***Write and Solve Inequalities*  Family Letter**

**Dear Family,**

In this module, ***Write and Solve Inequalities***, students will draw on their knowledge of inequalities and equations to build an understanding of writing, solving, and graphing one- and two-step inequalities. They will use this understanding to build fluency in solving and graphing one- and two-step inequalities.

**What Did Students Learn Previously?**

In previous modules the students learned to add, subtract, multiply, and divide rational numbers. The students have also learned to solve one-step addition, subtraction, multiplication, and division equalities.

**What Will Students Learn in This Module?**

**One-Step Inequalities**

* Students will draw on their knowledge of inequalities and solving one-step addition and subtraction equations to build understanding of solving and graphing one-step addition and subtraction inequalities. They will then use this understanding to build fluency to solve and graph one-step addition and subtraction inequalities.
* Students will draw on their knowledge of solving one-step addition and subtraction inequalities and solving one-step multiplication and division equations to build understanding of solving and graphing one-step multiplication and division inequalities. They will then use this understanding to build fluency in solving and graphing one-step multiplication and division inequalities.
* Students will draw on their knowledge of solving one-step multiplication and division inequalities to build understanding of writing addition, subtraction. multiplication and division inequalities.

**Two-Step Inequalities**

* Students will draw on their knowledge of solving one-step inequalities and solving two-step equations to build understanding of solving two-step inequalities. They will use this understanding to build fluency in solving two-step inequalities.
* For example, when solving an inequality, the Properties of Inequality would be used:

 Use the Addition Property of Equality to add 5 to both sides.  
  Use the Division Property of Equality to divide both sides by 3.  
  All of the solutions are less than 3.

**What Vocabulary Terms Will Students Use?**

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| **Term** | **Definition** |
| **Addition Property of Inequality** | If you add the same number to each side of an inequality, the inequality remains true. |
| **Division Property of Inequality** | When you divide each side of an inequality by a negative number, the inequality symbol must be reversed for the inequality to remain true. |
| **inequality** | An open sentence that uses <, >, ≠, ≤, or ≥ to compare two quantities. |
| **Multiplication Property of Inequality** | When you multiply each side of an inequality by a negative number, the inequality symbol must be reversed for the inequality to remain true. |
| **Subtraction Property of Inequality** | If you subtract the same number from each side of an inequality, the inequality remains true. |
| **two-step inequality** | An inequality that contains two operations. |

**How You Can Provide Support**

1. Support your child’s understanding of Inequalities by asking them to use an inequality explain how to solve problems in everyday life.

* *Shopping:* Start with a predetermined amount of money and ask your child how many of an item they can buy. For example: If you start with $10, how many pounds of apples at $1.19 per pound you can buy.
* *Family trips:* Give the student an arrival time and ask your child how many miles per hour the family should average. For example, if the arrival time is in 6 hours what should the average miles per hour be greater than, if the destination is 330 miles away?

1. Encourage your child to have a positive, growth-oriented attitude towards mathematics and their learning.
   * Encourage them to ask questions – both at home and in class. Sometimes, an answer to a question will generate more questions. That’s how you know they are learning!
   * Encourage your child to embrace challenges and remind them that every challenge is an opportunity to learn something new.
   * Celebrate successes – both small and large.
2. Contact me to arrange a time to discuss the specifics of your child’s performance and how we can work together to help them succeed in this module.

Sincerely,

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(Teacher’s Name) (Email/Phone)