills, and a study of business methods in the home.

Mrs. Priscilla Drummond



8th Grade Science

Unit VI Control of Heat

1. Is radiant energy hot? *(no)*
2. In which method of heat transfer does the heat go from molecule to molecule? *(conduction)*
3. Is metal a non-conduction of heat? *(no)*
4. In evaporation materials change from what state to what state? *(liquid to gas)*
5. When materials condense they change from what state to what state? *(gas to liquid)*
6. When water freezes does it use heat? *(no)*
7. When the humidity is high, will evaporation take place faster or slower. *(slower)*
8. Is a fire in a fireplace luminous? *(yes)*
9. Does a hot water furnace have convection currents inside the pipes? *(yes)*
10. Would the expansion take on a furnace most likely be in the basement or upstairs? *(upstairs)*
11. On which kind of a furnace is a safety valve necessary? *(steam)*
12. By what method of heat transfer is heat lost through the window glass? *(conduction or radiation)*
13. What kind of insulating would prevent such loss of heat? *(storm windows)*
14. Is the compressor in a refrigerator is a pump? *(yes)*
15. What is calcium chloride? *(salt)*
16. Name one gas that is used for evaporation in making ice? *(sulphur dioxide or ammonia)*
17. Is heat used or given off in the evaporator of a refrigerator? *(used)*
18. Is heat used or given off in the condensor? *(given off)*
19. What change takes place in the material in the evaporator? *(liquid to gas)*
20. What change takes place in the material in the compressor? *(gas to liquid)*
21. What kind of heating system uses only convection currents? *(hot air)*
22. Which kind heats mostly by radiation? *(fireplace)*
23. Which kind uses all three methods well? *(stone, steam or hot water)*

24. } on back.  
25.



24. Which kind has only one pipe for the heat to go up and also return? *(steam)*
25. When water changes to steam it increases about how many times in size? *(1600 times)*



# 7th GRADE ARITHMETIC TEST

1. What is the average of 18, 0, 33, 7 ans. \_\_\_\_\_
2.  $\frac{1}{2}$  long ton equals \_\_\_\_\_ lbs?
3. Subtract:  $1 \frac{1}{5}$   
 $\underline{2/5}$  ans. \_\_\_\_\_
4. \_\_\_\_\_
4.  $\frac{1}{8}$  of 216 is \_\_\_\_\_?
5. 5 gallon 3 quarts x 5 = \_\_\_\_\_
6. Subtract 16.75  
 $\underline{.85}$  ans. \_\_\_\_\_
7.  $\frac{2}{3} + 2 \frac{1}{3} + \frac{1}{6} =$  \_\_\_\_\_
8. 4 bu. equals \_\_\_\_\_ qts.
9.  $\frac{125}{25}$  in simplest form is \_\_\_\_\_?
10.  $\frac{1}{2}$  bu. = \_\_\_\_\_ cu. ft.?
11.  $2 \frac{2}{5} \times \frac{5}{6} =$  \_\_\_\_\_
12.  $.4 \overline{) .264}$  ans. \_\_\_\_\_
13.  $\frac{3}{4} \%$  equals what decimal? \_\_\_\_\_
14. 3 is what fraction of 18? \_\_\_\_\_
15.  $87\frac{1}{2}\%$  equals what fraction? \_\_\_\_\_
16. 36 is how many times 24?
17. 3 cu. yd. = \_\_\_\_\_ cu. ft.
18. 9 is what decimal of 12? \_\_\_\_\_
19. Multiply 24  
 $\underline{2\frac{1}{2}}$
20. 3 gal. = \_\_\_\_\_ pt.



# 8th GRADE ARITHMETIC

ANS.

1. Principal
2. Instalments
3. Subtract
4. Parallel
5. Perpendicular
6. Acute angle
7. Area of a circle.
8. Net price
9. Margin
10. Proceeds
11. Bank draft
12. Charter
13. Selling price
14. Capital stock
15. Area of a triangle
16. Stock certificate
17. Bank discount
18. Stock holder
19. Dividends
20. Area of a parallelogram
21. Amount
22. Bond
23. Security
24. Volume
25. Par value
26. Outstanding bonds
27. Retired bonds
28. Per annum
29. Market value
30. Semiannually

1. The price after the discount is subtracted.
2. Bonds that are paid off.
3. Principal minus interest.
4. Profits
5. Original value of a share.
6. To find how much more than.
7. Cost plus profit plus overhead.
8. Person who owns shares.
9. Base times height.
10. Money borrowed or invested.
11. Interest.
12. Lines going in the same direction.
13. Length times width times height.
14. A printed paper describing a share.
15. Payments.
16. A permit to form a corporation.
17.  $R \text{ times } R \text{ times } PI$ .
18. An angle less than 90 degrees.
19. A check from one bank to another.
20. Money used to run a business.
21. A promissory note.
22. Lines forming a right angle.
23. Bonds not yet paid.
24.  $1/2 \text{ times base times height}$ .
25. Selling price of stocks and bonds.
26. Overhead plus profit.
27. Every 6 months.
28. Principal plus interest.
29. For each year.
30. Property that can be used to pay notes if the borrower does not have money.



REPORT FOR DECEMBER 15 TO JANUARY 15

Science 8-3 and 8-4

Text: Science Problems Book II, Beauchamp, Mayfield, West  
Pages 219 to 256

The unit on Flotation was finished, and the unit on Energy was studied, completed, and tested.

Next period: We plan to study the unit on Heat.

(Tests given over each of the units studied this semester are included.)

Arithmetic 8-3 and 8-4

Text: Mathematics and Life Book II, Ruch, Knight, Studebaker.  
Pages 112 to 150

The metric system, banking, and per cent were studied, and Self Testing Drills number 3 and 4.

Next period: We will have a review of areas, and introduce simple interest.

Arithmetic 7-3 and 7-4

Text: Mathematics and Life Book I, Ruch, Knight, Studebaker.  
Pages 121 to 145

Budgets, comparing percents, and the idea of 100% were studied. Self Testing Drills number 3 and 4 were taken.

Next period: Discount will be introduced and work in mixed numbers in per cent.

Mrs. Priscilla Drummond



## UNIT I THE EARTH AND THE HEAVENLY BODIES

### TRUE OR FALSE

- T 1. The prime meridian passes through Greenwich, England.
- F 2. The meridian runs parallel with the latitude lines.
- F 3. We have Central Time here in Colorado.
- T 4. Refracting means bending.
- F 5. A refracting telescope uses a mirror to magnify the image.
- T 6. A refracting telescope is harder to make than a reflecting one.
- T 7. The largest telescope we have now is about 8 feet in diameter.
- F 8. A spectrum is a triangular piece of glass.
- T 9. A spectrograph takes pictures of colors.
- T 10. Different elements can be distinguished <sup>on</sup> ~~over~~ the sun through the spectroscope.
- F 11. When we <sup>see</sup> a "star fall" it is really a comet.
- F 12. The universe and the solar system are the same thing.
- T 13. When it's 8 o'clock here it's 10:00 in New York.
- F 14. A galaxy is a group of stars named because of their resemblance to an animal or some object.
- F 15. Sundtime would be the same all through the Mountain Time Zone.

### COMPLETION

More hrs of sunshine  
vertical rays are hotter than slanting  
less atmosphere to shine through

16. Give two reasons why it is warmer in the summer than in winter.
17. " " " " " " " " " " " " " "
- reflecting 18. What kind of telescopes use mirrors?
- spectroscope 19. What is the name of the instrument that separates the colors of light?
- astronomer 20. What do we call a person who foretells the future by the stars?



UNIT I THE EARTH AND THE HEAVENLY BODIES (continued)

- Mercury*  
*Venus* { 21. Name the two planets that are closer to the sun than we are.  
22. " " " " " " " " " " " " "
- Pluto*  
*no* 23. Name the planet farthest away.  
24. Do all the planets revolve around the sun in the same length of time?
- Planet* 25. Is the earth a star or a planet?



## UNIT II GRAVITY

### TRUE OR FALSE

- F 1. A large stone would fall faster than a small one.
- + 2. A hammer dropped from an airplane would be going faster when it ~~is~~ hit <sup>the ground</sup> than when it started.
- + 3. A bullet shot from a gun will land in the same length of time as one dropped from a gun.
- F 4. Gravitation is spoken of only in relation to our solar system.
- + 5. The moon has gravitational pull on the earth.
- + 6. Our system of weights is called the Eng. system.
- F 7. Cork has more density than iron.
- + 8. There is more pressure at the bottom of a swimming pool than at the top of the water.
- + 9. An aneroid barometer works with a spring instead of mercury.
- F 10. Air has no weight.
- + 11. A vacuum is formed in front of the airplane propellers.
- + 12. A pump cannot pump water more than 35 feet above the water.

