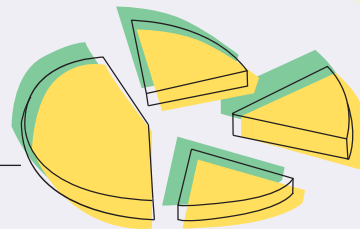


## Make a Paper Pie

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Millions of trees are used each year to make paper. Study the table below and then answer the questions to see how math can show you the way that recycling adds up.

### Work the Math:

**1** In the table below, calculate the amount of material saved if 1,000 tons of paper were recycled. Add your answers to the last column.

**Materials Saved by Recycling Paper**

Material Saved	Amount Saved per Ton of Recycled Paper	Amount Saved per 1,000 Tons of Recycled Paper
Water	7,000 gallons	
Oil	380 gallons	
Air Pollution	60 pounds particulate matter (e.g., dust, pollen, acid droplets)	
Landfill Space	3.3 cubic yards	
Energy	4,100 kilowatt-hours	

### Slice the Pie!

What you need to know about pie charts:

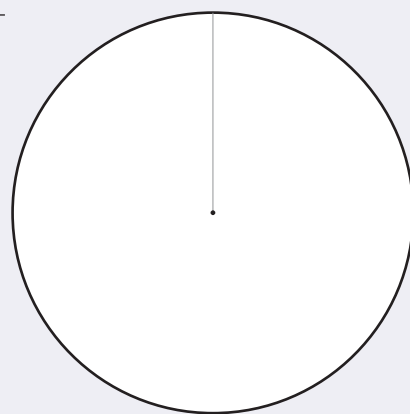
- Pie charts are used to represent data as portions of a whole.
- All segments of a pie chart added together equal 100%.
- Segments are organized by size from smallest to largest in a clockwise direction.
- Use the following formula to convert a percentage (X) into a degree (Y):  

$$3.6^\circ \times X\% = Y^\circ$$

**2** a. Water costs \$11.90/7,000 gallons. What are the total water cost savings if 1,000 tons of paper are recycled? \_\_\_\_\_

b. Energy costs \$0.15/kilowatt-hour. What are the total energy savings if 1,000 tons of paper are recycled? \_\_\_\_\_

**3** **Make a Pie** Imagine a school that recycles its paper every year. 40 tons of the paper are old homework. 15 tons are lunch menus. 35 tons are posters and artwork. 10 tons are permission slips. On a separate sheet of paper, calculate the percentages of the different paper categories. Then, using the blank chart to the right, create a pie chart to show the percentages.



**4** Look above at the table from question 1 and the pie chart from question 3 to answer the following:

a. How many gallons of water are saved by recycling permission slips? \_\_\_\_\_

b. How much landfill space is saved by recycling old homework? \_\_\_\_\_

