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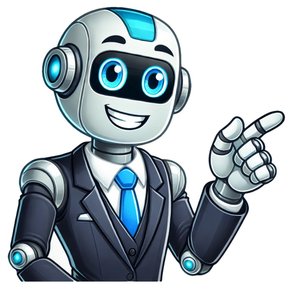

When students struggle with multiplication facts, solving complicated problems (like for example finding common denominators to add fractions) becomes hard. When they use most of their working memory on simple calculations they have little mental space left for understanding new concepts. Students start learning the multiplication facts in grade 3 although multiplication as repeated addition first appears in grade 2. Skip counting by 2 and counting in 5s and 10s are the first steps. It is important that the students master the multiplication tables by grade 4 and be ready to dive into math topics like multi-digit multiplication, equivalent fractions, and division. Of course, before starting with the multiplication facts it is necessary that the students first fully learn and understand addition and subtraction facts. Parents and teachers often rush into drills to help children memorize the multiplication tables as quickly as possible. There is nothing wrong with memorization if it comes after learning and understanding. Automaticity that comes from endless repetition will not help in the long run. There is no need to rush into memorizing all the multiplication tables. Allow students to take their time and practice solving problems until they start memorizing without even realizing it. A great way to do that is by “playing” with the multiplication table. Here are some steps you can follow. 1. Check students’ understanding Make sure the children understand the concept of multiplication well. Provide visuals to make facts concrete. Use hands-on manipulatives and ask them to draw pictures and form arrays by arranging a set of objects into rows and columns. Present the multiplication array table in this form and have them solve many problems by counting and adding. 2. Practice solving problems Once they clearly understand present the multiplication table with numbers. Have the students solve problems with the help of the table. As they solve the problems they will start remembering some of the answers. At the beginning ask them to color the area so that they remember that the same rule applies here as with the table above. 3. Find Patterns on the table Ask Questions like: Why do some numbers repeat on the table? Find all the ways to make 12. Find all the ways to make 15 Count by 3, 4 ,5, 6,…. Look at each row and column and find patterns. Why do the numbers follow that pattern? You will be surprised by the number of patterns that students will find. These patterns will help them understand and remember. 4. Complete the missing numbers on the table. This is a great way to show students that they can use “easier” facts as stepping stones to the harder facts. What is 4×6? if 3×6 is 18 then I can add one more 6. 5. Square numbers Talk about these special numbers on the table. What makes them special? Color the area to see the squares. Students always remember the square numbers and they use them as stepping stones. 5. Play games Have the students play games using the multiplication table. Games like BLOCK IT! help the students get familiar with the table, find patterns and learn the multiplication facts. Give groups or pairs a table with some missing numbers and see which team will fill in the numbers first. Some friendly competition always motivates students. 6. Practice each table on its own Once students have had a lot of practice with the table you can start learning each table separately starting with the table of 2, 5, 10 which are the easier ones to remember. Make this a game that the child will enjoy and will want to repeat. This is a good time to ask the students to study each table and find patterns (if they haven’t found them already). Understanding these patterns, or “tricks” as students like to call them, will help them figure out the answer fast instead of trying to remember it. Eventually, fluency will come naturally. Some examples In the table of 3 the digits of the products add up to 3,6,9 following this pattern. In the table of 5 the products alternate between products ending with 0 and products ending with 5. Why does that happen? Even numbers multiplied with 5 give half as many tens. Odd numbers multiplied by 5 give a product with 5 as the last digit. 