### COMPLETION

- gr 13. Is the pull of the moon and the panets on each other called gravity or gravitation? *gravitation*
- 14. The center or balancing point of a teetertotes is called? *Fulcrum*
- 15. The system of weights using grans of kilogram is called? *metric system*
- 16. Which is denser-water or gasoline? *water*
- 17. Is salt water heavier of lighter ~~x~~ than fresh water? *heavier*
- 18. What two things must one know to figure the weight of a tank of oil. *De*
- 19. " " " " " " " " " " " " *Depth Density*
- 20. An altimeter measures what? *altitude*
- 21. If a barometer is carried up an elevation will the mercury go up or down in the vacuum side? *down*



UNIT II GRAVITY (continued)

22. If you weigh 100 lbs., about what would you weigh on the moon? *17lbs*
23. Where is the partial vacuum found in centrifugal force? *center*
24. Why does the moon have less gravity? *less matter*
25. Would a ton of coal at the north pole weigh more or less than *more* 2000 lbs.



# UNIT III HOW THE EARTH'S SURFACE CHANGES

## MATCHING

- |                         |   |
|-------------------------|---|
| E 1. marble             | a. a formation of lime                  |
| D 2. lava               | b. formed from mud and minerals         |
| J 3. <del>plateau</del> | c. one form of shale                    |
| A 4. stalacxite         | d. melted rock                          |
| C 5. slate              | e. one form of limestone rock           |
| F 6. conglomerate       | f. formed from gravel and minerals      |
| B 7. shale              | g. formed from skeletons of animals     |
| I 8. mica               | h. one kind of igneous rock             |
| G 9. limestone          | i. one kind of mineral in igneous rock  |
| H 10. granite           | j. a level place on top of the mountain |

## TRUE OR FALSE

- T 11. A muture valley is U-shaped.
- F 12. The RockXy Mountains are old mountains.
- F 13. A delta is a bank built on the side of the river to keep the river in its chanel.
- F 14. Fossils are often found in igneous rock.
- F 15. Sand dunes are Xleft by glaccars.
- T 16. Radio <sup>active</sup> ~~active~~ elements produce heat.
- T 17. Extinct means does not exist any more.
- T 18. Mud carried in the water is <sup>sediment.</sup> ~~sedmite.~~
- T 19. The farther into the earth one goes the hotter it gets.
- F 20. A folded mountain usually has a plateau in top.



### UNIT III HOW THE EARTH'S SURFACE CHANGE

#### COMPLETION

21. What is the name of a scientist who studies rocks? *geologist*
22. What is another name for stratified rock? *sedimentary rock*
23. What are the three kinds of a top soil? *sand*
24. " " " " " " " " " " *clay*
25. " " " " " " " " " " *loam*
26. What is another name for organic material? *humus*
27. What are piles of materials left by glaciers called? *moraines*
28. The rising and falling of the earth's surface is called what? *diastrophism*
29. What two causes of earth quakes. } *faults*
30. " " " " " " " " } *volcanic reaction*



## UNIT LV FLOTATION

1. Does a gallon of warm water weigh more or less than a gallon of cold water ?
2. Are there more or less molecules in a gallon of cold water than in a gallon of hot water?
3. Is the density of hot water greater or less than that of cold water?
4. Is the density of hot air greater or less than that of cold air?
5. In hot air are the molecules closer or farther apart than in cold air?
6. In which direction does the air next to a cold window move?
7. Would the scales register a persons weight more or less on a mountain top than at sea level?
8. Is the density of ice greater or less than that of water?
9. What are hydrometers used for?
10. Are water and air both a fluid?
11. When a stone is in water, is there more pressure from the water from the bottom or the top?
12. Is gravity pulling downward the cause of a balloon going up?
13. What does buoyed up mean?
14. Which is denser--iron or mercury?
15. A stone that weighs 135 lbs. in the air weighs 73 lbs. in water. About how many cubic feet of water does it displace?

### Key--

1. less
2. more
3. less
4. less
5. farther apart
6. down
7. more
8. less
9. test density of liquids
10. yes.
11. bottom
12. yes.
13. pushed up
14. mercury
15. one



# UNIT V Energy

## Matching--

- |                               |   |
|-------------------------------|---|
| 1. energy                     | A. Attraction of the same kind of molecules.                                      |
| 2. force                      | B. Energy changing from one form to another.                                      |
| 3. work                       | C. A push or pull that tries to start or stop something.                          |
| 4. cohesion                   | D. Characteristic.  |
| 5. adhesion                   | E. Moving something.  |
| 6. inertia                    | F. Attraction of different kinds of molecules.                                    |
| 7. centrifugal force          | G. Resistance to a force.   |
| 8. friction                   | H. Whirling things away from a center.  |
| 9. property                   | I. Capacity to do work.   |
| 10. Transformation of energy. | J. Tendency of all objects to stay still if stopped or to keep moving if started. |

## Completion--

11. Is a stone held three feet above the earth exerting a force?
12. Is a boy going up stairs working?
13. When you peel an apple are you overcoming the force of adhesion or cohesion?
14. Which has more friction--a black-top road or a dirt road?
15. When an electric iron is turned on what transformation of energy takes place?
16. When a candle is burning what transformation of energy is taking place?
17. What transformation of energy takes place when a fire is started with a magnifying glass and sunshine?
18. What form of energy does a set mouse trap have?
19. Can we destroy some kinds of energy?
20. Is glueing two pieces of wood together adhesion or cohesion?
21. } Name two kinds of mechanical energy.
22. }
23. }
24. } Name four other kinds of energy.
25. }
26. }
27. } Most work is done by overcoming the force of four kinds of resistance. Name
28. } two of them.
29. Does adding water to a substance increase or decrease the force of cohesion of the substance?
30. Does greasing a pan increase or decrease the force of adhesion between the pan and some candy?

## Key

- |       |                                       |               |                       |
|-------|---------------------------------------|---------------|-----------------------|
| 1. I  | 11. Yes.                              | 18. Potential | 27-28 Inertia         |
| 2. C  | 12. Yes.                              | 19. No        | Friction              |
| 3. E  | 13. Cohesion                          | 20. Adhesion  | Gravity               |
| 4. A  | 14. Dirt road                         | 21. Kinetic   | Cohesion and adhesion |
| 5. F  | 15. Electrical energy to heat energy. | 22. Potential | 29. Decrease          |
| 6. J  | 16. Chemical to heat or light.        | 23-26 Heat    | 30. Decrease          |
| 7. H  | 17. Radiant to chemical or            | Electrical    |                       |
| 8. G  | radiant to heat                       | Chemical      |                       |
| 9. D  |                                       | Radiant       |                       |
| 10. B |                                       |               |                       |



## Test in Arith 83 & 84

1. Mr. Burgess bought 6 doz. jack-o'-lanterns at 48¢ a dozen. He figured that his overhead on each of these lanterns would be 2¢. How much would his total profit have been if he sold them all at 10¢ each?
2. On Halloween morning he had sold all but 25 of the lanterns at 10¢. He changed the price on these lanterns to 5¢ each. How much did he expect to lose on these 25 lanterns?
3. Later that day he discovered that 3 of the 25 lanterns were broken and 2 so badly soiled from handling that he could not sell them. He sold all the others 5¢ each. How much did he lose on these 25 lanterns?
4. Did he have a profit or a loss on the entire 6 dozen jack-o'-lanterns? How much was it?
5. Mr. Burgess made a total profit of about \$48 on Halloween goods. This was about 30% of all his profit from the store for October. Find his approximate profit from the store for October.



6. Mr. Holt's salary this year is 80% more than his salary last year. His salary this year is \$3600. What was his salary last year?
7. The margin on a violin costing \$24 amounted to \$8. What was the per cent of margin?
8. The profit on a watch was 5% of the \$27.50 retail price that the merchant received for it. What was the amount of his profit on this watch?
9. The profit on a watch was \$.25 or 5% of the retail price that the merchant received for it. Find the retail price of this watch.
10. Which costs less, and how much less, a tire that sells for \$12 with a discount of 25% or a tire that sells for \$14 with successive discounts of 20% and 10%?



Science Report  
7-3 and 7-4  
Nov. 15 to Dec. 1, 1943.  
Text Science Problems-Book I.

For the two week period from December 1 to December 15, Unit V on How Substances Change has been finished. It has been difficult to make them understand simple chemistry with so little laboratory equipment to work with. They do not grasp the abstract. We did a few simple experiments to show chemical changes taking place, such as making charcoal, burning sugar to form carbon, etc.

Attached is the test given covering Unit V.

Unit VI is on How we use and control fire. They will probably enjoy this Unit more as it can be made to apply to their problems.

Respectfully submitted,

Freda L. Mahony



Science Test

1. Give 2 examples of each
  - (a) element
  - (b) compound
  - (c) mixture
2. Are solutions mixtures or compounds?
3. Chemical change takes place or not when:
  - (a) Sugar dissolves in water.
  - (b) Meat decays when not properly kept.
  - (c) Kodak films are spoiled if exposed to light
  - (d) When an automobile engine is running
  - (e) The whites of eggs become fluffy when beaten.
4. Name 3 ways to control chemical change.
5. Define:
  1. Chemical formula
  2. Compound
  3. Solution
  4. Mixture
  5. Element



Science Report  
7-3 and 7-4  
Nov. 15 to Dec. 1, 1943.

The two week period from Nov. 15 to Dec. 1 covered Unit IV in Book I, Science Problems. Some time was spent reviewing both Unit III and Unit IV to show how one leads up to the other. Then Nov. 22 a comprehensive test was given covering both units.

