Science Bulletin

Volume 2 | Number 2 Article 4

10-1929

A Health Program

H. Earl Rath
Iowa State Teachers College

addition to issuing daily weather maps, several other methods of scattering information such as newspapers, flags, cards, telephone, and radio are employed.

It is now known that our weather is daily influenced by great air eddies called "Highs" and "Lows", or anticyclones and cyclones which move eastward across the northern hemisphere. Many theories are given as to the cause for these eddies but the true explanation, as yet, is not known. These storms are not destructive, but are responsible for causing our great extremes of weather. A cyclone is a large, moving non-destructive inward whirl of the air, counter-clock-wise in the northern hemisphere, carrying with it, as a general rule, warm, cloudy, rainy, or snowy weather. An anticyclone is a very large, moving non-destructive outward whirl of the air, clockwise in the northern hemisphere, carrying with it, as a general rule, clear, cool weather. Knowing the nature of these disturbing centers as to direction of travel, rate of travel, and the changing meteorological elements associated with them, it is possible by means of the data gathered from the stations throughout the country to forecast our weather in advance with a reasonable amount of certainty. This leaves little room for speculation or guessing. It gives to the public a scientific interpretation for weather changes and thus robs the mind of error and superstition.

E. J. Cable.

A HEALTH PROGRAM

Health

Now that school is well started, suppose we stop and make an inventory of our health to see how well we are equipped to carry forward a successful year. Most of us (students and teachers) have played in the open during a large part of the summer and have come back to school with a health reserve which we have borrowed from fresh air, sunshine, and physical exercise. As a result we will pass by the first couple of months with few absences due to illness. What a record we could make as a school if we could only maintain this near perfection attendance and vitality for the remainder of the nine months. Statistics show, however, that we do not maintain the first month's record. Soon the silence of the study hall will be broken by fits of coughing, and absentees will return after a few days bearing the old timeworn legend—"Please excuse—illness."

It is useless to talk of the terrific economic loss of school time due to illness, or how it adds to the burden of both student and teacher. We cannot express it in terms of dollars and cents. It is simply a colossal debt which we pay in human suffering, lessened efficiency shortened lives, and economic loss. Why talk about it? We know all about it already. Our intellect tells us that we can avoid these illnesses if we but try. What we lack is a compelling motive which will reach us through our emotions when our intellect is too lazy to grasp the subject. The purpose of this paper is to set forth just a few factors in a health program with the hope that they may be of some assistance in arousing the students to a consciousness of the meaning and importance of health.

To begin with, suppose we go back to last year's records and find the number of days each person was absent from school, and prepare the data in chart form where each student can see what his or her record was. Most of them will be surprised to find out how much time they actually lost. In many schools you will find that you could have shortened the school year two or three weeks, and still made the same progress had you had perfect attendance. If students are grouped into classes on the chart according to their record of attendance, you will have begun to produce a consciousness of the health problem.

Suppose now, after the students have had a few days to digest the first chart, we prepare a chart to be posted in a conspicuous place on which we put the names of all those who have not been absent from school thus far this year, and make some black mourning strips to be pasted over their names on the occasions of their first absences. This

(Continued on page 6)

hens? Are 200 hens the approximate number which one should keep on an average farm? What are you going to do with this $300 if you make it?

B. Write a paper for your English teacher. Show why you think a labor income of $300 is or is not practicable from a flock of 200 hens.

Winfield Scott.

HEALTH PROGRAM

(Continued from page 3)

may not only produce a consciousness of the situation, but an interest in the game.

As yet, we have not mentioned the reasons for absences, and probably it has not occurred to many people that illness was the most prevalent excuse. Suppose now we ask one of the senior classes (preferable the class in physiology or hygiene if you have one) to prepare a chart showing the cause for absences. If the executive officer has kept the excuses for absence filed it will be a simple matter to prepare such a chart. If there are no records available have the class make a survey using any procedure they may decide upon, and prepare their results in such a way that they may be made readily available to the school. In this, we will have accomplished a twofold purpose. We will have enrolled one group definitely in the cause of health, and will have added a little more fuel to the fire of curiosity.

The preceding suggestions are only a few of the many studies that may be made and charted. Consult your State "Course of Study for Elementary Schools" and have different pupils write to some of the references given in the part dealing with health. Also write to any of the leading life insurance companies or consult local agents for health statistics. You will soon have collected a mass of data which can be used in many ways. You can compare your school with others in the health problem; you can compute the economic loss to the community resulting from poor health; you can chart the types of illness which are most prevalent; and in fact there is almost no limit to the possibilities for health education propaganda.