7×5= (6×5)+5= 30+5=35 Students can relate the table of 4 to the table of 2. When you multiply a number x4 you can double it twice. All the products are even and it is like counting by 2 except starting with 4 and skipping one every time. The table of 9 seems to be the most difficult to remember but is actually one of the easiest. Teach strategies that will help students understand. We all know that there are huge advantages to having fluency with multiplication facts. However, I think we need to be very careful about how we guide students towards learning and understanding them. Multiplication facts are a very interesting chapter in the math curriculum that deserves to be given time and attention. Time for students to discover, solve and learn. Promoting memorization without meaning could cause problems and push students to dislike math. Here are some worksheets to practice the multiplication facts. Multiplication Facts – Missing entriesDownload Multiplication facts worksheet 1Download Multiplication facts worksheet 2Download Multiplication SquaresDownload Here are some free to print (and digital) games to play with students to practice multiplication tables. Block it! A great game for all students. The game board is the times table and the answers are right there! now with a digital form. The great escape. Practice factors and multiples. Maze Escape. Single-player challenge. Practice one table at a time. Mini multiplication facts games Now with a digital form as well! Thanks for visiting! Please like and subscribe for more giveaways and updates. Check out the rest of our free print to play games, task cards, worksheets, puzzles and more. free print to play and digital games task-cards puzzles Check out our best selling games, now back in stock and available at amazon.com and amazon.ca Subscribe to our YouTube channel for the latest videos, updates, and tips. We have learnt multiplication of numbers with 2-digit multiplier. Now, we will learn more. Let us know some facts about multiplication.When each set of numbers are equal we use multiplication to find out the result.The sign of multiplication is ×.1. The result of multiplication is called producte.g. 2 × 3 = 6 → (Product).In multiplication, the number being multiplied is called the multiplicand and the number by which it is being multiplied is called the multiplier. Example: The answer of the multiplication is called the product.2. The product of any number multiplied by a ‘zero’ is zero.Multiplying any number by 0 will always give 0. Example: 3 × 0 = 0 or 6 × 0 = 0Think — If each child gets ‘zero’ sweets, how many sweets will 4 children get?4 times 0 sweets or 4 × 0 = 03. Multiplying any number by 1 will always give that number itself.The product of any number multiplied by ‘one’ is equal to the number itself.Example:7 × 1 = 7 or 9 × 1 = 9Think — If every child gets ‘1’ sweet, how many sweets are needed for 8 children?1 child → 1 sweet8 children → 8 times 1 sweet8 × 1 sweet = 8 sweetsProduct is equal to the number itself.4. In a multiplication operation, the product can be equal to the numbers being multiplied or greater than, but never the smaller, except when one of the number is zero. Example: 5. For every multiplication fact there are two division facts. Example: Thus, the product divided by the multiplicand equals the multiplier and the product divided by the multiplier equals the multiplicand.6. Product is always same even if the order of the numbers changes while multiplying.In multiplication operation, the change in the order of the numbers being multiplied does not change the product.Example:6 x 3 = 18 is same as 3 x 6 = 189 × 8 = 8 × 9 = 7212 × 5 = 5 × 12 = 60Note:The division fact is used for finding the missing multiplicand or multiplier. Terms in Multiplication: 5 × 7 = 35Here, 5 is called the multiplicand, that is, number of objects in each set. 7 is called the multiplier which tells us how many times a set occurs. 35 is called the product which gives the total number of objects. In multiplication, the numbers which are multiplied together to give the product are called factors of the product. Consider the product 3 × 7 = 21 Here, 3 and 7 are the factors and 21 is the product. Properties of Multiplication: Property I: The product of a number and 0 is always 0. Example: 345 × 0 = 0 55 × 0 = 0 Property II: The product of a number and 1 is always the number itself. Example: 92 × 1 = 92 1456 × 1 = 1456Property III: The product of two numbers in any order will always be the same. Example: Property IV: The product of three numbers remains the same even when the grouping of the numbers is changed.Example: (4 × 9) × 5 = 36 × 5 = 180; 4(9 × 5) = 4 × 45 = 180 (4 × 9) × 5 = 4(9 * 5) Questions and Answers on Facts about Multiplication: 1. Fill in the blanks - (One has been done for you)a. 2 × 3 = 3 × 2b. 5 × 4 = __ × 5c. 6 × 2 = __ × 6d. 7 × 5 = __ × 7e. 9 × 6 = 6 x __f. 10 × 4 = 4 × __2. Multiply -(i) 1 × 7 = ___(ii) 6 × 2 = ___(iii) 2 × 5 = ___(iv) 4 × 9 = ___(v) 7 × 5 = ___(vi) 8 × 3 = ___(vii) 7 × 8 = ___(viii) 6 × 3 = ___(ix) 8 × 8 = ___(x) 3 × 7 = ___(xi) 9 × 5 = ___(xii) 8 × 10 = ___(xiii) 4 × 5 = ___(xiv) 9 × 10 = ___(xv) 8 × 3 = ___(xvi) 2 × 5 = ___ (xvii) 7 × 3 ____ (xviii) 6 × 4 ____ (xix) 8 × 8 ____ (xx) 10 × 2 ____ (xxi) 5 × 2 ____ 3. Fill in the blanks-(i) 3 × ___ = 18(ii) ___ × 2 = 18(iii) 2 × ___ = 14(iv) ___ × 5 = 45(v) 7 × 3 = ___(vi) 4 × ___ = 20 3rd Grade Math LessonsFrom Facts about Multiplication to HOME PAGE Didn't find what you were looking for? Or want to know more information about Math Only Math. Use this Google Search to find what you need. Share this page: What’s this? At its core, multiplication is a form of repeated addition. It is a way to efficiently calculate the total of adding a number to itself a certain number of times. For example, 3 x 4 is equivalent to adding 3 four times: 3 + 3 + 3 + 3 = 12. The Commutative Property of Multiplication The commutative property of multiplication states that changing the order of the factors does not change the product. In other words, a x b is equal to b x a. For example, 3 x 4 is the same as 4 x 3, and both equal 12. The Associative Property of Multiplication The associative property of multiplication states that changing the grouping of the factors does not change the product. In other words, (a x b) x c is equal to a x (b x c). For example, (2 x 3) x 4 is the same as 2 x (3 x 4), and both equal 24. Read also: 10 Fun Facts About OSHA The Distributive Property of Multiplication The distributive property of multiplication allows us to distribute a factor to each term inside parentheses. It states that a x (b + c) is equal to a x b + a x c. For example, 2 x (3 + 4) is equal to 2 x 3 + 2 x 4, which simplifies to 14. Zero and One in Multiplication Multiplying any number by zero results in zero. For example, 5 x 0 = 0. On the other hand, multiplying any number by one leaves the number unchanged. For example, 5 x 1 = 5. The Identity Property of Multiplication The identity property of multiplication states that any number multiplied by one equals the original number. It is like a “magic” property of multiplication. For example, 5 x 1 = 5 and 10 x 1 = 10. Multiplying by Powers of Ten When multiplying a number by a power of ten, you can simply move the decimal point to the right by the number of zeros in the power of ten. For example, 5 x 10 = 50, and 5 x 100 = 500. Image from Generation GeniusMultiplying by Ten and Its Multiples Multiplying a number by ten and its multiples is easy. To multiply a number by ten, simply add a zero to the end of the number. For example, 5 x 10 = 50, and 5 x 100 = 500. Similarly, to multiply a number by multiples of ten, add the appropriate number of zeros at the end. For example, 5 x 1000 = 5000. Multiplying Two-Digit Numbers When multiplying two-digit numbers, you can use the method of long multiplication. Write the numbers vertically, multiply each digit in the bottom number by each digit in the top number, and add the results together. For example, to multiply 23 by 47, you would multiply 3 by 7, then 3 by 4, then 20 by 7, and finally 20 by 4, and add the results to get the final product of 1081. Read also: 50 Facts About Dragon Memorizing Multiplication Tables To become proficient in multiplication, it is essential to memorize the multiplication tables from 1 to 10 (or even up to 12). By memorizing these tables, you can quickly recall the product of any two numbers within that range, making mental calculations faster and more efficient. Conclusion Mastering multiplication facts is a crucial skill that forms the foundation for mathematical proficiency. Understanding the basic principles of multiplication, such as repeated addition, properties, and shortcuts, can make multiplication more accessible and enjoyable. By practicing regularly and exploring various strategies, you can enhance your multiplication skills and become more confident in your mathematical abilities. So, let’s embrace the world of multiplication and unlock its fascinating potential! Frequently Asked Questions (FAQs) Why is it important to learn multiplication facts? Learning multiplication facts is important because multiplication is used in various aspects of everyday life, from calculating prices at the grocery store to solving complex mathematical problems. It is a fundamental skill that builds the foundation for more advanced mathematical concepts. How can I improve my multiplication skills? Practice is key to improving your multiplication skills. Reviewing multiplication tables, solving multiplication problems, and using online resources, such as multiplication games and apps, can help you strengthen your skills and increase your speed and accuracy. Are there any tricks or strategies