Unit V continues introducing chemical changes that take place when different elements and compounds are combined. It is all new to Seventh graders and they have difficulty with the subject matter. They also find the words difficult so we have spelling drills on words, spelling, pronunciation and meaning.

Respectfully submitted,

Freda L. Mahony



Name \_\_\_\_\_  
Grade \_\_\_\_\_

### TEST - UNIT 4

A. In the sentences below fill in the blanks with the word or words that will complete the statement correctly.

1. \_\_\_\_\_ are always evaporating.
2. Solids, liquids and gases \_\_\_\_\_ when heated.
3. There are three states of matter \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
4. Water freezes at \_\_\_\_\_ degrees centigrade.
5. If more heat is added to boiling water, the water will boil \_\_\_\_\_. The temperature will be \_\_\_\_\_.

B. The definition of the words in column I are given in column II. Put the letter of definition of the word in the blank.

- |                               |  |
|-------------------------------|--|
| 1. _____ expand               | a. the gaseous state of water.                                       |
| 2. _____ thermometer          | b. to decrease in size.  |
| 3. _____ freezing point       | c. to change from a gas to a liquid.                                 |
| 4. _____ evaporation          | d. to change from a liquid to a gas and then back to a liquid again. |
| 5. _____ boiling point        | e. to increase in size.  |
| 6. _____ principle of science | f. the temperature at which a liquid turns to a solid.               |
| 7. _____ condense             | g. the highest temperature at which a liquid evaporates.             |
| 8. _____ steam                | h. an instrument for measuring temperature.                          |
| 9. _____ distill              | i. a statement of scientific fact.                                   |
| 10. _____ contract            | j. change from a liquid to a gas.                                    |

C. Write true on the blank if the statement is true and false if it is not true.

1. \_\_\_\_\_ If a liquid is cooled enough it will turn into a gas.
2. \_\_\_\_\_ Scientists discover principles of science by experimenting.
3. \_\_\_\_\_ When water is boiling, bubbles of steam form.
4. \_\_\_\_\_ Gas can be changed to a liquid if it is cooled enough.
5. \_\_\_\_\_ Evaporation usually takes place more rapidly during the day.
6. \_\_\_\_\_ Distillation will not remove salt from ocean water.
7. \_\_\_\_\_ The temperature at which liquids change to solids differs with different liquids.
8. \_\_\_\_\_ Steam can be seen with our eyes.
9. \_\_\_\_\_ Solids, liquids and gases contract when cooled.
10. \_\_\_\_\_ The scales on a centigrade thermometer are divided so that 0 degree is the freezing point and 212 degrees is the boiling point of water.

D. Men employed by a telephone company are stringing wire between poles on a hot summer day. Should they allow a little slack in the wire or should they stretch it as tightly as possible? Explain your answer.



8th Grade Science

8-1

The Unit on How Does the Earth's Surface Change has been completed. Each student wrote a paper pertaining to this unit. Several experiments were carried out in the class room, in which the students showed a great deal of interest. The notebook work covering this unit has also been completed.

Some of the topics discussed were:

1. How are Volcanoes formed?
2. How are Mountains formed?
3. How Is The Earth's Surface Raised and Lowered?
4. The Formation of Plateau.

We have started the unit on Flootation.



## Bi-Monthly Report

Jimmie Nishida

Period of Oct. 1 - 15, 1943

### 7-2 Math Class, 7-3 Math Class, 7-1 Math Class

This class have covered the first 33 pages of work in the text, Mathematics and Life. And also this class have been drilling on addition, subtraction, multiplication, and division problems. I have given them a time test in addition, subtraction, and multiplication to get a clearer view of how much the individual knows about working these problems.

All three of these classes are progressing at almost the same rate.

### 7-2 Science Class

This class have been studying the Unit on Materials in the text, Science Problems book I. They have covered the topics on the similarity of all materials, the various characteristics of solids, liquids, and gases, and also they have covered the section on solution and its characteristics. During the course of the study on materials I have been doing simple experiments and demonstrations to show or rather prove to the class that the characteristics and statements about certain materials are true and can be easily proved.

Period of November 3, 1943

The 7-1 and 7-2 math classes have covered the sections on important measures, common fractions and decimal fractions in the text. Pages 32 to 44.

Special practice drills were given to have the students learn the tables of important measures and abbreviations on page 471.

Drills in common fractions and decimal fractions were given regularly to acquaint the students with how to do addition, subtraction, multiplication, and division using these problems.

At the end of the two week period the Warming up Exercise test in decimal fraction was given them on page 44.

The 7-1 and 7-2 science classes have completed the study of various kind of material in Unit III of the text. Two full period of review was given on that unit to help the students clarify things that they fail to understand. Then a 30 minute test was given on the unit. The result of the test was very good.

On the second week a new Unit was introduced to the students, Unit IV How Do Heating and Cooling Changes Materials?

In this new unit the section on How Do Heating and Cooling c Changes the Size of Materials was covered, with experiments and demonstrations accompanying.



## Bi-Monthly Report

Jimmie Nishida

Period of Nov. 1 - 24, 1943

The 7-1 and 7-2 math classes have covered the work from page 45 to the middle of page 77. This work includes finding perimeters and areas of squares and rectangles, finding volumes of cubes and rectangular solids, and the application of these to everyday problems. Also how to read and make bar graphs and now they are learning how to read and make line graphs.

Other than the work in the text they have been doing drill work in addition, subtraction, multiplication and division. They have been working on speed and accuracy in these problems.

In the 7-1 and 7-2 Science classes we have completed the unit on How Heat Affects Material. This includes how heat affects the size and states of matter and the explanation of these happenings by the use of the molecular theory. This work included pages 125 to 145 in the text.

We have begun a new unit on How Can One Kind of Substances Change Into Another Kind. So far in this unit we have studied the differences between physical and chemical changes, the differences between elements and compounds, and few simple symbols of elements and compounds. This work included pages 149 to 159 in the text.



January 15, 1944  
Mrs. Hammond

#### Seventh (1 & 2) Math.

We began the study of commissions and discussed the practical application of commission rates. We drilled and drilled in the first case of percentage, writing percents as decimal fractions and as fractions. We learned to multiply as the people of ancient times did. We practiced changing measurement into the largest denomination--such as 7 weeks 2 days--5 days, and 2 lbs 14 oz. add 3 lbs 15 oz. We continued drilling in division with decimals in divisors and dividends. We covered pages 114 through 128. We are ready to start the Unit on Managing the Family's Money.

#### Seventh Science

We completed the Unit on the use and control of fire, discussing oxidation, spontaneous combustion and construction and use of fire extinguishers; also we talked about the fire hazards and fire protection here in Amache. Then we finished the short unit on Magnets and How They Work. We secured several magnets from the senior high school and did some very interesting experiments. The boys were especially interested in this subject, and acquire many practical and useful ideas. The next unit introduces the question of how plants and animals are alike, and I have borrowed the microscope to bring to the study some actual examples.

#### Eighth Math.

We have begun the Chapter on banking, using practice checks, stubs, and deposit slips. We have discussed the various ways of endorsement, the practical value of having a checking accounts, cancelled checks as receipts etc. We will continue this study for some time, and will learn about simple and compound interest, borrowing, promissory notes, and banking discounts. There has also been much drilling on the three cases of percentage, as applied especially to everyday living.

#### Eighth Science

We have just completed the unit entitled "The Earth's Surface," but have a day or two yet to complete the work-book. We studied the causes and effects of earthquakes, volcanoes, and erosion. We learned the composition of different types of soil, and the effects water, wind, and sun have on rocks and soils. We discussed the formation of canyons and stalactites and stalagmites, of fossils, of river valleys, and of mountains. The next unit to come to our attention will be on weather.



## Monthly Report

Jan. 15 - Feb. 15, 1944

M. Hammond

### 7-1 & 7-2 Math

We covered pages 129 through 182 in the text, completing the chapter "Managing the Family Income." We talked about various budgets and why budgets are useful. We made several graphs to give us a picture of how budgets work. We discussed budgets suited to various incomes and occupations; and worked out budgets for school boys and girls.

We continued our studies in percentage. We learned to work with percents as decimals and fractions and learned the fraction equivalents of several common percents. We practiced doing problems and using percents both as fractions and as decimals.

We discussed the value of discounts and learned how to compute them. We also talked about the advantages and disadvantages of buying on the installment plan.

Several times during the month, tests to review the fundamentals of arithmetic were given and scored, and also self-testing drills which included rate problems as well as thought-testing ones.

### 8-1 & 8-2 Science

We completed unit 7 "What Makes the Weather Change." We learned what factors make weather at any time, how scientists gather weather information, and how weather maps are made. We discussed convection currents, land and sea breezes, radiant energy, and the various forms of moisture. We learned how "lows" and "highs" travel across the continent, and what weather conditions go with them. We learned to recognize the different kinds of clouds and learned how and where they form, and how they affect the weather. Also we learned of cyclones, hurricanes and similar storms. We are now beginning unit II, "Scientific Farming." as this information may help some who may take an active part in the farming work at the center.

We have a workbook which accompanys the text, and which the children enjoy using.

