

**DePaul Center for Urban Education  
Chicago Math Connections**

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**Topic: Recycling in Chicago**

**Goal(s): 6,7,8,10**

**Skills: Organizing, Analyzing, Graphing and interpreting Data, and  
converting units using algebraic formulas**

**What's the context?**

Recycling and Conservation

**Which data will students use?**

Blue Bag recycling 1996-2000

**What will students learn from this project?**

**Know how** – what will they be able to do better?

Analyze and organize data

Visualize proportion in a pie graph

**Know what** – what idea(s) will they clarify through the project?

Importance of organizing data in order to clarify important trends

In recycling in Chicago.

**What's the challenge?**

1). Choose a year within the years listed for Blue Bag recycling and create both a bar graph and pie graph of all materials collected during that year.

- \*Be sure to clearly identify each material recycled so that items can be easily compared and contrasted. Students should also be given assistance in deciding how numbers should be rounded off to make graphing easier.

2). Analyze the amounts of all of the materials recycled in the year you chose above and convert these units (tons) into pounds (lbs.). Remind students that 1 ton is equal to 2000 pounds (lbs.). For example, if 781.95 tons of aluminum were recycled in 1996, this figure would be multiplied by 2000 to give 1,563,900 lbs. Challenge students to come up with an algebraic formula for this conversion.

- \*Ans.  $(2000) X = Y$  ; where  $X$  = tons of steel, and  $Y$  = pounds of steel

**Check point:** Share and compare results with a fellow student, then choose another year and create a second pie graph to compare materials recycled.

Check to see which, if any, have significantly increased or decreased. Can you predict changes in future recycling patterns ?

- To enrich understanding, students can calculate percentages of increase or decrease when comparing materials collected on the two graphs they've created.