DePaul Center for Urban Education
Chicago Math Connections
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Topic: Chicago Fuel Consumption and Miles Driven
Goal(s): 6,7,8,10
Skills: Analyzing, organizing, graphing and interpreting data
      Calculating percents and ratios.
      Converting percents to decimals

What's the context?
Analyzing the amount and type of fuel consumed, and miles driven in the
Chicago Area

Which data will students use?
Chicago fuel consumption data

What will students learn from this project?
Know how – what will they be able to do better?
Analyze, organize, graph and interpret data
Convert ratios into percents

Know what – what idea(s) will they clarify through the project?
Gain an understanding of patterns and trends in a set of numbers by analyzing
proportions and by creating visual representations of these patterns and trends
on graphs.

What's the challenge?
1). Carefully analyze the gallons of all fuels used between 1995 and 1999.
- Students need to be reminded that these figures are in millions of gallons.
  For example, in 1995 the data chart gives a figure of 3,964 – which means
  that 3,964,000,000 gallons of fuel were consumed by motorists of all kinds
  in the Cook County area in 1995.

2). Analyze the percentages given for each type of fuel used and transform
these to fractions
- Changing percents to decimals will require rounding numbers off and
  estimating.

3). Use these fractions to create a circle graph to show the proportions of each
type of fuel used. Be sure to label each section of the circle graph.

Checkpoint: Choose a year on the data chart and, using the percentage
numbers given, calculate the exact numbers of gallons of each type of fuel used
for that year. For example, in 1995 - 52.83 percent of fuel used by motorists was
gasoline, this equals 2,094,181,200 gallons of gasoline.