### 7-1 & 7-2 Science

We completed unit 8. "How are Plants and Animals Alike," and began a new unit, "How Living Things Get Food" We borrowed the microscope from the high school and thoroughly enjoyed our experiments with it. We obtained some stagnant water and examined it for one-celled plants and animals. We also examined fresh blood under the microscope. The children were much interested in this unit, and learned the material presented very well. Quite a large assignment was given for library work, which included early scientists, such as Pasteur, Lister, Darwin, etc, and on bacteria, fungus, protozoa, etc. I believe the children developed a new interest in living things and are more wide-awake to the elements around us.



Report for March 1 to March 18

Arithmetic 8<sub>1</sub>, 8<sub>3</sub>, 8<sub>4</sub>

Text: Ruch, Knight, Studebaker, Mathematics and Life, Book II

Pages: 240 to 293, which included an introduction to geometric construction, ratio, beginning algebra, and taxation. Self Testing Drills 9, 10, and 11.

Next period: Self Testing Drills 12 and 13. Community planning, study of symmetry, congruent and similar figures, corresponding angles, ratio and proportion, and the hypotenuse rule.

Arithmetic 7<sub>3</sub>, 7<sub>4</sub>

Text: Ruch, Knight, Studebaker, Mathematics and Life, Book I

Pages: 207 to 251. Self Testing Drills number 8, 9, 10, practise in percents, keeping an account, and travelers checks.

Next period: Self Testing Drills 11 and 12. More percents, areas, reading gas and electric meters, and the study of the circle.

Science 8<sub>3</sub>, 8<sub>4</sub>

Text: Beauchamp-Mayfield-West, Science Problems, Book 2

Pages: 353 to 379. Test over unit on weather, and the first part of the unit on the human body.

Next period: Finish the unit on the human body.

Mrs. Priscilla Drummond



Report for March 15 to April 21

Arithmetic 8<sub>1</sub>, 8<sub>3</sub>, 8<sub>4</sub>

Text: Ruch-Knight-Studebaker, Mathematics and Life,  
Book 2 Pages 290 to 410

Material covered: A study of symetry, similar triangles,  
ratio and proportion, hypotenuse rule, squares and  
square root, volumes of prisms and cylinders,  
shipping by freight, express, and parcel post, the  
metric system, and a continuation of algebra.

Next period: A general review of the skills and facts  
learned in eighth grade arithmetic.

Arithmetic 7<sub>3</sub>, 7<sub>4</sub>

Text: Ruch-Knight-Studebaker, Mathematics and Life, Book 1  
Page 240 to 352

Material studied: Methods of sending money, bills and  
receipts, how to read gas and electric meters,  
and dimensions and areas of parallelograms,  
triangles, trapezoids, and circles.

Next period: A complete review of all skills and facts  
learned in the seventh grade arithmetic.

Science 8<sub>3</sub>, 8<sub>4</sub>

Text: Beauchamp-Mayfield-West, Science Problems, Book 2  
pages 375 to 435

Units: The study of the human body was finished and a  
unit on fighting disease was completed.

Next period: A unit on growth and reproduction.

Priscilla Drummond



Report for Semester Ending May 19, 1944

Mrs. Priscilla Drummond

Arithmetic 7<sub>3</sub> and 7<sub>4</sub>

Text: Ruch-Knight-Studebaker, Arithmetic and Life, Book 1  
Pages 150 to 400

Material taught:

When I took the classes in arithmetic in October they had done nothing but drill on fundamentals for the first six weeks. Consequently, by the end of the first semester we had covered little more than one third of the seventh grade material in arithmetic. In order to give the faster students an opportunity to cover all the material by the end of the second semester, we started an "extra work" system. A minimum assignment of work was made for the whole class each day which usually included only the drill type of problems on the new material and review problems of old material. Then the "thought" problems and those which took more time were assigned as extra work. Scores were taken each day on the class assignment, and the extra work was recorded separately. The pupils gradually became interested in the extra work until many of the slower ones were finding the time to work several thought problems a week. All new material was explained and discussed with the class as a whole and then the amount of work done on that material was left up to each individual.

I feel the plan was quite successful in that no one wasted time waiting on others to finish work--there was always work for the faster students to be doing, and it created quite an interest in self reliability with the harder problems. The fact that many of the students progressed as much as three and four years in their "Arithmetic Reasoning" scores on the achievement tests I feel has been partly due to this plan.

The new types of problems that were introduced in seventh grade work this last semester were the different kinds of percent problems, discount, increase and decrease problems, banking, home budgeting, reading meters, and the dimensions and areas of the triangle, trapezoid, parallelogram, and circle.

Many problems of their every day experiences were used, such as increase and decrease of their arithmetic scores, figures from the co-op store, scores from their baseball games, budgeting their allowances, statistics



March 20, 1943

Mathematics, 9th grade.

Report of Work Covered Feb. 15 to Mar. 15

I picked up this class when they were finding a single discount equal to two successive discounts. This process calls for changing per cent to decimals, the adding, subtracting, and multiplying of decimals. To my surprise, the only way they could read decimals was by saying point and calling the digits in order of placement. The majority if not the entire class would select the decimal with the greater number of digits as the minus. From this I discovered the real meaning of decimals had not been given them. I have floundered around trying to find something solid on which to build. When I tried to teach by comparison with common fractions I learned I had many pupils who had no idea of the meaning of fractions.



As purely imitators they have been doing processes that meant nothing to them. I have taught addition, subtraction, and multiplication of decimals until every pupil could find one discount that was equivalent to two successive. The next process in the order of the text was developing formulae using per cent. By experience with the class I found not one had any idea of formulae involving integers. As a result I have developed the Unit on Practical Measurements in order to get the simplest of formulae.

An interesting experience came when a girl drew a line on the board she thought was a rod long and it was shorter than the line a girl had just drawn that she had judged from looking at the yard-stick that was hanging by the board. The fact that this girl had looked at the yardstick as she was drawing her line had been brought out before the girl drew her line representing a rod. Another girl drew a line on the board she thought was a mile long. This gives an idea of what is to be developed.



I am now developing through drawings and paper cuttings formulae for area of plane figures. The formulae for perimeters have already been developed in line with measure of distance.

The formulae for volume will follow.

In all cases examples to fix these formulae are placed on the board and same tactics used as in seventh grade to control cheating and chatter.

Chatt G. Knight



more show

Unit Report for Feb 1-15<sup>th</sup>  
9<sup>3</sup>, 9<sup>4</sup>, 9<sup>5</sup> math

1. Positive and negative numbers were used to show how to <sup>indicate</sup> direction were taken up.
2. Addition using signed numbers was also taken up.
3. As a class project graphs from data obtained from the office were made. They include graphs showing age grade distribution for 7<sup>th</sup>, 8<sup>th</sup>, & 9<sup>th</sup> grade.
4. Problems in insurance were taken up. Different types of insurance were studied and problems dealing with percents were solved.



Mori, Shiro

Unit Report for Jan 15-30  
93, 94, & 95 math

1. Problems on how to make statements were taken up stressing accuracy in addition and subtraction.
2. Problems on margin, overhead, and profit was taken up. Correct ~~use~~ method of solving percentages was stressed.
3. Problems on profit, loss, and turning over was taken up. Again the correct method of solving percent problems was stressed.
4. In problems dealing with Commission and use of equations the following was taught.
  - (1) How to read problems correctly.
  - (2) How to solve these problems on percentage.



## MATHEMATICS

Grade 9-2  
January 18 - 28, 1943

The activities of the class have been concerned with geometric figures and principles. Most emphasis was placed on triangles.

The conditions under which triangles are congruent were discussed and experimentally determined. Symmetry in objects about us was discussed. The relationships of similar triangles were studied and practical application was made.

Some practice was had in the use of compass and straight-edge.

*L. Koda*



REPORT FOR OCT. 30

Arithmetic 8<sub>3</sub> and 8<sub>4</sub> --

October 15-30--Review and work on decimals and decimal fractions. Figuring areas and perimeters of triangles; trapezoids, parallelograms, and circles.

November 1-15--Cubic measurements and discounts.

Arithmetic 7<sub>3</sub> and 7<sub>4</sub> --

October 15-30--Review of decimals, fractions, and measures.

November 1-15--Finding perimeters, areas, and volumes of squares and rectangles. Study of graphs.

Science 8<sub>3</sub> and 8<sub>4</sub> --

October 15-30--Review and test over "Earth and Other Heavenly Bodies". Study of force of gravity and using gravity in weights.

November 1-15--Finish the study of gravity and study the changes in the earth's surface.

Priscilla Drummond

(Work outlined for November 1-15 is what is planned for the next two weeks.)



Report for November 1 to 15

Science 8-3 and 8-4

We completed the unit on gravity, reviewed and took a test over the unit, and have been studying the unit on "The Earth's Surface."

Arithmetic 8-3 and 8-4

We have been studying discounts and percents, and took the first "Self Testing Drill" of the year.

Arithmetic 7-4 and 7-3

We have been studying bar graphs, line graphs, and decimals, and took the first "Self Testing Drill" of the year.

Mrs. Priscilla Drummond



Report for December 1, 1943

Arithmetic 8-3 and 8-4

Review and quiz over discounts and percents. Study of successive discounts, invoices, statements, and percent of increase and decrease.

Arithmetic 7-3 and 7-4

Practise in division with decimals, a study of lines (parallel, perpendicular, oblique, broken), and a study of measurements in kilograms and meters.