to help with multiplication? Yes, several tricks and strategies can help with multiplication. Some of these include using patterns, breaking down larger numbers into smaller, more manageable parts, using the distributive property, and using mental math techniques like rounding or doubling. Can I use calculators for multiplication? A4: While calculators can be helpful for complex multiplication calculations, it is still important to develop mental math skills and be able to perform basic multiplication without relying solely on calculators. Mental math allows for quicker calculations and is useful in everyday situations where a calculator may not be readily available. How can I make learning multiplication facts more enjoyable? Making learning multiplication facts more enjoyable can involve incorporating games, activities, and visual aids. Using flashcards, playing multiplication bingo or board games, and engaging in interactive online learning resources can make the learning process fun and engaging. For young learners, learning multiplication facts doesn’t have to be a frustrating process. Students may learn this crucial skill with the appropriate technique, which will enable them to quickly understand more difficult subjects in the future. An important component of early mathematics is learning multiplication facts. Long division, determining a fraction’s common denominator, and many other arithmetic tasks would be more challenging and time-consuming without having a solid grasp of the facts. As a result, one of the first arithmetic concepts taught is how to acquire and memorize these facts. Multiplication facts are an interesting way to calculate the product between two values. It is a way of calculating the product of two or more numbers in mathematics. It is a simple mathematical operation that we employ daily. Multiplication tables are the most common and popular application. Multiplication of two numbers is considered to be the repeated addition of one number concerning another in mathematics. Whole numbers, natural numbers, integers, fractions, and other types of numbers can be used. When a is multiplied by b, it signifies that m is multiplied by itself ‘b’ times. Aside from addition, subtraction, and division, Multiplication (denoted by ×) is a mathematical operation. In primary school, students learn the four basic arithmetic operations on their own. Multiplication Facts is an arithmetic operation that is used to simplify various numeric expressions. The arithmetic process of calculating the product of two or more numeric values is known as Multiplication Facts. Multiplication of two numbers, such as ‘a’ and ‘b,’ is expressed as ‘a’ multiplied by ‘b.’ In other words, It can be defined as the process of repeatedly adding a number to another number in mathematics. It gives the result as the multiplied product of that number. When you multiply 5 by 3, for example, you are adding 3 to itself five times, resulting in 3 + 3 + 3 + 3 + 3 = 15. It is a straightforward method for any individual to multiply numbers and calculate multiplication products. Arithmetic operations such as the simplification of polynomials or algebraic equations contain the arithmetic operator of Multiplication (×). There can be countless examples of the Multiplication of numbers. The following are some of them for a better understanding. Multiply 2 and 4 = 2 × 4 = 8 Multiply 3 by 3 = 3 × 3 = 9 Multiplication of 6 by 2 = 6 × 2 = 12 Multiply 7 by 9 = 7 × 9 = 63 Multiplication of 7 by 7 = 7 × 7 = 49 The product of 1 × 1 = 1 Have you wondered which symbol comes in between the two values that are supposed to be multiplied? The most common sign that denotes the Multiplication of two values is ×. This particular sign helps a person understand the arithmetic operation to be used in the given numeric expression. It means if you see an expression like 4 × 3, it is easy to understand that this particular numeric value is to be multiplied. For example, 4 × 3, 6 × 2, 5 × 5, and so on. Even though the cross sign (×) is a popular method of devoting Multiplication, a dot (.) is also used sometimes. For example: (4). (3) = 12, (3). (5) = 15, and so on. Although Multiplication is a common numerical operation, it has a specific formula. The formula for Multiplication is given: Multiplier × Multiplicand = Product. For example: In the expression of 2 × 3 = 6 2 is multiplier 3 is multiplicand 6 is the product of multiplier and multiplicand Some facts regarding the formula of Multiplication Facts are: The total number of objects in a group is called the multiplicand The multiplier denotes the total number of equal groups The result of an arithmetic operation between