



DICKSON COUNTY SCHOOL DISTRICT

Every Student Every Day

Preparing for 8th Grade Math May 2020

Dickson County math teachers have indicated key skills that would help students be prepared for 8th grade math. These skills can be practiced at home in a variety of ways – through skills practice, games, and online resources.

District Packets will remain on the Dickson County Schools website through the summer. These packets contain skills practice pages with answers attached that students could practice. Students can download these and work on their paper without the need for the internet or printing. Go to www.dcstn.org, choose Parents and Students tab, then select Online Learning, Instruction, and Technology Resources. Choose 7th grade, Math, and select from the 3 printable District Packets which include foundation skills needed for success in 8th grade. Students can work on practice pages based on the skills listed below.

Additional options to prepare your rising 8th grader to be successful in math class next year, here are skills that can be practiced from home along with games or online ideas to get you started:

- Add, Subtract, Multiply, and Divide Integers (positive and negative numbers)
 - Using a deck of cards, play “Integer War” – black cards are positive, red cards are negative, ace = 1, jack = 11, queen = 12, king = 13, joker = 0. Players draw 2 cards each and add, subtract, multiply, or divide the numbers. Player with the highest sum, difference, product, or quotient wins the round. Choose 1 operation for each “game”: Game 1 – add, Game 2 – subtract, Game 3 – multiply, Game 4 – divide.
 - Roll 2-4 dice: Players try to create a math problem using the numbers with the smallest (or greatest) answer using the integer rules. At least one of the numbers needs to be positive, and one of the numbers needs to be negative.
 - <https://www.hoodamath.com/games/integer.html>
 - <https://www.mathgames.com/skill/7.65-add-and-subtract-integers>
 - <https://www.mathgames.com/skill/7.81-multiply-and-divide-integers>

- Solve One-Step and Two-Step Equations (using whole numbers, positive & negative numbers, fractions, decimals)
 - Using a deck of cards, play Lowest Wins. Remove Jokers, Jacks, and Queens from the deck. Each player is dealt five cards from the deck and the rest are placed face down in the middle of the table. On paper, write the card values: number cards (2-10) are worth face value, Kings are worth 0, and Aces are worth 15. The object of the game is to create a two-step equation using three of the cards and two operations (player choice) and to have a lower answer than your opposing player. For example, let's say you are dealt a 5, a 10, a King, a 7, a 2, and an Ace. The player decides to use multiplication and subtraction in their equation. The player could do: $5 \times \text{King} - \text{Ace} = -15$. The student used the 5, the King, and the Ace to get an answer of -15, which is very low. The other player would have to get an answer below -15 in order to win the hand. You may choose to allow negative numbers for answers or not. After both students have laid down their cards, they will select three new cards from the draw pile. The winner of the hand receives one point.
 - A variation of Lowest Wins would be to use four cards and create one-step equations.
 - <https://www.mathgames.com/skill/7.150-solve-two-step-linear-equations>
 - <https://www.hoodamath.com/games/algebrabalanceequations.html>
 - <https://www.mathplayground.com/AlgebraEquations.html>

- Use the distributive property and combine like terms to find equivalent expressions (using whole numbers, positive & negative numbers, fractions, decimals)
 - Use $_ (_ a + _)$ or $_ (_ - _)$ to create your own problems. Roll dice and put numbers into each of the 3 blanks, then use distributive property to find an equivalent expression.
 - <https://www.mathgames.com/skill/8.36-distributive-property>
 - <https://www.mathgames.com/skill/7.108-simplify-variable-expressions-using-properties>

For students who enjoy online practice and would like to challenge themselves by attempting 8th grade content or reviewing 7th grade skills, here are a few websites that will allow you to pick and choose topics.

- Prodigy (Gr1-8) – offers a unique, adaptive learning platform that keeps students highly engaged with math. If your student doesn't already have an account, go to <https://www.prodigygame.com/> and click on "Get your free account."
- Khan Academy (K-12) – offers free lessons where students can use exercises, quizzes, and instructional videos to learn and master skills. Students will get immediate feedback and encouragement. <https://www.khanacademy.org/>
- Dreambox Learning (K-8) – offers an adaptive learning platform that keeps students engaged and adapts based on student needs. Go to www.dreambox.com/at-home to register for a free, 30 day trial.
- MATHia from Carnegie Learning (6 – 12) – "guides students through sample problems, describing each step, rephrasing or redirecting questions, and honing in on the parts of the problem that are proving difficult. It encourages problem-solving and provides hints every step of the way so students don't get stuck on a problem." Go to <https://discover.carnegielearning.com/MATHiaHome.html> to create an account that is free through the summer for parents & students. "MATHia@Home's powerful 1-to-1 coaching technology adapts to give students exactly what they need at any given moment so they can still make progress on their class goals while school is not in session. Real-time feedback and hints make sure that your students will not get stuck."

Science

Science is designed to build on the natural curiosity of children. Asking questions about why something happens (phenomena) then exploring the idea through hands-on activities while building problem-solving and thinking skills are keys to understanding the world around us.

Topics for Exploration include:

- *Relationship between Magnetism and Electricity
- *Mechanical Waves and Electromagnetic Waves
- *Natural Selection and Its Role in Species Survival
- *Plate Tectonics

This is a very short list from the numerous topics students will explore next year. To see the complete list of standards (topics), visit: [TN Academic Standards for Science](#)