



Secondary Summer Math Activities

The importance of having the right tool for the job cannot be overstated. With the right preparation, even seemingly difficult tasks become much easier. The goal of the Secondary Summer Math Activities list is to equip all our students with the right tools and preparation to be at their best this fall when classes resume. The steps below will guide you on how to take full advantage of the activities listed.

1. Start by creating a Learner account at khanacademy.org . This will be the primary resource used this summer. If you already have an account, there is no need to create another. Children under 13 will need permission from a parent to create an account, so parents please assist as needed.

ch Q Khan Academy Donate Login Sign up

**For every student,
every classroom.
Real results.**

We're a nonprofit with the mission to provide a free, world-class education for anyone, anywhere.

Learners Teachers Districts Parents

2. Select the grade level or course that the student will be entering this fall. This will help to guide students through mastery of concepts that will be covered all year long! In addition to your math course, feel free to select as many courses as you would like!

Personalize Khan Academy

1. What grade are you in?

We'll update your lessons to match

| K-8 | High school | College / adult learner |
|------------------------------------|----------------------------------|---|
| <input type="radio"/> Kindergarten | <input type="radio"/> 9th grade | <input type="radio"/> Community college |
| <input type="radio"/> 1st grade | <input type="radio"/> 10th grade | <input type="radio"/> 1st year university |
| <input type="radio"/> 2nd grade | <input type="radio"/> 11th grade | <input type="radio"/> 2nd year university |
| <input type="radio"/> 3rd grade | <input type="radio"/> 12th grade | <input type="radio"/> 3rd year university |
| <input type="radio"/> 4th grade | | <input type="radio"/> 4th year university |
| <input type="radio"/> 5th grade | | <input type="radio"/> Grad school |
| <input type="radio"/> 6th grade | | <input type="radio"/> Adult learner |

Step 1 of 2 ● ○

Choose a grade to continue

3. From your Learner Dashboard you can explore all of the content you have selected, edit your profile, and monitor your progress, as well as add new content and explore new materials as you wish! This is also where you can search for the exercises listed under the “Khan Academy Exercises” section in the table below.

The screenshot shows the Khan Academy Learner Dashboard for a user named David Healey. At the top, there is a navigation bar with "Courses" and a search bar. The Khan Academy logo is in the center, and "Donate" and "David Healey" are on the right. Below the navigation bar is a profile banner for David Healey, featuring a placeholder profile picture (a green leaf), the name "David Healey", and options to "Pick a username" and "Add your bio". An "Edit Profile" button is on the right. A row of navigation tabs includes "Home", "Profile", "Badges", "Progress", "Discussion", "Projects", and "Coaches". The main content area is titled "My courses" and shows a list of courses for "7th grade". The courses listed are: "Negative numbers: addition and subtraction" (with a "Start" button), "Negative numbers: multiplication and division", "Fractions, decimals, & percentages", and "Rates & proportional relationships". To the right of the course list is a large light blue area with a plus sign icon and the text "Add another course".

Courses ▾ Search

Khan Academy Donate David Healey

David Healey [Pick a username](#)
[Add your bio](#) [Edit Profile](#)

Home Profile Badges Progress Discussion Projects Coaches

My courses [Edit](#)

7th grade [See all \(7\)](#)

- Negative numbers: addition and subtraction [Start](#)
- Negative numbers: multiplication and division
- Fractions, decimals, & percentages
- Rates & proportional relationships

Add another course

4. The “Start” button will allow you to jump right in to the content and begin learning. This is a great opportunity to explore concepts that students will encounter in the next school year and have some fun practicing and challenging themselves to see what they can do! The search bar at the top is where students can type in the names of the exercises listed in the table when being more intentional with their practice.

The screenshot shows the Khan Academy user interface. At the top, there is a navigation bar with a "Courses" dropdown menu and a search bar containing the text "Search" and a magnifying glass icon. The search bar is circled in red. To the right of the search bar is the Khan Academy logo. Below the navigation bar is a user profile section for "David Healey" with a placeholder for a profile picture (a green leaf icon) and links for "Pick a username" and "Add your bio". Below the profile section is a navigation menu with options: Home (underlined), Profile, Badges, Progress, Discussion, and Projects. The main content area is titled "My courses" with an "Edit" link. Under "My courses", there is a section for "7th grade" with a "See all (7)" link. Below this, there is a list of course topics, each with a circular icon and a text description. The first topic is "Negative numbers: addition and subtraction" with a plus and minus sign icon. The second is "Negative numbers: multiplication and division" with a multiplication and division sign icon. The third is "Fractions, decimals, & percentages" with a fraction icon. The fourth is "Rates & proportional relationships" with a bar chart icon. A blue "Start" button is circled in red next to the first topic.

Courses ▾ Search

Khan Academy

David Healey [Pick a username](#)
[Add your bio](#)

Home Profile Badges Progress Discussion Projects

My courses [Edit](#)

7th grade [See all \(7\)](#)

Negative numbers: addition and subtraction


Negative numbers: multiplication and division


Fractions, decimals, & percentages

Rates & proportional relationships

Start


5. After typing in the name of an activity from the table you will see several options of the exercises related to the topic. You can watch a video tutorial, practice online, or view any available articles relating to that topic to help deepen your understanding and mastery of the ideas presented. The exercises in the table were specifically chosen as they are key foundational skills and pre-requisite skills that students will need in the beginning of the school year to avoid confusion and be able to focus on learning new content rather than struggling with skills they may have fallen behind on.