Science 8-3 and 8-4

Further study of changes on the earth through wind, water, glacier, volcanoes, and earth quakes, and the formation of different kinds of rocks.

Mrs. Priscilla Drummond



ARITHMETIC - 8-1: 8-3: 8-4.

Text: Mathematics and Life, Bk. 2,  
Ruch, Knight, Studebaker

All three classes completed Chapter I to p. 60. The following types of mathematical situations were discussed and solved.

- (a) Review of four fundamental processes involving whole numbers, fractions, and decimals.
- (b) Review of common tables of measure.
- (c) Reading numbers, giving place value.
- (d) Problem solving using fractions, decimals, and per cents.
- (e) Figures with four sides--How to find area and perimeter of each.
- (f) Application of various formulae for finding facts about circles, triangles, and rectangular solids.
- (g) Correlated problem solving involving careful reading and application of the foregoing facts and formulae.



ARITHMETIC: 8-1, 8-3, 8-4.

Text, Mathematics and Life, Book 2.  
Ruch, Knight and Studebaker

A. Chapter VII - The Community and Its Neighbors.

I. Keeping in Touch with the World.

- (a) Shipping by freight, express, parcel post, air express, truck, boat.
- (b) The metric system of measure; vocabulary study of new words.
- (c) Using the mails.
- (d) Using telephone and telegraph services.
- (e) Traveling by railroad; time tables, time belts.
- (f) Other methods of traveling.
- (g) Measures used on the farm, in the home, and in business.
- (h) Solving problems by equations.

B. Chapter III - The Bank and the Community

I. Banks of long ago and how banks serve modern communities.

- (a) Facts about a bank check.
- (b) Depositing and cashing checks.
- (c) Opening a checking account.
- (d) Making out checks and check stubs.
- (e) Using checking accounts.
- (f) Monthly statements.
- (g) Circle graphs.
- (h) How banks help send money.
- (i) Simple interest.
- (j) Compound interest.
- (k) Borrowing money from a bank.
- (l) Finding interest on loans; bank discount.
- (m) Problems about promissory notes.



Math 8<sup>2</sup>  
December 21, 1944

James F. Michaud  
Monthly Report

TEXT: MATHEMATICS AND LIFE--Ruch, Knight, Studebaker.

Material COVERED: PAGES 157-217

OBJECTIVES:

The main objective of this section of Chapter III is to acquaint the student with the facts about bank checks, monthly statements, sending money through banks, savings and checking accounts, promissory notes, and bank discount. The major mathematical material of the section relates to finding interest on money.

The theme of Chapter IV is Business and the Community. Several other activities of business firms and individuals, in addition to those described in their relation to stores and banks, require extensive use of mathematics. Organizing business, financing it, and dividing the profits furnish an illustration.

BRIEF OUTLINE OF SUBJECT MATTER COVERED:

Savings accounts and interest  
Compound Interest  
Interest Graphs  
Borrowing money from a Bank  
Finding interest on Loans  
Bank Discount  
Problems about promissory notes.  
Questions about banks in your community.  
Using equations to solve problems  
Solving equations by division  
How business develops from community needs  
Organizing a business  
Dividing the profits of a business  
Using Bonds to borrow Money  
Borrowing Money to Build a Home  
Protecting a House against Fire loss

TEST:

(Attached)



Arithmetic: 8-1, 8-3.

Text, Mathematics and Life, Book 2.  
Ruch, Knight, Studebaker

Both sections have completed Chapter IV, "Business and the Community" and Chapter V, "Taxes and Other Community Funds," pp. 185 - 298. Special emphasis has been given to story problems, vocabulary building, and **situations** which require thoughtful intelligent reading. The following topics have been discussed in some detail and tests have been given.

#### Chapter IV - Business and the Community

##### I - How business develops from community needs.

- (a) Organizing a business; dividing the profits of a business; using bonds to borrow money.
- (b) Finding interest on stocks and bonds.
- (c) Borrowing money to buy a home.
- (d) Protecting a house against fire loss.
- (e) Different kinds of automobile insurance.
- (f) Different kinds of life insurance.
- (g) Cooperative farm associations.
- (h) Solving problems by equations.
- (i) Angles and triangles; drawing perpendiculars; bisecting an angle.

#### Chapter V - Taxes and Other Community Funds

##### I - Why communities are taxed.

- (a) How property is assessed and taxed.
- (b) Special assessments.
- (c) Other kinds of local taxes.
- (d) Municipal water service; municipal bonds.
- (e) State taxes; Federal taxes; Sources of Federal income.
- (f) Ratio and proportion.
- (g) Signed numbers; solving problems by equations.



# Monthly Report

James Muehau  
4/5/45

Subject - Math 8<sup>2</sup>

Text - Mathematics and Life  
(Ruch, Knight, Studebaker)

Subject matter covered -  
Chapter 6

Objectives -

The main theme in this unit is cooperation in the community.

Subject matter -

- 1) Planning for the future
- 2) Planning a community center
- 3) Symmetry
- 4) Similar triangles
- 5) Right triangle
- 6) Solving equations by multiplying
- 7) Indirect measurement
- 8) Ratio & proportion
- 9) Hypotenuse Rule
- 10) Squares and square roots



- 11) Finding square roots
- 12) Hypotenuse rule formula
- 13) volumes of Prisms
- 14) volumes of cylinders
- 15) surface of cylinders
- 16) Using Geometry

Problems were solved as listed in the text and the self-testing exercise was given. Supplementary work was given such as ditto sheets and compass diagnostic tests.



# Mathematics

Classes 8<sup>1</sup>, 8<sup>3</sup>, and 8<sup>4</sup>

Report: September 5 - 15<sup>th</sup>

Jewel Hulquist

Textbook: Mathematics and Life,  
Book 2, by Kuch, Knight and  
Studebaker.

The eighth grade mathematics classes began with a pupil-teacher discussion of the uses of mathematics in the community. We talked about the ways in which the Amash community differs from communities in which people are relocating and in what ways the material outlined in the text will be of value to us. Emphasis was placed on the fact that while some of this material might not apply directly to settled life, it would apply to relocation communities. An example of such material is that concerning payment of rent, taxes\* and buying groceries, gasoline, etc.



In order to find out each pupil's degree of skills in mathematics, the warming-up exercises, inventory tests and diagnostic tests in addition, subtraction, multiplication and division were given. These tests are found in the back of the textbook.

Individualized instruction has been given whenever the need for it has come to my attention. For example, one boy had difficulty making multiplication problems in which a zero appeared in the multiplier. Another boy has had trouble because he did not know how to "borrow" in subtraction.

A drill problem test (attached to this report) was given at the end of this set of textbook work to serve as a further guide as to the needs of each pupil.

At present I am setting up supplementary thought problems employing the particular mathematical skills we are studying, and I'm trying to make them interesting and challenging, particularly for those pupils who



work more quickly than the majority of the class.

In the text book we have completed the work included in pages 11 to 27.

Plans for next week's work:

- 1- Continued work on individual children's computational difficulties.
- 2- Work on fractions, decimals and percents, using the inventory and diagnostic tests at the back of the book.
- 3- Work in the text book, p. 28-60, beginning with "Problems about Community Affairs."



Addition

(1)	(2)	(3)	(4)	(5)
1	\$ .13	\$ 4.78	\$ 54.74	855
8	5.41	.15	8.93	490
9	5.33	.33	.52	987
7		9.96	.20	366
8	\$	6.38	90.07	106
			56.37	497
				825

Subtraction

(6)	(7)	(8)	(9)	(10)
851	701	8045	45026	56500
712	197	6568	357	3689

(11)	(12)	(13)	(14)
800	\$ 71.80	\$ 812.60	604
269	65.83	629.88	395

(15)

$$\begin{array}{r} 873171 \\ - 6379 \\ \hline \end{array}$$

Multiplication

(16)	(17)	(18)	(19)	(20)
98	\$ 6.15	\$ 30.86	254	\$ 497.52
87	86	3.18	90	300

(21)	(22)	(23)	(24)	(25)
3512	46087	\$ 3.15	1593	25098
508	920	145	901	830



Division

(26)

$$8 \overline{) 6002}$$

(27)

$$3 \overline{) \$211.86}$$

(28)

$$51 \overline{) 15676}$$

(29)

$$88 \overline{) 11484}$$

(30)

$$75 \overline{) 603755}$$

(31)

$$30 \overline{) 120025}$$

(32)

$$204 \overline{) 15402}$$

(33)

$$840 \overline{) \$2570.40}$$

(34)

$$45 \overline{) 245}$$

(35)

$$55 \overline{) 11160}$$

(36)

$$348 \overline{) 69165}$$

(37)

$$14 \overline{) \$9.52}$$

(38)

$$29 \overline{) 60778}$$

(39)

$$182 \overline{) 923}$$

(40)

$$365 \overline{) \$1467.30}$$



Math 8<sup>2</sup>  
10/14/44

James Michard  
Monthly Report

Text - Mathematics and Life. - (pp. 30 - 100)

Supplementary Drill -

Material Covered

Meaning of figures in a number

Fractions, Decimals, and Per Cents

Figures with 4 sides

Triangles and circles

Finding area of a rectangle

Finding the areas of four-sided figures  
" " " " a circle

" " " " triangle

Rectangular solids

Discounts

Per Cent of a number.