a multiplier and a multiplicand is known as the product Multiplication Facts are an effective method for understanding various numeric formulas. Nevertheless, this particular operation includes multiple properties that help in the simplification of arithmetic operations. Its properties are as follows: Distributive property Commutative property Zero property Closure property Associative property Identity property One-digit integers may be multiplied easily using multiplication tables, but bigger numbers are split into columns using their appropriate place values. One should start from ones, tens, hundreds, and thousands and move on to the bigger numbers. Multiplication difficulties can be divided into two categories: Multiplication without regrouping Multiplication with regrouping When multiplying two integers without regrouping, one is dealing with smaller numbers that do not require a carryover to its next higher place value. It is the entry-level method that can assist a student in grasping the fundamentals of Multiplication before moving on to more advanced difficulties like regrouping. Let us look at an example to help you comprehend what the method is all about. For example: if 2015 is multiplied by 3, then the steps for the solution are: First, multiply the digit in one place, 3 × 5 =15 The value 15 is written by writing down 5 in the product space, and 1 is carried over to the next digit in the tens place. Then, multiply 3 with the value in the tens place, 3 × 1 + 1 (carried value) = 4 After this, multiply the digit 2 by the value given in the hundreds place, 2 × 0 = 0 Finally, multiply 3 (in the thousands place) by 2, 2 × 3 = 6 The answer is: 6045 The product is two digits when multiplying more than two numeric values with regrouping. One must carry over to the next digit place of higher value in this type of Multiplication. Let us consider an example to understand and comprehend what Multiplication with regrouping is about. For example, multiply 2423 by 5 The steps for the solution are: Always start with the one’s place. The first step should be to multiply 3 × 5 = 15 As the product of 3 and 5 is 15, 1 is carried to the digit in the tens place. The next step is to multiply 5 by 2 = 10 + 1 (carried value) = 11 The same happens in this step, i.e., 1 is carried to hundreds of places Now, multiply 4 by 5 and add the carried value of the previous digit. 4 × 5 + 1 = 21 From the value of 21, 2 is carried to the number in the thousands place. Finally, multiply 5 by 2 and add the carried value is 2 from the previous Multiplication. 5 × 2 + 2 = 12 The final answer is: 12115 The term “multiply” comes from the Latin multus, which means “many,” and plex, which comes from the Proto-Indo-European plek, which indicates “to plait.” Multiplication is another approach to adding a number again and again. It is, in other words, repeated addition. The 10s and 1s digits in answer to a 9’s Multiplication fact always add up to 9. 9×4=36, for example, therefore 3+6=9. Multiplication has the commutative property, which indicates that the sequence of the numbers in an equation is irrelevant. Multiplication has the associative property, which implies it doesn’t matter how the numbers are organized or which numbers are evaluated first. Subtraction and division are not covered by associative legislation. “Math” comes from the Proto-Indo-European term *me, which means “to chop grass” and is connected to “mow.” When it comes to Multiplication, the zero (0) property states that the answer is zero wherever there is a zero in a problem. Gottfried Wilhelm Leibniz (1647–1716) was indeed a worldwide genius who utilized both the cap symbol (^) and the dot symbol (.) to represent Multiplication. While the dot is still occasionally used to signify intersection in set theory, the cap symbol is currently the most common. The division is the inverse of Multiplication. Multiplication is one of the four fundamental mathematical operations, alongside addition, subtraction, and division. When an even number is multiplied by 6, the result has the same number as the even number. 