

Unit 3: Equations and Inequalities

Family Resources for Math 7B/8 Unit 3: Equations and Inequalities

Habits of Mind and The Standards for Mathematical Practice

Habits of mind refer to the ways students think and behave when they are faced with a problem.

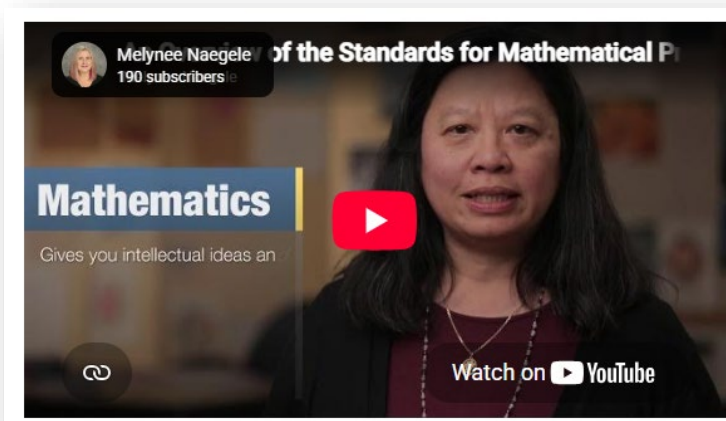
In mathematics, middle school students are always learning about and using these mathematics habits of mind:

 I work through problems by thinking carefully and not giving up.	 I use math reasoning and what I know about numbers to solve problems accurately.
 I explain my thinking clearly, listen to understand others' ideas, and offer feedback	 I connect new problems to things I've learned before to figure them out.
 I choose and use tools- like diagrams, formulas, manipulatives, or calculators- strategically.	 I double-check my work and make sure my answers are reasonable.
 I look for patterns, rules, and structure to make sense of math.	 I look for repeated steps in calculations to find methods and improve efficiency.

These habits are known as the Standards for Mathematical Practice, and they describe the key skills and behaviors that help students become strong mathematical thinkers.

These practices are especially important in middle school because students are moving from basic skills to more complex and abstract ideas. When teachers consistently support these practices, students become more confident and independent learners. They begin to see themselves as capable problem solvers who can make sense of new and challenging situations. Students begin to understand that struggle is a normal part of learning and that effort leads to growth. Over time, this approach builds not only stronger math skills, but also critical thinking and communication skills that are valuable in all areas of life.

Focusing on habits of mind and the Standards for Mathematical Practice helps create a classroom where thinking is valued, mistakes are part of learning, and every student has the opportunity to grow.



For additional information and resources to support at home, please visit the [Office of Mathematics website](#).

Big Ideas in Unit 3

Within this unit, students will learn these big ideas:

- Representing Situations of the Form and
- Solving Equations of the Form and Problems That Lead to Those Equations
- Inequalities

For more details about this unit, see [Unit 3 Family Resources](#).

Lesson Specific Resources

Use the links below to learn about the learning from each lesson.

Lesson Link
3.1 Relationships between Quantities
3.2 Reasoning about Contexts with Tape Diagrams
3.3 Reasoning about Equations with Tape Diagrams
3.4 Reasoning about Equations and Tape Diagrams (Part 1)
3.5 Reasoning about Equations and Tape Diagrams (Part 2)
3.6 Reasoning about Solving Equations (Part 1)
3.7 Reasoning about Solving Equations (Part 2)
3.8 Dealing with Negative Numbers
3.9 Different Options for Solving One Equation
3.10 Using Equations to Solve Problems
3.11 Solving Problems about Percent Increase or Decrease
3.12 Writing and Graphing inequalities
3.13 Solutions of inequalities
3.14 Finding Solutions to Inequalities in Context
3.15 Efficiently Solving inequalities
3.16 Interpreting inequalities
3.17 Modeling with inequalities
3.18 Using Equations to Solve for Unknown Angles