Mixed per Cents

Percent less than One Per Cent

Finding what Per Cent one number is of  
another.

Per Cent of Increase and decrease.

Successive Discounts.

Invoices

Statements

Finding a number when a fraction of  
it is known.

Finding a ~~per cent~~ number when the  
Per Cent is known.

Use of mixed-number Per Cents in finding  
numbers



math 8<sup>2</sup>

II

J. Michaud  
monthly Report

Using Per Cents larger than 100%

Test —



11/18/44

James F. Michaud  
Monthly Report

Subject - Math 8<sup>2</sup>

Text - Mathematics and Life  
Book 2 (Ruch, Knight, Studebaker)

Material Covered - Pages 98 - 154

Objectives -

- 1- General objective - Place of Math in Life.
- 2- Thinking is developed by the study of per cent methods
- 3- Explain and show the place and use of profit, overhead and cost in practical living
- 4- The object stressed over and over is the social significance of the material studied.
- 5- Stress on the ability to read and understand.
- 6- A deep study of banking is made and its value as a social help is dwelt upon in detail.



## Brief Outline of Material Studied -

- 1- Per Cents
- 2- Commission Merchants and brokers
- 3- Thinking about Per Cents in 3 ways.
- 4- Profit, overhead, & Margin
- 5- Figuring Profit and Loss.
- 6- Managing a variety store
- 7- Questions about the Merchant and the community
- 8- Instalment buying
- 9- Banks of Long Ago
- 10- How Banks Serve Communities
- 11- Facts about a check
- 12- Depositing and cashing checks
- 13- Opening a checking account
- 14- Making out checks and check stubs
- 15- Using checking accounts
- 16- Monthly Statements
- 17- The "Life History" of a check
- 18- Circle Graphs
- 19- How banks help send money
- 20- Facts about banking.



Quarterly Test -

Self Testing Mill No 3 Page 116-117  
(Text)

Supplementary material - (attached)

Intro sheets -



3/3/45

James Michaud  
Monthly Report

Subject - Math 8<sup>2</sup>

Text - Mathematics and Life  
(Ruch, Knight - Studebaker)  
Pages 217 - 306

Units - 1) Business and the Community  
2) Taxes and Other Community Funds  
3) Community Planning

Objectives

The main objective for these three units was to acquaint the student with his community and how the business that is involved is carried on.

Subject Matter Studied

- 1) cooperative farm associations
- 2) Solving equations
- 3) Geometric constructions
- 4 - questions on business and community
- 5 - why communities are taxed
- 6 - Budgets
- 7 - Ratios
- 8 - Special assessments
- 9 - Local taxes
- 10 - Water Service
- 11 - Federal taxes
- 12 - State taxes



- 13 - Sources of Income
- 14 - Questions about community funds
- 15 - Planning for the future
- 16 - Community center
- 17 - Symmetry
- 18 - Similar figures
- 19 - Similar triangles
- 20 - Solving equations by multiplying

Test - The subject matter for tests were the self testing skills contained in the above pages.

Special emphasis has been placed on the importance of accuracy.



Arithmetic: 8-1, 8-3, 8-4.

Text, Mathematics and Life, Book 2.  
Ruch, Knight, Studebaker

All sections have completed Chapter II, page 120, in the textbook. They have done these kinds of exercises which deal with "The Merchant and the Community". Upon completion of each section or unit topic, comprehensive tests were given.

- (a) Vocabulary of business terms.
- (b) Percentage and its applications.
- (c) Taking stock; successive discounts; invoice; statement; commission; merchant; broker; profit and loss; overhead; margin.
- (d) Managing a Variety Store.
- (e) Instalment buying.
- (f) Introduction of the metric system.
- (g) Review of weights and measures; decimals, fractions; whole numbers.



Monthly Report

March 5 - April 28

The 8<sup>2</sup> math class will finish the work in the text which includes the pages from 372 to the end of the book, Math for Today. As 8th grade pupils should be able to work ratio and percentage problems we will spend one or two days each week in doing review work on them. Some of the class are very deficient in understanding how to apply their percentage formulas or how to make proportions. We do much oral and board work on them and shall try to do even more when I feel capable of dividing the class into sections.

R. Wood



I Give the formula and solve the following.

- (1) 18 is — % of 32.
- (2) — is 25 % of 32.
- (3) 8 is 16 % of —.
- (4) 22 is — % of 40.

II Ship a 12 lb package 38 miles. The charges will be \$08 for the first lb, \$.02 for each additional pound or fraction of a pound. How much does it cost to send the package? What is the average cost per mile?

III Find the square root of 361. Check. Find the square of 81.

IV Write fractions for each of the following:

$37\frac{1}{2}\%$	$83\frac{1}{3}\%$	$12\frac{1}{2}\%$
$25\%$	$70\%$	$8\frac{1}{3}\%$
$16\frac{2}{3}\%$	$87\frac{1}{2}\%$	

V Find:

- (1)  $\frac{1}{6}\%$  of \$960
- (2)  $\frac{1}{8}\%$  of \$648
- (3)  $\frac{1}{4}\%$  of \$1416

VI Change to decimals

$\frac{1}{14}$	$\frac{3}{22}$
$\frac{1}{12}$	$\frac{8}{15}$
$\frac{1}{4}$	$\frac{19}{15}$

25 points possible on test

In a class of 44

6 received 100  
 6 " " 90-99  
 6 " " 80-89  
 7 " " 70-79  
 10 " " 60-69  
 8 " " below 60

over ✓



# 8<sup>th</sup> Math Test 4/27/45

I solve ~~the~~ for the letter:

- (1)  $5x - 4 = 31$
- (2)  $.75d + 2 = 77$
- (3)  $\frac{1}{2}m - 50 = 1$
- (4)  $5x + 13 = 103$
- (5)  $400y - 800 = 160$
- (6)  $3y - \frac{3}{4} = 1\frac{1}{2}$
- (7)  $3x + 2 = 32$
- (8)  $10t + 1 = 81$
- (9)  $90s - 15 = 165$
- (10)  $8x + 3 = 82$

II Finish these statements.

- (1) 29.4 is 30% of —
- (2) 45 is 15% of —
- (3) — is 50% of 16.
- (4) — is 42% of 820.
- (5) 16 is —% of 62.

III

- (1)  $\frac{h}{3} = \frac{15}{1}$   $h =$  —
- (2)  $\frac{a}{13} = \frac{126}{6}$   $a =$  —
- (3)  $\frac{y}{4} = \frac{63}{21}$   $y =$  —
- (4)  $\frac{x}{100} = .06$   $x =$  —
- (5)  $\frac{n}{3} = \frac{60}{15}$   $n =$  —

IV<sup>th</sup> Which is cheaper.

Ribbon that costs \$.89 a yd, or ribbon that costs \$1.00 a meter.

$$1 \text{ meter} = 1.09 \text{ yd.}$$

(2) If in the following recipe 2 cups of sugar were used instead of 3, how much syrup and water would be needed.

3 C. Sugar  
1½ C. Water

1½ C. sugar.

Solve by proportion method. Show work.

(Extra)  
V

If the large wheel in a pulley has a diameter of 14 inches and revolves 120 times per minute, and the smaller wheel has a diameter of 8 inches, how fast does it revolve. Remember your pulley formula.

$$\frac{D}{d} = \frac{r}{R}$$

D = Diameter of large wheel

R = R.p.m of large wheel

d = diameter of small wheel

r = rpm of small wheel.



Unit Report  
October 15 - 31

Mathematics  
M. Andow

**Subject Matter**

Theme - Merchant and the Community

**Terms:**

Discount  
Net Price  
List Price

**Skills**

Continuation of the first case in per cents.

Introduction of case II in per cents.

Review of area formulas.

The first testing drill was given. There was no one in this class who did below average.

**Next two weeks:**

Continuation of case II in per cents.

Begin work on problem solving.



Unit Report  
Sept. 7 - 30

Mathematics  
M. Andow  
8<sub>1</sub>

The central theme of the eighth grade mathematics work is mathematics and the community. The opening unit brings out the uses of mathematics in the community.

The first few weeks were spent reviewing the fundamental processes in whole numbers, fractions, decimals and denominate numbers. Denominate numbers needed special emphasis.

Standardized tests given in the book were used to measure the ability of the students to perform the fundamental operations.



Unit Report  
October 1 - 15

Mathematics  
M. Andow

81

Because the students found it difficult to find area, considerable time was spent on it. (2 weeks)

The people were given exercises in percents; for some students, percents were presented for the first time.

Subject matter

Theme - geometric figures in community planning

Skill - finding area of

- (1) triangle
- (2) trapezoid
- (3) square
- (4) rectangle
- (5) parallelogram
- (6) circle

Vocabulary

- (1) area
- (2) square units
- (3) dimensions
- (4) radius
- (5) diameter

Theme of new unit -- The store and the community.

Skills - per cents (first case only)

- (1) mixed no per cents
- (2) whole no per cents
- (3) per cents less than 1%

Vocabulary

- (1) discount
- (2) list price
- (3) net price



1 to December 15, 1942

Math

8th Grade.