6×2=12, 6×4=24, and 6×6=36, for example. The multiplier and multiplicand are the numbers that will be multiplied, and they are often referred to as “factors.” A “product” is the result of Multiplication. Over 4,000 years ago, the Babylonians were among the first to employ multiplication tables, although their tables were established on base 60. Multiplication tables are also known as the “Table of Pythagoras,” after the legendary Ionian Greek philosopher and scholar Pythagoras of Samos. Leibniz was the first person to invent a mechanism that could perform Multiplication. Around the year 1200, Arabic numbers were introduced in Europe, simplifying Multiplication and allowing for more sophisticated calculations. St. Andrew’s Cross is an alternate name for the multiplication sign “x.” When you multiply 1,089 by 9, you get the absolute opposite: 9,801 Multiplication is a fascinating yet easy-to-understand arithmetic operation. The various methods used for multiplying different types of numbers are mentioned above. While Multiplication is a major application of mathematics, it is applicable in daily life also. This particular arithmetic operation provides convenience while solving advanced numeric problems. Ans. A basic fact is a number that can be multiplied by a single digit. For example, 2 x 5 = 10, so 2 is a basic multiplication fact for 5. Ans. The answer to this is called a product. For example, if you were asked to find the product of 5 and 12, you would multiply them together to get 60. Ans. To solve a multiplication problem, you have to first multiply the numbers in the problem by their respective factors. If there are any decimals in the problem, you’ll need to convert them into fractions before multiplying them together. Once you’ve done that, you can add all of your products together to get the answer! Ans. The purpose of multiplication is to get a final answer that is larger than the original number. It’s like adding money together, except instead of just adding the same amount over and over again, we multiply it by another number. Ans. The numbers in multiplication are called factors. Factors are the numbers that you multiply together to get the answer. For example, if you’re multiplying 3 by 5, then 3 and 5 are the factors. As we all know what multiplication is and how we solve questions related to multiple class 2. But did you know that we also call the solution of any multiplication equation a fact? Some standard multiplication facts are needed to follow for multiplying numbers and there are several methods by which we can find out the multiplication facts. The repeated addition of one particular number is expressed by multiplication. Some maths sheets for class 2 are given below for practice.Multiplication FactA multiplication fact is considered the answer to a multiplication calculation when a number is multiplied by a different set of numbers. It follows some patterns to multiply two numbers and write their products aside.Here are some examples of multiplication facts:2 × 3 = 6 (the multiplication fact is 6)7 × 5 = 35 (the multiplication fact is 35)10 × 2 = 20 (the multiplication fact is 20). Multiplication FactHow to Write Multiplication Facts for Class 2?You can write multiplication facts by writing out multiplication calculations.For example:12 x 10 = 1203 x 7 = 218 x 6 = 48Multiplication facts can also be written by different methods of multiplication.For example, repeated addition is a way of finding multiplication facts. One can repeatedly add a number to reach the answer. 2 × 4 is the same as 2 + 2 + 2 + 2 = 8. The multiplication fact, in this case, is 8. How to Learn Multiplication Facts for Class 2?One of the best ways to learn multiplication facts is through repetition since it helps children to form a good and strong memory of multiplication facts. Learning MethodGiven are some ways to learn multiplication facts and their multiplication tables:Using a multiplication square that shows the multiplication facts for numbers in the times table. This provides a great visual aid for learning times tables and multiplication facts.Reciting the multiplication table forwards and backwards. Reciting it out loud helps to reinforce one's memory of basic multiplication facts.Practising skip counting. Skip counting is a type of multiplication by repeated addition. For eg, skip counting by 2 is the same as the table of 2: 2, 4, 6, 8, 10, etc.Solved Examples of Multiples Class 2Q 1. If a bowl contains 25 marbles, each group should have 5 marbles. Then how many such groups can be formed?Ans. The total number of marbles in a bowl is = 255 marbles are used to make a group, i.e. the number of groups is calculated using the formula:Number of groups = Total number of marbles in a bowl divided by the number of marbles required to make a group= $\dfrac{25}{5}$= 5One can also do it by the process of repeated addition, i.e. add 5 to itself 5 times, it will result in 25, i.e. 5+5+5+5+5 = 25.Thus, the required number of groups of marbles are 5. Q 2. How many groups of bats are there? Solved ExampleAns. The total number of bats in 3 groups is calculated by adding 3 to itself three times, i.e. 3 + 3 + 3 = 9. This can also be found by multiplying, three by three, i.e. 3 × 3.Thus, the required number of bats in the group is 9.Practice ProblemsQ1. How many brinjals are there, if the number of groups of brinjals is 144 and there are 8 brinjals in each one?Answer: 1152Q2. How many groups of two apples each can be made using 166 apples?Answer: 83Q3. How many groups can be made of 240 carrots, if there should be 12 carrots in a group?Answer: 20Class 2 Maths Multiplication WorksheetsBelow given is the worksheet maths for class 2, which helps the students to evaluate their learning of the multiplication facts.