

Name: _____

PLASTIC BY THE NUMBERS

In “Plastic or the Planet?” (p. 8), you read about how plastic waste is polluting Earth’s waters and land, and also may be affecting phytoplankton that produce much of the oxygen humans breathe. The article includes some statistics about plastic production. The table below gives additional data about how plastic waste is handled in the United States. Use the data, along with the information in the article, to create a pie chart and answer critical thinking questions.

PLASTIC WASTE MANAGEMENT IN THE U.S.
(in thousands of tons, select years)

HANDLING PROCESS	2000	2005	2010	2015
Recycled	1,480	1,780	2,500	3,140
Burned	4,120	4,330	4,530	5,350
Placed in Landfills	19,950	23,270	24,370	26,010
Total Generated	25,550	29,380	31,400	34,500

(SOURCE: AMERICAN CHEMICAL COUNCIL AND THE NATIONAL ASSOCIATION FOR PET CONTAINER RESOURCES)

GRAPH IT

In the space to the right, use the data to create a pie chart, showing the percentages of plastic that was recycled, burned, or placed in landfills in 2015 (out of the total generated).

Tips for creating a pie chart:

1. Convert the value in each category into a percentage of the total amount of plastic waste handled. Example: Percentage of plastic that is recycled = tons of plastic recycled ÷ total number of tons of plastic waste × 100, or $(3,140 \div 34,500) \times 100 = 9\%$
2. Convert the percentages into angle degrees. Example: If 9% of plastic was recycled, the pie wedge for “Recycled” would be 9% of a 360 degree circle, or 32 degrees $(360 \times .09 = 32)$.
3. Draw a circle. Mark the middle, then draw a straight line from the middle to the outside of the circle.
4. Use a protractor to draw wedges inside the circle using the angles you calculated in Step 2.
5. Be sure to give your chart a title and to label each section, including the percentage.

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QUESTIONS

1. What happened to the majority of plastic waste in 2015? What percentage was handled this way?
2. By how many thousands of tons has plastic recycling increased between 2000 and 2015? Use data from the table to support your answer.
3. Has the increase in recycled plastic (in thousands of tons) since 2000 caused the amount of plastic waste that ends up in landfills to decrease? Why or why not? Use data from the table and the article to support your answer.
4. In the article, you read about “the 4 R’s.” Explain how each could help decrease the amount of plastic that ends up in the environment.
5. In your opinion, is the table or the pie chart more effective for representing the plastic waste management data? Explain your thinking.