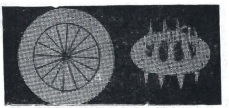
WORK AND PLAY SECTION

THE FLYING WHEEL



THIS is a simple little toy which can be made at no cost at all out of a post-card or a piece of light weight cardboard.

On the cardboard draw a circle about three inches in diameter. To do this easily you can draw around a tea cup which is turned upside down. When the circle is well drawn, cut it out with a pair of scissors.

Inside of this draw another circle about two inches in diameter. To do this easily draw around a glass tumbler which is turned upside down.

Across the smaller circle draw a line through the center of the circle. Draw another line at right angles to the first.

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THE WIND-BALL

GET a piece of thin cardboard or stiff paper. Cut out of it three discs, each about three inches in diameter. Draw straight lines upon them as shown in the picture.

Then cut along these lines with a sharp penknife, taking care that the various lines correspond in length. Now slip the second disc over the first, so that you get a double disc as shown in the picture. Over this arrange the third disc, which gives the complete wind-ball. Be careful in putting the discs together.

Place the wind-ball on a smooth walk on a windy day, and it will race along quite fast.

Or you can blow it across a table from one side to the other. A boy can stand

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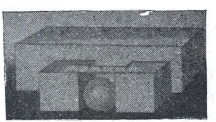
HOW TO MEASURE THE DIAMETER OF A BALL

YOU may have learned in school that the diameter of a ball is the distance through it, passing through the center. To measure the diameter of a ball exactly may not seem a very easy task, but there is a way of doing this which is quite simple. Take two blocks of wood, or two boxes, a little higher and wider than the ball, stand these on a table with their sides touching a wall or a larger box which is on the table.



Between the two boxes or blocks place the ball as shown in the picture. Still keeping the sides against the wall, or large box, bring the two blocks or small boxes together until they touch the ball.

Now take a ruler and measure the distance between the two boxes, taking care to keep everything quite still and level. Thus, in a very simple manner, you have found out the distance through the ball at its center. If you want to find the distance *around* the ball (the circumference) multiply the diameter by 3.1416, or, roughly, by 3 and 1/7.

A FRIDAY PROGRAM

(*Continued from page 337*)

very much, for the magician did many marvellous things. He taught us all how to do one trick, but there is no fun in a trick after you understand how it is done.

The program committee never tells what is going to be given at the program—it is always kept secret until the time comes. And then—what a surprise!

We all enjoy planning the programs, getting them ready, and giving them. Our teacher thinks this is an incentive to cause us to read stories and poems in search of program material, and teaches us to have initiative and executive ability.

WINDOW BOXES

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slope; I washed the earth from it and dried it.

After the six boxes were filled with soil and were in the windows, my problem was to find suitable flowering plants. I planted some *cadena-de-amor* in each box and some nasturtiums. I got some petunias also, and some small sized marigolds. After a few months my plants began to bloom.

How pretty they looked, and how attractive they made the windows appear!

FLYING WHEEL

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Then between these draw two more lines, and then four more, so there are eight lines crossing the center at equal distances apart as shown in the first picture.

With a sharp penknife cut along these straight lines, and then turn the points upward and downward alternately, as shown in the second picture. The flying wheel is now complete. Set it rolling outdoors during a windy day on a smooth walk, and it will whirl along at a great speed.

WIND-BALL

(*Continued from page 332*)

on one side of the table, another boy on the other side, and the two boys can blow it backwards and forwards.

You can make a game by drawing a chalk mark across the center of the table. One boy tries to blow the wind-ball across the line. The other tries to prevent him from doing this and at the same time tries to blow it across the line. When a boy succeeds, he scores one point. The boy scoring five points first wins the game. Don't you want to make a wind-ball?

MAKING A SCRAP BOOK

(*Continued from page 337*)

side of it also. Then I loosely tie all the sheets and the cover together with a fancy ribbon which I save from a box of candy.

I find great pleasure in making a scrap book in this way, and the scrap books which I have made seem to give pleasure to my classmates. Mother is glad to have me make such scrap books, for she thinks I learn things in that way. Any way it's lots of fun to make one. Try it.

BALANCING ZOO

(*Continued from page 333*)

well. The reason is that by curling the tail and curving the body the center of gravity of the whole object is kept down towards the lower half and under the projecting claw, so that the animal is not top heavy.

The same principle applies to each of the toys—the shaping and curving keeps the center of gravity just where it should be to preserve the balance. This is often done by means of a lead weight. If these cardboard animals are well made, no lead weight is needed.

So these interesting toys are quite scientific.