We have worked on scale drawings of floor plans of homes including one and two story homes.

We have spent some time on Graphs, both bar and line.

We have also studied formulas of the various figures.

We have had considerable review on some of the fundamentals of Math -

V. McChalmers



to Dec. 15, 1942.

Math 7th Grade.

We have spent some time in working in fractions in Design. We have worked on Decimal of Fractions.

We have done some scale drawings in Design of Houses, emphasizing squares and rectangles.

From that work we have worked on Areas of Rectangles, Parallelograms, Circles and Volumes.

We have worked on several quick drills emphasizing addition, subtraction, multiplication and division. We have worked on Fractions and Decimal Problems.

V. M. Chalmers



V. M. Chalmer  
Nov. 16, 1942

## 8th Grade Math

We have studied why a community needs merchants and why discounts are allowed to merchants.

Why it is necessary to have money to operate a business.

Kinds of businesses, that is Single Proprietorship, Partnership and the working of a Coop store.

We are taking up a review on fractions, and decimals and percents.



March 31, 1943

Chatt Wright

Mathematics, 8th grade.

Work covered Mar. 15 to Mar. 31.

We have continued developing the forms used in banking. We are now engaged in the study of notes.

This calls for computing interest, finding exact dates days between dates, due dates, etc.

Each time I present a new computation I find it necessary to teach some prerequisite. Just now I am developing cancellation in order to carry on with the formula,  $I = PRT$ . The class is intensely interested in accuracy as the "teller" must balance his books at the close of each day.

In presenting the unit on banking I have had occasion to drill on the four fundamentals with whole numbers, common fractions, and decimal fractions with the exception of division of decimals. Now with cancellation it has



become necessary to develop division of decimals to the nearest hundredth.

When we attack the next unit we shall, at least, be speaking the same language for our drills have developed a mathematics vocabulary.



April 1- 15.

After reviewing the work covered during the semester a test was given. The results showed that the pupils need practice in writing numbers which include decimals.

The class began a new unit entitled Taxation. To build up the basic idea of taxation the vocabulary needed to understand taxes the "General Business" books were borrowed from L.D.

Thus far the pupils have learned the meaning of assessed valuation and how the amount of the tax is found from this valuation. Ratios was also introduced by comparing the different tax rates.

In connection with government budgets positive and negative numbers were introduced. As yet only the meaning of these numbers were introduced and the pupils have not learned to add nor subtract.

### Next two weeks.

A new kind of equation involving the use of the addition axiom will be introduced.

Also volume of other solids such as the triangular, trapezoid cylinder etc will be introduced to the students.



Andrew

8th grade  
83 & 82.

Unit Report - from  
March 15 - April 1.

The past two weeks were spent in finishing the unit on Banking and introducing linear equations. The summary (cumulative material of previous chapters and years) at the end of the chapter revealed the fact that many of the terms such as proceeds, ~~and~~ margin, overhead are soon forgotten by most of the pupils. It is necessary to remember these terms because many problems ask you to find the amount of proceeds, overhead, profit, net price etc. Considerable time was spent reviewing the various terms that were learned from the beginning of the year.

During the year the pupils are also taught to solve the linear equations of the simple type involving the use of the four fundamental axioms. The use of the division axiom was introduced first. This was followed by the use of the subtraction axiom. Thus far all the problems solved through the use of the equation can be solved arithmetically and often this method is simpler. Therefore it is a more difficult task to make the pupils understand the value of problem solving with equations than to teach them how to write and solve equations.



(April 1 - 15)

~~Intro~~ Test the pupils on the material reviewed.

Introduced taxes - how levied, kinds of taxes etc -

finding the amount of tax bills.

Introduced ratio (compare tax rates)

Introduced positive and negative numbers.



Unit Report Mar - 1-15Main theme - Banking

Objective - I. teach the pupils to know certain facts about banking which they also consumers will need to know.

## I Subject Matter.

## A - Interest -

difference between compound &amp; simple

## B. Borrowing Money.

## 1. Promissory notes -

a items that go on the note.

b Principal of the note

c Amount of the note

d bank notes discount.

e proceeds of note

## 2. Security -

personal -

property -

## 3. value

Payee.

## 4 -

## II. Skills studied

## A - How to use interest table

## B. How to read tables on time.

## C. How to apply the interest formula

## D. The 6% method of finding interest

E. ~~making~~ How to make line graphs.

## F. How to find compound interest

## III. Activities carried on

## A. making promissory notes.

## B - Finding compound interest

## C - Using the interest formula.

## D - Reading interest table.

## E - Making interest graphs - simple

+ compound.



F- Problem Scale

G- Self-testing ~~drill~~ drill.

H- Practice wheels Per cent.



Nov. 3. 1942

V. McChalmers  
8<sup>th</sup> grade

## Arithmetic Class

Central Theme of 8<sup>th</sup> grade  
Arithmetic is the application  
of mathematics in Community  
Life.

1. Development of a community
2. Need of arithmetic.
  1. Lines, angles.
  2. Measures needed in developing a community, homes, bridges, etc.
  3. Other means of communication
3. Working exercises
4. Inventory tests. (Self evaluating tests in Arithmetical computations)
5. Measuring Gas and Electricity.
6. Problems concerning community affairs.



Jan 16 - 31. 1943.

Mathematics 8th Grade

Work Covered.

Students worked on the quick drills page 89.

There are several problem scales that were completed.

Considerable time was given to working problems finding a number when a percent of it is known. Also other problems involving percents.

Commission problems involving merchants and brokers collections logically follow problems on percent.

Now that introduction profit, overhead and



Jan 15 - 31, 1943

Math 8th Grade

margin were introduced.

That included work on figuring Profit and loss based on Selling Price.

That work should have been carefully explained because the old method was to base profit and loss on the cost rather than the newer method of basing it on the Selling Price.

The last problem brought up was the managing of a variety store and finding the actual profit or loss on the various items sold in the store.

Dmchalmer



Mathematics 8th Grade

January 1 - 15, 1943

We spent considerable time in working on cash discounts on invoices and also making out actual invoices. The material was obtained from Book 5, Strayer Repton Series.

Considerable time was spent on percentage, rate and finding the base of a number.

We spent two days working on commission which follows nicely, after problems on percentage have been given.

Viola M. Chalmers



Dec 15 - Jan 1

Jan 5, 1943

The work covered in 8th grade math is as follows:

We spent quite a bit of time working on problems involving percent, rate of discount.

We studied maps and scale drawings. We worked on problems about parks involving triangles, rectangles, squares etc. We made several diagrams.

We studied formulas.

We worked on self testing drills involving a great deal of previous work that had been assigned.

V. M. Chalmer



Dec 15-Jan 1-

January 5: 1943.

The work covered in 7th grade math is as follows:

We spent some time reviewing decimal fractions. We studied perimeters, rectangles, squares, solids etc. We also got the areas of these ~~various~~ solids and rectangles.

We spent some time on bar graphs, as well as line graphs.

We worked on problems about wages..

We took a few self testing drills.

V.M. Chalmer



Chalmers

Nov 15th December 1, 1942

Mathematics 8th Grade

We have been spending the past two weeks on  $90$  (percentages) problems. less than  $100$ , less than  $100$  and problems involving more than  $100$ .

We have also had one Diagnostic Test.

Vmchalmers



Chatt G. Knight

April 16, 1943

## Report of Eighth Grade Math.

Work covered Apr. 1 to Apr. 15.

The entire period has been spent in the study of notes in relation to the income of banks. Everything in the way of interest had to be developed from 'scratch' and in applying the formula  $I = PRT$ , I discovered that many of the class did not know the process of cancellation. The only pupil that Mrs. Chalmers gave an 'A', can cancel by '2' only after she has divided by long division. We are completing the unit on Banking this week.

I plan to develop the use of formula, and since my experience with the 9th grade in this, I am choosing the unit dealing with Practical Measurements



as each formula can be demonstrated  
and is very concrete. By paper cutting  
and drawings the idea of substitution  
can be made intelligible and the child  
is not just learning another process.



Unit Report  
(May 15 - 31)

Mathematics  
8<sub>2</sub> and part of 8<sub>4</sub>  
8<sub>3</sub>

In the eighth grade as in the seventh the last few weeks will be spent in review. Therefore the class has been studying various topics to complete the course.

Below is an outline of the work carried on.

I Introduction of Symmetry - its use in design and planning.

II. Congruent figures

III. Similar figures

- 1- Corresponding sides
- 2- Corresponding angles
- 3- What makes figures similar
4. Indirect measurement.

a) introduction of equations involving multiplication

b). Use of shadow

c) Use of the sighting method.

IV. Right triangles

- 1- Hypotenuse rule

V. Proportion

VI. Introduction to Square root

VII. Prism

- 1- Definition
- 2- Volume.

Next two weeks.

- 1) introduction of the metric system
- 2) Volume of cone, pyramid, cylinder.
- 3) Surface of cylinder.



Mathematics  
April 15 - 30

Unit Repeat.

The eighth grade are continuing their study of taxes.