(a) 7×11 (Ans: 77)(b) 7×2 (Ans: 14)(c) 8×9 (Ans: 72)(d) 9×5 (Ans: 45)(e) 7×10 (Ans: 70)(f) 6×12 (Ans: 72)(g) 10×30 (Ans: 300)(h) 4×11 (Ans: 44)(i) 2×25 (Ans: 50)(j) 3×15 (Ans: 45)SummaryIn this article, we learned about multiplication facts and some basic facts that are needed for multiplying two numbers such as the repeated addition method where we make groups of the given number and then add them to get the fact. We also learned about how to write and learn multiplication facts. Some unsolved maths sheets for class 2 are also given. Worksheet maths for class 2 serves as a useful tool in evaluating the progress of students. $8 + 8 = ?$ $8 + 8 + 8 + 8 = ?$ $8 + 8 + 8 + 8 + 8 + 8 + 8 = ?$ Don’t you think it’s too tedious to add 8 so many times. There is an easy and better way to do this. Multiplication is one of the four basic arithmetic operations, alongside addition, subtraction, and division. In math, multiply means the repeated addition of groups of equal sizes. To understand better, let us take a multiplication example of the ice creams. Each group has ice creams, and there are two such groups. Total ice creams are $3 + 3 = 6$. However, you have added two groups of 3 ice creams. Therefore, you have multiplied three ice creams by two. You may also write it as $2 \times 3 = 6$. As we can see, $3 + 3$ is the same as 2×3.When we multiply two numbers, the answer is called product. The number of objects in each group is called multiplicand, and the number of such equal groups is called the multiplier. In our case, 3 is the multiplicand, 2 is the multiplier and 6 is the product. There are many ways to read an equation that involves multiplication. For example, $2 \times 3 = 6$. It can be read as follows: Two multiplied by three is six. Two times three is six. Two threes are six. Multiplication is represented by the signs cross (×), asterisk (*), or dot (·). While writing in your notebooks, you are most likely to use the cross. The asterisk and dot are used in computer languages and algebra (higher mathematics). For example: $6 \times 5 = 30$ $7 * 8 = 56$ $5 · 4 = 20$ More Worksheets In order to multiply the integers, we need to see the sign of the integers. Multiply two positive integers The product of the two positive integers is always a positive integer. For example: $5 \times 6 = 30$ Multiply one positive and one negative integer For example: $(-$ $5) \times 6 = (-$ $30)$ Multiply two negative integers The product of two negative integers is always a positive integer. For example: $(-$ $5) \times (-$ $6) = 30$ In order to multiply the fractions, the numerators and denominators are multiplied together such that: $\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$ For example: Multiply $\frac{1}{2}$ and $\frac{3}{4}$. $\frac{1}{2} \times {3}{4} = \frac{1 \times 3}{2 \times 4} = 38$ Multiplying the decimals is the same as multiplying the integers. For example: Multiply 13.2 and 3.5. Let us multiply 13.2 and 3.5 by removing the decimals here and consider them whole numbers. Hence, $132 \times 35 = 4620$ We put the decimal point back, then the product of the two decimal numbers will have decimal up to two positions from right to left, such that $13.2 \times 3.5 = 46.20$ In math, powers define a base raised to the exponent. For example: $3^2, {-5)}^4$. When the base is the same but power is different Let the two expressions be x^m and x^n. Here, the base is “x”. When the terms with the same base are multiplied, the powers gets added, i.e., $x^m $x^n = x^{(m + n)}$ For example: 3^2 $3^5=3^{2+5} = 3^7$ When the base is different but the exponent is the same Let the two expressions be x^m and y^m. Here, the power is “m”. When the terms with the same exponents are multiplied, the bases are multiplied first and then we apply the exponent, i.e., $x^my^m = (xy)^m$ For example: $3^24^2=(3 \times 4)^2=12^2 = 144$ When the bases and powers are different Let the two expressions be xn and ym. Here, the bases are x and y. The powers are n and m. When we multiply these expressions, each expression is evaluated separately and then multiplied. It can be written mathematically as $x^ny^m = (x)^n(y)^m$ For example: $3^2 \times 4^3=9 \times 64 = 576$ Just