

Do-Anytime Activities for Grades 4- 6

Mathematics means more when it is rooted in real-life situations. The following activities allow children to practice mathematics skills while riding in a car, doing chores, helping with shopping, and performing other everyday routines. These "do-anytime" activities are organized by topic and grade level.

Addition, Subtraction, Multiplication, and Division

4 Continue working on multiplication and division facts by using Fact Triangles and fact families or by playing games in the *Student Reference Book*.

4 Give your child multi digit numbers to add and subtract, such as $427 + 234$, $72 - 35$, and $815 - 377$.

5 Practice extending multiplication facts. Write each set of problems so that your child may recognize a pattern.

Set A $6 * 10$ $6 * 100$ $6 * 1,000$

Set B $5 * 10$ $5 * 100$ $5 * 1,000$

Set C 10 {7's} 100 {7's} 1,000 {7's}

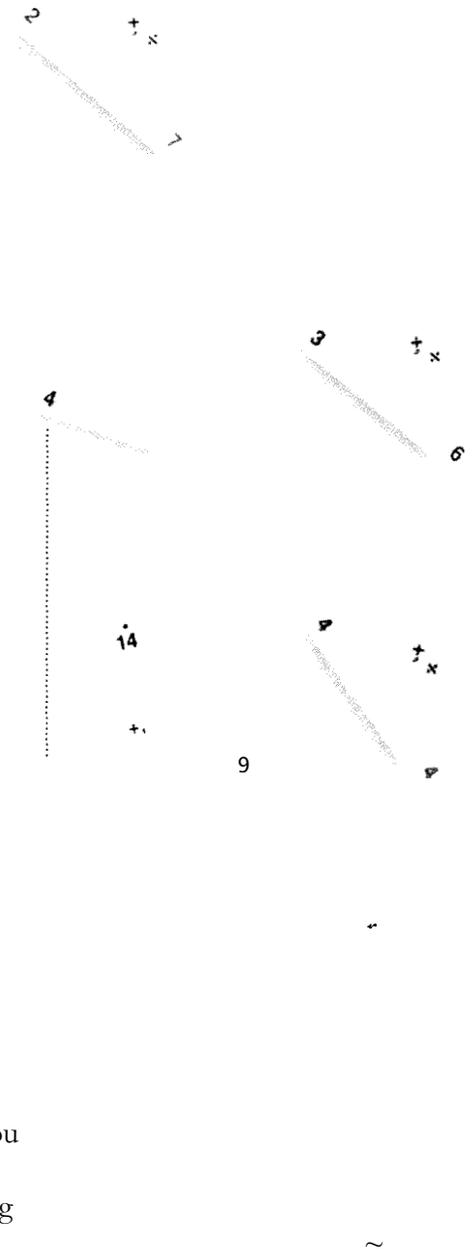
5 When your child adds or subtracts multi digit numbers, talk about on the strategy that works best. Try not to impose the strategy that works best for you! Here are some problems to try:

$$467 + 343 = \underline{\quad\quad\quad} \quad \underline{\quad\quad\quad} = 761 + 79$$

$$894 - 444 = \underline{\quad\quad\quad} \quad 842 - 59 = \underline{\quad\quad\quad}$$

6 Consider allowing your child to double or triple recipes for you whenever you are planning to do that. Watch your child to make sure he or she does the math for every ingredient. Or your child can halve a recipe if your cooking plans call for smaller amounts.

6 Have your child calculate the tip of a restaurant bill through mental math and estimation. For example, if the bill is \$25 and you intend to tip 15% have your child go through the following mental algorithm: 10% of \$25.00 is \$2.50. Half of \$2.50 (5%) is \$1.25. \$2.50 (10%) + \$1.25 (5%) would be a tip of \$3.75 (15%). The total amount to leave on the table would be \$28.75.



Fractions, Decimals, and Percents

- 4** Have your child look for everyday uses of fractions and percents. Areas to explore would be games, grocery or fabric stores, cookbooks, measuring cups and spoons, the evening news, and statistics in newspapers.
- 4** Encourage your child to incorporate such terms as *whole*, *halves*, *thirds*, and *fourths* into his or her everyday life.
- 5** Write whole numbers and decimals for your child to read, such as 650 (*six hundred fifty*) and 42.5 (*forty-two and five-tenths*). Ask your child to identify digits in the various places--thousands place, hundreds place, tens place, ones place, tenths place, hundredths place, and thousandths place.
- 5** Help your child identify advertisements in signs, newspapers, and magazines that use percents. Help your child find the sale price of an item that is discounted by a certain percent. For example, a \$40 shirt that is reduced by 25% is \$30.
- 6** Encourage your child to incorporate the vocabulary of fractions and decimals into his or her everyday speech. Make sure he or she understands that one-tenth is equivalent to 10%; quarter, to 25%; three-quarters, to 75% and so on.
- 6.** Encourage your child to read nutrition labels. Have him or her calculate the percent of fat in the item.