New Items

- ① Special Assessments.
- ② Mills
- ③ Poll tax.
- ④

New Skills

- ① Finding ratios
- ② Finding the amount of tax when rate is given in mills.
- ③ Solving equations of addition

The eighth grade have now been exposed to much of the necessary skills and concepts. In order to give more time and individual instruction to the slow pupils assignments were given to the class to work at their own speed.

For instance when subtraction of fractions was being reviewed all pupils who needed drill in subtraction of fractions worked on that and the remainder of the class worked on the assignments.

The same procedure will be followed the next two weeks.



Annacker Junior High School.  
June 1-25. Unit Report - Mathematics 8<sub>2</sub> & 8<sub>3</sub>  
M. Anderson

Following the outline given in the textbook the eighth grade spent the last few weeks in review. The following outline gives the topics covered.

I Using numbers.

- 1- Rounding off.
- 2- Square root.
- 3- Positive and negative.
- 4- Rates.
- 5- Proportions.

II Fractions - Decimals and Percents.

- 1) equivalents.
- 2) Converting decimal, fractions & per cent.

III Business terms.

- 1- discount.
- 2- Terms used by merchants.

IV Lines, Angles, & Figure.

- 1- kinds of lines.
- 2- kinds of angles.
- 3- Geometric plane figures.

V Graphs & Scale Drawings.

- 1- Kinds of graphs.
- 2- Reading graphs.
- 3- Scale drawing.

VI The fundamental operations.

- ① whole numbers.
- ② fractions.
- ③ Decimals.
- ④ measures.

VII Area & Volume.

- |             |                 |
|-------------|-----------------|
| ① Square    | ⑥ parallelogram |
| ② cube.     | ⑦ triangle      |
| ③ cylinders | ⑧ prism         |
| ④ trapezoid |                 |
| ⑤ rectangle |                 |



VIII Per cents  
3 Cases.

IX Similar figures and Indeed  
measurements

X Taxation.

① Tax rate

② Funding amount of tax.

XI Equations

① making & Solving equations.



Mathematics

Chas G. Wright

Eighth grade.

June 1 to June 25

In the  $S_4$  and  $S_2$  combination group I continued practice in the four fundamentals using integers, common, and decimal fractions. In order to tie up the drill with concrete problems, I developed formulas with the class for perimeters and areas of geometric figures. We did not attack volume.

In the  $S_1$  group we completed and had a comprehensive review of practical measurements. Formulas were used in all computations.

This group as a whole has been the only one that I've taught that approaches the normal average. There were some who really understood and can give reasons. About two-thirds of this group are capable of doing abstract mathematics.



# Mathematics

Chatt G. Wright

Eighth grade

Report of work covered May 15 to May 31.

During this period I have spent much time in drill work to discover strengths and weaknesses in individuals in  $8_4$  and  $8_2$ . To make the drill more effective, I have combined contests of various kinds. This develops both speed and accuracy and keeps interest at a high level.

Our general unit is "Practical Measurements." I would dictate dimensions of geometric figures and the child reporting correct answer first would be given a score. Some days boys would be matched against girls and percentage of accuracy recorded.

Group 8, are continuing with area and volume of all forms of geometric figures.



Mathematics  
Eighth grade

Chatt G. Wright

Work covered May 1-15

I have one group made up of the slow pupils from two groups. This is the first I have taught any of them. There seems to be many overaged pupils in this group. They are suffering from inferiority complex. Since this is true, I am proceeding rather cautiously in order to help overcome the 'failure' attitude they seem to have. I have had no drill to determine pupils who need extra help. Using the board alternately with the texts, I teach a simple fact, practice it together, and then assign similar work in text.

By passing around and watching work habits I have discovered two boys and several girls with seemingly zero ability. Just as soon as a helper is assigned I



shall be able to analyze the situation and start remedial teaching. This group has 23 boys - many of high school size and age - and 10 girls.

Group one are just as I got them when I first arrived. I felt five slow classes would be enough for one day's work so I refused to separate this group. They are developing and using formulae in measuring distance, area, and volume. They will complete the work in three weeks that kept the ninth grade groups nine weeks and all except two of the class could yet explain things to the ninth grade groups. This class is what keeps me in Amache, I presume. I have them the fifth period and it has become my relaxation period.

They shall take up buying and selling using percentages before the end of the period coming up.



Eighth grade

Work covered April 15 to May 1.

The class selected the "Use of Formulae in Life" for the next unit. They had become interested in the remnants of work left on the blackboard from the 9th grade classes.

Since previous instruction had varied from school to school I started from scratch. We have studied the history of the development of measures. An entirely new vocabulary was necessary. I taught the spelling as I presented the new words with their meaning, since I discovered from the previous test that these people are poor in spelling. I am trying to develop a spelling consciousness, though I do not penalize for misspelled words.



We have classified lines, angles, and geometric forms. The building of formulae for perimeters and areas is now in progress.

We plan to cover this unit in less than half the time spent by the ninth grade and we are taking seventh grade levels for preparedness.

During the coming two weeks we shall construct perpendiculars, bisect angles, find areas and perimeters of squares, triangles, trapezoids, parallelograms, and circles.

Additional ex. will be placed on the board for practice in developing more speed and accuracy in the use of the four fundamentals.



Answer

Unit Report.  
8th grade.

May 1 - 1.5

In the eighth grade the  $S_2$  and  $S_4$  sections were divided. but  $S_3$  and  $S_1$  remained as it was.

The last two weeks were devoted mostly for review due to the fact that many pupils had difficulty understanding taxes and ratios.

Activities carried on.

- ①. work with the 3 type of equations.
- ②. Ratio - still having difficulty making the pupils understand its value and meaning.
- ③. Finding the amount of tax when rate and assessed valuation are given.
- ④. positive and negative numbers. addition only.
- ⑤. Review of per cents (3 cases).

Next two weeks.

- 1) Study of Similar figures  
Corresponding sides  
Corresponding angles.
- 2). Indirect measurement.
- 3) Ratio and proportion
- 4). Volume.



March 20, 1943

Mathematics, 8th grade.

Report of Work Covered Feb. 15 to Mar. 15.

Luckily this group had just completed a unit and I chose the unit on Banking to present to them.

Through diagnostic tests I learned the weaknesses of this class in the fundamentals.

In presenting the Unit on Banking, my aim has been to give the pupils information that will make him sure of himself if he enters a bank to carry on any type of business.

We have used the text very satisfactorily as it has given me opportunity to teach through pictures used, and also to develop methods of silent reading. We have built up a vocabulary of banking terms and where possible without making it a farce, have had real banking experience. Am just about ready to present mimeographed forms. Thus far



all forms have been written on the board by the pupils, and errors in English and legal forms corrected with colored crayon.

Since tellers must find all errors of the day before the day's work is done, I have had a real motivation for our drills in the four fundamentals using integers and common fractions. Common weaknesses in the fundamental processes are present with this class but I have the real stage settings to keep the drills from being mechanical and boring.

Have used all material in the text on banking and in addition have given my own experiences as a bank clerk.

This unit continues throughout the development of interest as Banks are in the business of lending money. Compound interest will be taught only as reading an interest table, and the interest on sums computed therefrom.

Chatt G. Knight



Answer?

Mathematics

Grade 8

November 1-16

Unit report

Textbook: Mathematics and Life (book 11) G. M. Ruch, F. B. Knight,  
and J. W. Studebaker.

In order to do the work for the year pupils must develop computational skills. Therefore during the last two weeks further emphasis has been made on performing the fundamental processes with fractions and decimals. This has been accomplished largely through drills and testing. The following topics constitute an outline of the activities carried on.

Warming up exercises in fractions

Inventory tests in fractions

Problems involving fractions

Place value in the decimal system of numbers

Warming up exercises with decimals

Inventory tests with decimals



Anderson

Unit Repeat - Dec 15 - 31.

Class - 8<sub>4</sub> and 8<sub>3</sub>.

7 other work was carried out in developing the unit on the Merchant and the Community. This theme led to the application of percentage as follows.

1. stock inventory
2. Successive discounts
3. Making of invoices
4. making of statements
5. Use of graphs in studying prices in various years.

Minnie Anderson.



Unit Report (Math),

Jan 1 to 1/15/43  
Andow  
8th grade. 84 and 83.

Having studied the first two cases of percentage the third case was introduced. The groundwork for this rather confusing work was laid thru the use of fractions instead of per cents. After the three cases were completed the three types were mixed to reinforce the pupils understanding of each type.

The second self-testing drill was taken and the material again proved to be high in class.

In keeping with the theme of the merchant and the community new terms were studied.

- 1- Commission merchants.
2. brokers.
3. gross proceeds.
4. net proceeds.

M. Andow.



Andrew

Unit Report. — 8<sup>th</sup> grade. Jan 15-30  
84 + 83

I. Merchant + the Community (central theme)

A. Commission and Brokers.

B. Profit, Overhead and Margin

C. Installment buying.

II. Subject matter.

I. Percents.

A. 3 cases used.

① rate of profit

② rate of margin.

③ commission.

④ net proceeds.

⑤ gross proceeds.

⑥ Cost.

III. Exercises.

A. mixed practice with per cents.

B. problems using per cents.

C. Drill in fundamental processes.

D. Self Testing drill.

Feb 1-15

introduce banking — its  
services to community and writing  
of checks, stubs, deposit slips etc.