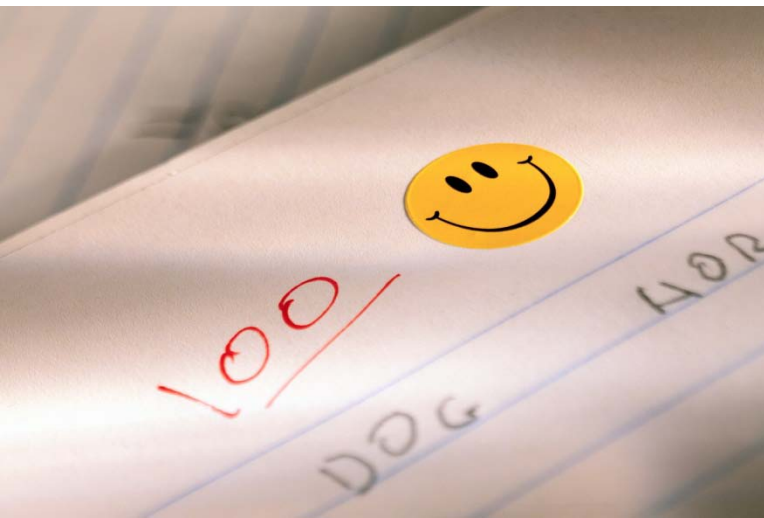




NEISD

Grades 6-8 Mathematics



**Helping
your child
at home**



Mastering
challenging
mathematics
is not just a
classroom
skill- it's a life
skill!





State Standards in Mathematics

Texas Essential Knowledge and Skills – TEKS

The mathematics TEKS were developed by the state of Texas to clarify what all students **should know** and **be able to do** in mathematics in kindergarten through grade twelve. The mathematics TEKS also form the objectives and student expectations for the TAKS test.

Texas Education Agency website: www.tea.state.tx.us/teks





National Standards in Mathematics - From National Council of Teachers of Mathematics – NCTM

In grades 6-8, the focus for includes:

- *Number Sense and Computational Fluency
 - *Algebraic Thinking
 - *Proportional Reasoning
- *Geometric Relationships and Measurement





National Standards in Mathematics - From National Council of Teachers of Mathematics – NCTM

***Number Sense and Computational Fluency**

building understanding and proficiency with rational-number concepts, computation, and estimation including using fractions, decimals, and percents flexibly. This facility with rational numbers should be developed through experience with many problems involving a range of topics, such as area, volume, probability, and statistics;



How can parents help?

- When shopping, ask your kids to estimate the total cost of your purchases.
- When cooking, ask your kids to help you double, triple, or half the recipe.
- When eating out, ask your kids to determine the tip using a variety of methods.
- When participating in or watching sports, ask your kids to predict how likely it is for an event to occur based on the athletic statistics.
- When watching the weather, discuss the meaning of the predictions for rain and calculating the total rainfall for the year so far.
- Ask your kids to consider how long it would take them to spend \$1,000 versus \$10,000 versus \$100,000 versus \$1 million.

Big Ideas:

Estimate, Make Sense of Numbers in Context, and Use a Variety of Methods to Compute



National Standards in Mathematics - From National Council of Teachers of Mathematics – NCTM

***Algebraic Thinking**

building algebraic thinking with an emphasis on linear relationships in real-world situations, representing these relationships using tables and graphs and equations, and beginning to build proficiency with solving equations within these contexts;



How can parents help?

- Ask your kids to compute and compare your gas mileage for each new tank of gas.
- Based on your typical gas mileage and the number of gallons your vehicle gas tank hold, ask them to determine how many miles you can drive on a full tank.
- If planning a road trip, ask them to predict how long it should take you to complete a road trip.
- Ask them to read and interpret graphs from the newspaper or magazines.
- Collect data about your family, such as how many hours of TV you typically watch in a week, and ask them to use this information to describe you as a family on an annual basis.

Big Idea:

Look for Patterns, Generalize, and Predict



National Standards in Mathematics - From National Council of Teachers of Mathematics – NCTM

***Proportional Reasoning**

developing facility with proportionality
through problem solving and reasoning with
ratio and proportion, percent, similarity, scaling,
linear equations, slope, and probability and statistics;



How can parents help?

- Ask you kids to find actual distances using a map.
- Relate growth of siblings and pets to percent of change.
- Discuss the meaning of statistics like “4 out of 5 dentist recommend....”
- Involve them in the process of enlarging and reducing photographs and images.
- Relate the proportions of statues and building models to the actual measurements, such as the measurements of the Statue of Liberty to actual human proportions or how the scale model of the Alamo relates to the actual dimensions of the Alamo.
- Ask them to help you comparison shop and determine the better buy between two different brands and/or sizes of a product.

Big Idea:
Stretch and Shrink Shapes and Quantities



National Standards in Mathematics - From National Council of Teachers of Mathematics – NCTM

***Geometric Relationships & Measurement**

investigate geometric relationships by drawing, measuring, visualizing, comparing, transforming, and classifying geometric objects with an emphasis on problem solving that develops inductive and deductive reasoning, making and validating conjectures, and analyzing characteristics and properties.



How can parents help?

- If fencing a garden, ask for your kids help in designing it so that it maximizes the planting area, but minimizes the fencing material.
- Ask them to make sketches of possible rearrangements of their bedroom furniture.
- Refer to real-world objects using formal geometric terms – the shape of your kitchen table top is circular or rectangular; a cereal box is a rectangular prism; a can is a cylinder, etc....
- Compare objects in terms of dimensions (length, width, height), and space covered or filled (This 3' x 4' rug covers 12 square feet of the floor space.)

Big Idea:

Picture It, Measure It, Change It, Compare

What Families Can Do...

- Be positive about math.
- Connect mathematics to your everyday life.
- Have high expectations.
- Support homework versus doing it.
- Emphasize understanding as much as correct answers.



Adapted from: [A Family's Guide: Fostering Your Child's Success in School Mathematics.](#)

Homework Questioning

- Tell me what you understand.
- What methods or strategies could you try?
- How is this like other problems you have solved?
How is it different?
- Can you solve this problem another way?
- How confident do you feel about this solution?
Why?
- How can you let the teacher know how to help you?



On-Line Resources

- AgileMind (PreAP Grade 6 – 8)

<http://neisd.agilemind.neisd.com>

username: student school id number (no leading zeroes)

password: student id number (no leading zeroes)

- National Council for Teachers of Mathematics—Illuminations

<http://illuminations.nctm.org>

- National Library of Virtual Manipulatives

<http://nlvm.usu.edu/en/nav/vlibrary.html>