@ Home Math Ideas[1]

Asking Questions (continued) . . . .

- Is there someone you can call to get help? Can you discuss the problem with a classmate?
- Would using a calculator help you solve the problem?
- Would it help to go on to another problem and come back to this one later?
- Is there a homework hotline at your school? What is the phone number for it?
- Why don't we look for some help on the Internet?
- If you do only part of a problem, will the teacher give you some credit?
- Can you go in before or after school for help from the teacher?

Homework Reminder . . . . . .

Remember, *support* **homework—don't do it!**

Besides supporting your child on homework, show the importance of learning math by helping your child connect math with daily life. Point out your own activities that involve mathematics, such as deciding if you have enough money to buy items on a shopping list, estimating how long it will take to make a trip, determining how much carpet or wallpaper to buy for a room, or developing a schedule to complete a series of tasks. Talking about these everyday situations will give you a chance to increase your child's appreciation for the usefulness of math!

[1] National Council of Teachers of Mathematics (NCTM), "Tips for Families - Homework Help", online article @ nctm.org/resources/families.aspx

www.aMathsDictionaryforKids.com
An animated, interactive dictionary for students which explains over 600 common mathematical terms in simple language.

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Source Documents:

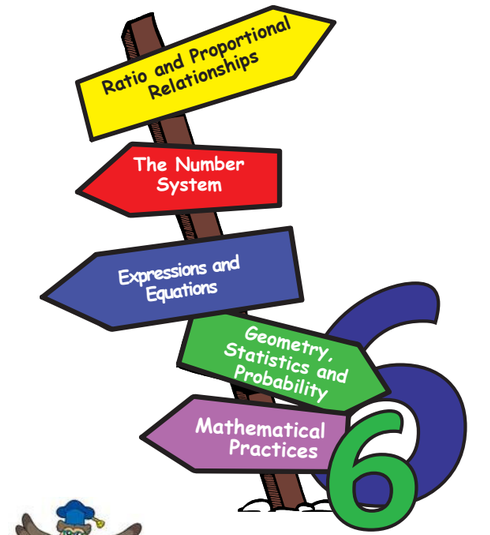
Based on Common Core State Standards for Mathematics, June 25, 2010

Adapted from North Dakota Content Standards: "I Can" Statements

Adapted from Arizona Department of Education Mathematics Standards, 2010

Grade 6

CCSS Math Expectations Checklist



COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Middle School

Homework Tips . . . . . .

Homework causes trouble in many households. Relax—remember whose homework it is! Think of yourself as more of a guide than a teacher. Don't take over for your child. Doing that only encourages him or her to give up easily or to ask for help when a problem becomes difficult.

The best thing you can do is ask questions. Then listen to what your child says. Often, simply explaining something out loud can help your child figure out the problem. Encourage your child to show all work, complete with written descriptions of all thinking processes. This record will give your child something to look back on, either to review or to fix a mistake, and can also help the teacher understand how the problem was solved.

Asking Questions . . . . . .

Asking the following kinds of questions can help you and your child tackle the challenges of math homework:

- What is the problem that you're working on?
- Are there instructions or directions? What do they say?
- Are there words in the directions or the problem that you do not understand?
- Where do you think you should begin?
- Is there anything that you already know that can help you work through the problem?
- What have you done so far?
- Can you find help in your textbook or notes?
- Do you have other problems like this one? Can we look at one of those together?
- Can you draw a picture or make a diagram to show how you solved a problem like this one?
- What is your teacher asking you to do? Can you explain it to me?
- Can you tell me where you are stuck?

My checklist of what I can do in 6th grade math . . . . . .

☐ I understand that it is important to apply the mathematical practices (identified on the inside cover) on a regular basis.

Ratios and Proportional Relationships . .

Understand ratio concepts and use ratio rasoning to solve problems: (6.RP.1, 6.RP.2, 6.RP.3)

- ☐ I can use ratio language to describe the relationship between two quantities.
- ☐ I can develop tables of unit ratios and equivalent ratios and use them to solve problems.
- ☐ I can represent ratios using tape diagrams, double number line diagrams, and within written equations.
- ☐ I can solve problems involving unit pricing and unit rates of speed.
- ☐ I can solve percent problems as part-to-whole relationships in which 100 is used as a denominator in one ratio.
- ☐ I can use ratio reasoning to convert measurements within the U.S. customary measurement system.
- ☐ I can use ratio reasoning to convert measurements within the metric measurement system.

Geometry . . . . . .