fat calories _ percent of fat (?)
total calories 100%

Measurement

- 4** Work with your child on drawing a scale map of your city, town, or neighborhood, or have your child do a scale drawing of the floor plan of your house or apartment.
- 5** Encourage your child to develop his or her own set of personal measures for both metric and U.S. customary units.
- 5** Encourage your child to create his or her own mnemonics, or sayings, to help in remembering conversion measurements. Start with "A pint's a pound the world 'round," and have your child create his or her own from there.
- 6** If you have carpentry hobbies, consider allowing your child to measure, cut, or add and subtract measures for you. Expect him or her to be able to measure to the nearest eighth of an inch and to be able to add and subtract, such measures.
- 6** If you are planning to paint or carpet a room, consider allowing your child to measure and calculate the area. Have him or her write the formula for Area (Area = length * width) and show you the calculations. If the room is an irregular shape, divide it into separate rectangular regions, and have your child find the area of each one. If a wall has a cathedral ceiling, imagine a line across the top of the wall to form a triangle. Your child can use the formula $\frac{1}{2} * \text{base} * \text{height} = A$ to calculate the area of the triangle.

Geometry Explorations

- 4 Help your child recognize and identify real-world examples of right angles (the corner of a book) and parallel lines (railroad tracks).
- 4 Encourage your child to identify and classify acute (less than 90°), obtuse (between 90° and 180°), right (90°), straight (180°), and reflex (between 180° and 360°) angles in everyday things (the architecture of a building, a bridge, a ramp, or a house).
- 4 Have your child compile a shapes portfolio or create a collage of labeled shapes. Images can be taken from newspapers, magazines, and photographs.
- 5 When you are at home or at a store, ask your child to identify different types of polygons, such as triangles, squares, pentagons, and hexagons.
- 5 Ask your child to identify 2-dimensional and 3-dimensional shapes around the house.
- 6 Ask your child to find apparent right angles or other types of angles: acute (less than 90°) and obtuse (between 90° and 180°). Guide your child to look particularly at bridge supports for a variety of angles.
- 6 While you are driving in the car together, direct your child to look for congruent figures (figures with the same size and shape): Windows in office buildings, circles on stop lights, many street signs, and so on, are all congruent figures.

Patterns and Algebra Concepts

- 4 Have your child look for frieze patterns on buildings, rugs, floors, and clothing. Have your child make sketches of friezes that he or she sees.
- 4 If your child has an interest in music, encourage him or her to study the mathematical qualities of the patterns of notes and rhythms. Composers of even the simplest tunes use reflections and translations of notes and chords (groups of notes).
- 5 Review tessellations with your child. Encourage your child to name the regular tessellations and to draw and name the eight semi-regular tessellations. Challenge your child to create non-polygonal Escher-type translation tessellations. You may want to go to the library first and show your child examples of Escher's work.

Data, Chance, and Probability

- 4 Help your child look up the population and land area of the state and city in which you live and compare these facts with those of other states and cities.
- 4 Encourage your child to recognize the language of probability used in everyday situations, such as weather reports and scientific findings. Have your child make a list of things that could never happen, things that might happen, and things that are sure to happen.
- 5 Visit the Web site for the U.S. Bureau of the Census at <http://www.census.gov/>. Have your child write three interesting pieces of information that he or she learned from the Web site.

- ⑤ Have your child keep a running tally of when the school bus arrives. Or have your child time him or herself to see how long it takes to walk to school in the morning compared to walking home in the afternoon. After a week, have your child plot the times, look for variations, and try to describe the times by using an equation.
- ⑥ While playing a game that uses a die, keep a tally sheet of how many times a certain number lands. For example, find how many times during the game the number 5 comes up. Have your child write the probability for the chosen number. ($1/6$ is the probability that any given number on a six-sided die will land.) The tally sheet should show how many times the die was rolled during the game and how many times the chosen number came up.
- ⑥ Watch with your child for events that occur without dependence on any other event. In human relationships, truly independent events may be difficult to isolate, but this observation alone helps to define the random events in games. Guide your child to see the difference between dependent events and random events. For example, "Will Uncle Mike come for dinner?" depends on whether or not he got his car fixed. However, "Will I get heads or tails when I flip this coin?" depends on no other event.

