Data Around Us

Glossary

Benchmark – A handy reference point to help in understanding the magnitude of numbers

Customary System – A complex measurement system that originated primarily in the British empire and includes the units of measure inch, yard, pound and gallon

Metric System– A measurement system used throughout the world that is based on the power of 10

Scientific Notation – A short way to write very large or very small numbers

Standard Notation – The most common form of written numbers. For example, 254 is the standard notation for 2 hundreds, 5 tens, and 4 ones

Web Resources

Spreadsheet

http://www.nytimes.com/learning/teachers/lessons/19990506thursday_print.html

The New York Times Learning Network Lesson Plan
Developed in Partnership with The Bank Street College of Education in New York City http://www.nytimes.com/learning

Everett Public Schools

Connected Mathematics Project

Everett Public Schools Mathematics Program

Data Around Us

Number Sense

Unit Goals:

- **Understanding and comparing large numbers**
- **Choosing appropriate units of measure and understanding the notation used to express large numbers**
- **Estimating with large numbers**
- **Calculating with large numbers**
- **Determining population density**

Proposed Time Frame:
Approximately 6 weeks

Mathematics in Investigations

Investigation 1: Interpreting Disaster Reports

* Consider some of the issues related to working with large numbers, including accuracy of reported numbers, methods of determining reported measures, and language used to make numerical comparisons
* Review operations with large numbers

Investigation 2: Measuring Oil Spills

* Revisit the ways that numbers are used in measurement to describe objects and events
* Begin building a repertoire of measurement benchmarks for use in relating measurement information to things that are personally meaningful
* Develop skill in using benchmark strategies

Investigation 3: Comparing Large Numbers

* Read and write large numbers
* Round numbers to make judgments about the degree of accuracy of numbers
* Compare large numbers by ordering and with rates

Investigation 4: How Many is a Million?

* Build a concrete understanding of a million in a variety of contexts
* Review and extend the concept of place value as it relates to reading, writing and using large numbers
* Review and extend the use of exponents
* Write and interpret large numbers using scientific and calculator notation
* Estimate with large numbers

Investigation 5: Every Litter Bit Hurts

* Further develop operation sense, the ability to choose the numbers and operations needed to answer specific questions from given information
* Investigate how small quantities can accumulate to produce a large quantity

Investigation 6: On an Average Day

* **Make decisions about the best way to compare quantities**
* Apply various strategies for writing and comparing quantities
* Use appropriate benchmarks to make sense of large numbers

Tips for Helping at Home

Good questions and good listening will help children make sense of mathematics and build self-confidence. A good question opens up a problem and supports different ways of thinking about it. Here are some questions you might try, notice that none of them can be answered with a simple "yes" or "no".

Getting Started

* What do you need to find out?
* What do you need to know?
* What terms do you understand or not understand?

While Working

* How can you organize the information?
* Do you see any patterns or relationships that will help solve this?
* What would happen if…?

Reflecting about the Solution

* How do you know your answer is reasonable?
* Has the question been answered?
* Can you explain it another way?

At Home:

1 Talk with your child about what's going on in mathematics class.

2 Look for ways to link mathematical learning to daily activities. Encourage your child to figure out the amounts for halving a recipe, estimating gas mileage, or figuring a restaurant tip.

3 Encourage your child to schedule a regular time for homework and provide a comfortable place for their study, free from distractions.

4 Monitor your child's homework on a regular basis by looking at one problem or asking your child to briefly describe the focus of the homework. When your child asks for help, work with them instead of doing the problem for them.

At School

1 Attend Open House, Back to School Night, and after school events.

2 Join the parent-teacher organization

Connected Mathematics Project

Phone: 425-385-4062
Fax: 425-385-4092
Email: mstine@everett.wednet.edu