If charts of the type mentioned are rotated with sufficient frequency so that students will have time to digest them but not to tire of them, each addition will add to the health consciousness of the students. If, in addition, different groups of students are used to make these studies and prepare the results in a form suitable for the rest of the group, you will have secured many converts to a health campaign.

With this sort of a campaign well launched we must look about for something that will not only educate the student body as to the value of being well and produce a health consciousness, but will develop a motivating idea. In a sense we are all idealists. Our intellect may tell us the proper procedure to follow, but unless we have some sort of an ideal which will arouse our emotions, we are prone to neglect the dictates of our intellect. Consequently we need something more than educational propaganda to properly launch a campaign.

Why not secure the cooperation of the art teacher and the art classes in the campaign? It will add to the efficiency of the art work because it provides a more definite purpose for the work. It will also secure the interest of another group of students in health as an ideal.

The possibilities of using posters in such a campaign are almost unlimited. First of all we must study the people who are to be approached and determine what particular types of ideals will have the greatest appeal. Some will be interested in becoming great athletes, some will be impressed by the value of health in personal appearance, some will be enticed by the prospect of better grades with increased physical efficiency, while others can be induced to enter whole heartedly into the program merely from the standpoint of the idea as a game. In no case should the idea of "health for health's sake" be held up as an ideal. Health in itself has no value worth striving for only as it enables the possessor to be of service. Consequently we

must always present an ideal beyond that of health alone.

A poster campaign, as well as any other, must be well planned. Most of the results hoped for will be lost if we display a hodgepodge group of posters without any idea of continuity or purpose. We will secure more interest if we follow the line of our other campaign and put forth posters depicting only one ideal at a time.

These are only a few of the many possibilities in planning a health campaign. After all the method is not important, the important thing is to do something. Further articles will deal with the direct problems of teaching health.

H. Earl Rath.

THE SIMPLE MACHINES

Physics

In the discussion of simple machines it is best to begin with the lever and the wheel and axle. Both of these simple machines give us a practical illustration of the principle of moments. The lever is the simpler and clearer illustration and usually presents little difficulty to a student body. The wheel and axle is a device which can be considered to be a continuously acting lever in which the radius of the wheel is the force or effort arm and the radius of the axle is the resistance arm.

For the lever we have from the principle of moments the following equation:

$$F \times 1 = R \times 1'$$

In this equation F stands for the force applied at one point of the lever and R stands for the resistance overcome at some other point. The letter 1 stands for the perpendicular distance from the fulcrum and the line of direction in which the force is acting and 1′ stands for the perpendicular distance from the fulcrum to the line of direction in which the resistance is acting. For instance, in a lever 60 cm. long a force of 100 gm. is applied in a perpendicular direction to the length of the lever at one of its ends. The fulcrum supports the other end of the lever. The resistance acts perpendicularly to the lever at a point 20 cm. from the fulcrum. The force acts upward and the resistance acts downward. What is the resistance? Applying the principle of moments we have:

$$20X = 60 \times 100 \text{ gm.}$$
$$X = 300 \text{ gm.}$$

If the supporting fulcrum were placed at a distance of 20 cm. from one end and the force and resistance were each acting downwards on the two opposite ends, the equation would be, assuming the resistance to be applied at the end 20 cm. from the fulcrum, as follows:

$$20X = 40 \times 100 \text{ gm.}$$
$$X = 200 \text{ gm.}$$

According to a traditional classification, the first problem would illustrate a second class lever. If the force and resistance were interchanged in this problem, it would illustrate a third class lever. The resistance in this case would be much less, only 33 1-3 gm. The second problem above is an illustration of a first class lever.

There is really no need of classifying levers into three classes,—first, second, and third class. The main thing is to get the student to understand clearly the principle of moments. Then all lever problems look alike and much confusion is avoided.

The principle of moments as applied to a wheel and axle would be expressed as follows:

$$F \times r = R \times r'$$

In this case r and r′ stand for the radius of the wheel and of the axle respectively. This equation can be changed to the following for the convenience of solving problems:

(1) $F \times d = R \times d'$, or
(2) $F \times c = R \times c'$.

In (1) d and d′ stand for the diameters of the wheel and of the axle and in (2) c and c′ stand for their circumferences respectively. That these two equations are correct is evident since the radii of circles are directly proportional to their respective diameters and circumferences. Also in accordance with one of the simplest axioms of algebra the validity of an equation is not destroyed when both sides