Solve real-world and mathematical problems involving area, surface area, and volume: (6.G.1, 6.G.2, 6.G.3, 6.G.4)

- ☐ I can find the area of regular and irregular polygons by composing into rectangles and decomposing into triangles and other shapes in the context of real-world problems.
- ☐ I can find the volume of a right rectangular prism with fractional edge lengths by packing it unit cubes and show that the volume is the same as multiplying the lengths of the prism.
- ☐ I can apply the formulas $V = l\ w\ h$ and $V = b\ h$ to find the volumes of right rectangular prisms.
- ☐ I can draw polygons in the coordinate plane given coordinates for the vertices. I can use these coordinates to find the length of a side.
- ☐ I can use nets of rectangles and triangles to find the surface area of three-dimensional figures.

The Number System . . . . . .

Apply and extend previous understandings of multiplication and division fractions by fractions: (6.NS.1)

- ☐ I can explain and compute quotients of fractions and solve word problems using division of fractions by fractions.

Compute fluently with multi-digit numbers and find common factors and multiples: (6.NS.2, 6.NS.3, 6.NS.4)

- ☐ I can describe the steps of all standard algorithms for whole numbers and decimals in terms of place value.
- ☐ I can use Greatest Common Factor (GCF) and Least Common Multiple (LCM) to solve real-world problems. _____ GCF _____ LCM
- ☐ I can use common factors with the distributive property to express a sum of two whole numbers.

Apply and extend previous understandings of numbers to the system of rational numbers: (6.NS.5, 6.NS.6, 6.NS.7, 6.NS.8)

- ☐ I can describe and explain negative numbers using real-world examples.
- ☐ I can represent a rational number as a point on a number line or on a coordinate axis.
- ☐ I can recognize that the opposite signs of numbers are located on opposite sides of zero.
- ☐ I can identify the quadrant of the coordinate plane that a ordered pair is located based on the positive and negative signs of the numbers.
- ☐ I can recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
- ☐ I can locate and place rational numbers on a horizontal or vertical number line and a coordinate plane.
- ☐ I can write, interpret and explain the order of rational numbers and the absolute value of rational numbers in a real-world context. ____ write ____interpret ____ explain
- ☐ I can find the distance between points on a coordinate plane when ordered pairs have the same x or y value.

Expressions and Equations . . . . . .

Apply and extend previous understandings of arithmetic to algebraic expressions: (6.EE.1, 6.EE.2, 6.EE.3, 6.EE.4)

- ☐ I can write and evaluate numerical order of operations expressions involving whole number exponents.
- ☐ I can translate between words and math using variables.
- ☐ I can identify parts of an expression using mathematical terms.
- ☐ I can view one or more parts of an expression as a single entity.
- ☐ I can evaluate expressions that arise from formulas used in real-world problem.
- ☐ I can evaluate expressions, given the values for the variables, using Order of Operations.
- ☐ I can generate equivalent expressions.
- ☐ I can identify when two algebraic expressions are equivalent regardless of the value of the variable.

Reason and solve one-variable equations and inequalities: (6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8)

- ☐ I can identify the number or set of numbers that makes an equation or an inequality true.
- ☐ I can write expressions with variables to represent various real-world problems.
- ☐ I can write equations from real-world problems and then use inverse operations to solve one step equations.
- ☐ I can write inequalities to represent real-world and mathematical situations.

Represent and analyze quantitative relationships between dependent and independent variables: (6.EE.9)

- ☐ I can recognize and explain the impact on the dependent variable when the independent variable changes.
- ☐ I can write an equation from a real-world problem that includes a dependent and independent variable.
- ☐ I can analyze the relationship between the dependent and the independent variable using graphs and tables and relate them to the equation.

Statistics and Probability . . . . . .

Develop understanding of statistical variability: (6.SP.1, 6.SP.2, 6.SP.3)

- ☐ I can differentiate between a statistical question and a non-statistical question.
- ☐ I can represent a set of data collected to answer a statistical question by describing the distribution of its center, spread, and overall shape
- ☐ I can determine quantitative measures of center (median and/or mean).
- ☐ I can determine variability (interquartile range and/or mean absolute deviation).

Summarize and describe distributions: (6.SP.4, 6.SP.5)

- ☐ I can display and describe numerical data using plots on a number line, including dot plots, histograms, and box plots. ___ dot plots ___ histograms ___ box plots
- ☐ I can summarize numerical data sets in relation to their context by:

  _____ reporting the number of observations; and

  _____ describing what is being measured, how it is measured and the unit of measure.
- ☐ I can describe any patterns or striking deviations from the overall pattern with regard to the context in which the data were gathered.

How to use checklist:

- Show the date of when you were able to do the math expectation.
- Show an example of what you did in a journal.