Courses ▾ Search  Khan Academy

 multiplying and dividing negative numbers

All **Videos** Articles Exercises Programs

Multiplying and dividing negative numbers (video) | Khan Academy




Sal explains **multiplying and dividing** positive and **negative numbers**.

Multiplying negative numbers (practice) | Khan Academy

$$-3 \times (-9) = 27$$
$$-30 \div 5 = -6$$

Practice **multiplying** integers. ... **Multiplying & dividing negative numbers**. Why a negative times a negative makes sense · Why a negative times a negative is a ...

Dividing positive and negative numbers (video) | Khan Academy



Discover the basics of **dividing with negative numbers**. ... **Multiplying positive & negative numbers** ... if u divide or **multiply negative numbers** 2 times like this :

6. As you begin completing exercises, you can track your hard work by navigating to the “Progress” tab in your Learner Dashboard. From here, you can find a list of the skills you’ve practiced. By adjusting the date range and Mission, you can print off all of the skills you have worked on to submit this fall to participate in your school’s summer practice incentive programs. Keep in mind that you may need to change mission to view some of the concepts you may have practiced.

Home Profile Badges Progress Discussion Projects Coaches

Skills Videos Activity Focus

Mission: 8th grade ▾

Activity from: Last 7 days ▾

Total 8th grade progress

0% progress

- 0 skills mastered
- 0 skills level two
- 1 skill level one
- 0 skills practiced
- 124 skills not started

Activity from: Last 7 days Only show attempted skills

MISSION FOUNDATIONS

| Skill | Level | Questions | |
|------------------------------|-----------|-----------|---|
| Multiplying negative numbers | Level One | 4 | 1 |

7. Have fun practicing throughout the summer and enjoy the new perspective you gain by deepening your understanding of math and how it works in the world around us!

| Grade level for 2019-2020 school year | First Concept Covered | Pre-requisite Skills | Khan Academy exercises |
|---------------------------------------|-------------------------|--|--|
| Geometry | Tools of Geometry | <ul style="list-style-type: none"> • Squaring numbers • Simplifying expressions • Evaluating expressions • Finding absolute value • Solving equations | <ul style="list-style-type: none"> • Exponents • Combining like terms with distribution • Combining like terms with negative coefficients • Combining like terms with negative coefficients & distribution • Evaluating expressions with one variable • Evaluating expressions with multiple variables • Finding absolute value • Absolute value to find distance • One-step multiplication & division equations • Two-step equations • Equations with parenthesis • Solve square-root equations (basic) |
| Algebra | Foundations for Algebra | <ul style="list-style-type: none"> • Factors of numbers • Least common multiple • Using estimation • Simplifying fractions • Fractions and decimals • Adding and subtracting fractions | <ul style="list-style-type: none"> • Identify factors and multiples • Least common multiple • Greatest common factor • Simplifying fractions • Equivalent fractions • Common fractions and decimals • Converting fractions to decimals • Add fractions with unlike denominators • Subtracting fractions with unlike denominators |
| 8 th Grade | Real Numbers | <ul style="list-style-type: none"> • Convert a rational number to a decimal • Add and subtract rational numbers | <ul style="list-style-type: none"> • Converting fractions to decimals • Adding & subtracting rational numbers • Multiplying fractions |

| | | | |
|-----------------------|-------------------------------|--|--|
| | | <ul style="list-style-type: none"> • Multiply fractions (include distributive property) • Multiply and divide rational numbers • Solve real world problems involving rational numbers • Find area and volume of two- and three-dimensional figures | <ul style="list-style-type: none"> • Multiplying positive and negative fractions • Dividing positive and negative fractions • Multiply & divide rational expressions • Rational number word problems • Area of composite shapes • Area of shapes on grids • Find missing side length when given area • Volume by multiplying area of base times height |
| 7 th Grade | Rational Number Operations | <ul style="list-style-type: none"> • Place numbers and their opposites on a number line • Interpret statements of inequality as being statements about their position on the number line • Understand positive and negative numbers are used to describe quantities having opposite directions (above/below sea level, etc.) • Add, subtract, multiply, and divide multi-digit decimals • Divide fractions • Solve equations and expressions for one variable • Understand the concept of a unit rate | <ul style="list-style-type: none"> • Number opposites • Number opposites challenge • Negative symbol as opposite • Plotting inequalities • Writing numerical inequalities • Interpreting negative numbers • Interpreting negative number statements • Word problems involving negative numbers • Adding & subtracting decimals word problems • Dividing fractions • Divide fractions by whole numbers • Equations with variables on both sides • Unit rates |
| 6 th Grade | Use Positive Rational Numbers | <ul style="list-style-type: none"> • Understand place value • Read, write, and compare decimals to the thousandths • Use place value to round decimals to any place | <ul style="list-style-type: none"> • Intro to place value • Compare decimal place value • Round decimals • Multi-digit multiplication • Subtract decimals visually • Add decimals visually • Multi-digit division |

| | | | |
|--|--|--|--|
| | | <ul style="list-style-type: none">• Multiply multi-digit whole numbers• Add, subtract, multiply, and divide decimals to the hundredths• Find quotients of up to four-digit dividends and two-digit divisors• Understand pattern when multiplying by powers of 10• Add and subtract fractions• Multiply fractions by whole numbers• Divide fractions by whole numbers | <ul style="list-style-type: none">• Multiply and divide by powers of 10• Powers of 10• Add and subtract fractions challenge• Multiply fractions and whole numbers• Divide fractions by whole numbers |
|--|--|--|--|