

FOR COUNTRY BOYS.

A SUPERINTENDENT.

Every boy ought to know how to measure land by "pacing," and this is one of the practical things that may be taught in the schools. Measurements obtained in this way are not expected to be exact, but they are near enough to exact measurements for many purposes. It is not advisable to take up the subject before the sixth year in most schools, as the pupils are not able to comprehend it fully before this time. The pupils should be thoroughly familiar with the tables of length and square measures.

LENGTH OF PACE.

The length of a pace should be as near one yard as possible, and with a little practice boys will be able to get the right length. It is a good plan to measure off, on the floor, five or more yards in a straight line. Mark the yards distinctly with crayon. Now let a boy start at one end, putting his toe on the first line, then step on each line for the entire distance. A boy soon learns how long it is necessary for him to step to cover a yard. After some practice of this kind let a boy take five steps on some part of the floor that is not divided into yards. Mark the starting point and the end of the five paces. Let the boy measure the distance between the marks to see how near to fifteen feet he paced. A little contest between the boys in a class may be arranged and much interest added to the work in this way. It is suggested that it is better to do things of this kind at some time outside of school hours.

THE ROD.

By skilful questioning bring out the facts that a pace is about a yard and that a rod is five and one-half yards, or a little over five paces. By making the paces a very little longer, five paces will cover a rod, and for the purposes of "rough" measurements, this is near enough to the exact measure. It will be well to mark off a rod on the floor, and to have the boys practice in pacing this until they can cover the rod in five paces. For small fields the rod is the standard unit for length and for getting the area. Only fields that are nearly rectangular in shape can be measured in this way and it should be understood that all the fields given in the examples in this article are rectangles.

MEASURING.

Having learned that five paces equal one rod, the number of rods in any distance is easily found by dividing the number of paces by five. Of course the best way is to pace off real distances and this should always be done when it is possible. The teacher can also give many problems based upon imaginary distances or fields. For example: A walk is 40 paces long. How many rods in length? Every five paces equal one rod, therefore, $40 \text{ paces} \div 5 = 8 = \text{the number of rods.}$

The following simple examples are given as illustrations:

1. The front of a lot is 75 paces long. Find the distance in rods.

Ans.: 15 rods.

2. A boy paced the distance between the school building and the nearest house and found that he made 125 paces. How many rods in the distance?

Ans.: 25 rods.

3. One side of the school yard is 80 paces in length. How many rods?

Ans.: 16 rods.

4. From the door of the schoolhouse to the postoffice it is 320 paces. What is the distance in rods?

Ans.: 64 rods.

5. A farmer found that there were 220 paces in one side of a field. What was the distance in rods?

Ans.: 44 rods.

Let the boys measure distances about the school grounds by pacing. Then ask them to measure the same distances with a cord that is just a rod long. Of course a regular tape measure is better than a cord.

AREAS.

An acre is 160 square rods. The area of any field, in acres, is found by dividing the number of square rods in the field by 160 square rods. For example: A rectangular field is 100 paces long and 80 paces wide. Find the number of acres in the field.

100 paces in length = 20 rods.

80 paces in width = 16 rods.

The area is 320 square rods.

$320 \text{ square rods} \div 160 \text{ square rods} = 2.$

The number of acres is 2.