

**5th grade Ohio Mathematics Benchmarks
“Batter Up”**

Mathematics

Number, Number Sense and Operations

1. Use models and visual representation to develop the concept of ratio as part-to-part and part-to-whole, and the concept of percent as part-to-whole.
3. Identify and generate equivalent forms of fractions, decimals and percents.
4. Round decimals to a given place value and round fractions to the nearest half.
7. Use commutative, associative, distributive, identity and inverse properties to simplify and perform computations.
8. Identify and use relationships between operations to solve problems.
11. Explain how place value is related to addition and subtraction of decimals.
12. Use physical models, points of reference and equivalent forms to add and subtract commonly used fractions with like and unlike denominators and decimals.
13. Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies.

Patterns, Functions and Algebra

4. Create and interpret the meaning of equations and inequalities representing problem situations.

Mathematical Processes Benchmarks

- A. Clarify problem-solving situations and identify potential solution processes; e.g., consider different strategies and approaches to a problem, restate problem from various perspectives.
- B. Apply and adapt problem-solving strategies to solve a variety of problems, including unfamiliar and non-routine problem situations.
- C. Use more than one strategy to solve a problem, and recognize there are advantages associated with various methods.
- D. Recognize whether an estimate or an exact solution is appropriate for a given problem situation.

E. Use deductive thinking to construct informal arguments to support reasoning and to justify solutions to problems.

F. Use inductive thinking to generalize a pattern of observations for particular cases, make conjectures, and provide supporting arguments for conjectures.

G. Relate mathematical ideas to one another and to other content areas.

H. Use representations to organize and communicate mathematical thinking and problem solutions.

I. Select, apply and translate among mathematical representations to solve problems; e.g., representing a number as a fraction, decimal or percent as appropriate for a problem.

J. Communicate mathematical thinking to others and analyze the mathematical thinking and strategies of others.

K. Recognize and use mathematical language and symbols when reading, writing and conversing with others.