like addition, multiplication also follows specific properties, which are as follows: Commutative Property: This property states that when we multiply two numbers, the order will not cause any change in the product. Let us consider $2 \times 3 = 6$, for example. If we reverse the order, i.e., compute 3×2, the answer will still be 6. Associative Property: This property states that if we multiply three numbers or more, one after the other, the order does not matter. For example: if we have to $2, 3$ and 4: $(2 \times 3) \times 4 = 24$ $2 \times (3 \times 4) = 24$ If you jumble the order and multiply, the result will still not change. $3 \times (2 \times 4) = 24$ Distributive Property: This property states that if you multiply a number by the sum of two numbers, the result will be equal to the sum of products you obtain by multiplying that number by those two numbers individually. For example, 3×8. You can write 8 as $6 + 2$. Therefore $3 \times 8 = 3 \times (6 + 2) = 24$ Now, $3 \times 6 = 18$. Also, $3 \times 2 = 6$. $18 + 6 = 24 = 3 × 8$. Therefore, distributive property holds true. Here are some tips that will come in handy while multiplying: Memorizing tables: Multiplication is all a game of tables. So, if you have tables at your fingertips, you will find little easy to multiply. Making good use of the properties: If you are thorough with the properties of multiplication, you will be able to deconstruct complex problems into simpler ones. For example: $3 \times 13 = 3 \times (10 + 3) = (3 \times 10) + (3 \times 3)$ (Distributive property) This also helps in deriving new facts from the known facts. For example : If you know $2 \times 9 $ is 18, using the commutative property of multiplication, you also know that 9×2 is also 18. If you know 2×10 is 20 and $2 \times 4 $ is $ 8$, using the distributive property of multiplication, you also know that 2×14 is $ 28$. If you multiply any number by 1, the answer will be the number itself. One is called the identity element under multiplication. If you multiply any number by zero, the result is always zero. Multiplication is not just an arithmetic tool. It is a life skill that students must master at a very early age to solve real life problems. We hope this helped you deepen your understanding of the subject.To read more such informative articles on other concepts, do visit our website. We, at Splashlearn, are on a mission to make learning fun and interactive for all students. Multiply 4×2 using a number line. $4 × 2$ means 4 jumps of 2 or 2 jumps of 4 which is 8 in both cases. Compute the problem: 2×16. $2 \times 16 = 2 \times (10 + 6) = (2 \times 10) + (2 \times 6) = 20 + 12 = 32$. $3 \times 25 = 25 \times 3$. Which property is this? The property given above is the commutative property of multiplication i.e. $a \times b = b \times a$. IV. What should we multiply to $(-$ $24)$ to get the product as 48? Let the number be x. $(-$ $24) \times 5 = 48$ $x = -$ 2 V. Multiply $\frac{2}{5}$ and $\frac{15}{8}$. $\frac{2}{5} \times \frac{15}{8} = \frac{3}{4}$ Attend this Quiz & Test your knowledge.Correct answer is: 12Each group has 4 flowers. There are 3 groups in total. Therefore, the total number of flowers = $3 × 4 = 12$.Correct answer is: 144$16 × 9 = (10 + 6) × 9 = (10 × 9) + (6 × 9) = 90 + 54 = 144$Correct answer is: 10You have 5 friends. Each friend gives you 2 apples. Therefore, total apples you get $= 5 × 2 = 10$.Correct answer is: 480Number of flowers in each plant $= 4$ Number of plants in a row $= 8$ Number of rows $= 15$ Total number of flowers $= 4 × 8 × 15 = 480$Correct answer is: $-30x^3y^4$$3x^2y x- 10xy^3 =- 30x^3y^4$ What should be multiplied with a number to get the same number? should be multiplied with a number to get the number itself. For example – $10 × 1 = 10$ What is the purpose of multiplication? Multiplication helps us find the total number of items quickly. For this we will think about the number of equal sized groups and the number of items in each group. What are the numbers in multiplication called? The numbers to be multiplied are generally called the “factors”. The number to be multiplied is the “multiplicand”, and the number by which it is multiplied is the “multiplier”. Welcome to the multiplication facts worksheets page at Math-Drills.com! On this page, you will find Multiplication worksheets for practicing multiplication facts at various levels and in a variety of formats. This is our most popular page due to the wide variety of worksheets for multiplication available. Or it could be that learning multiplication facts and multiplication strategies are essential to many topics in mathematics beyond third grade math. Learning multiplication facts to the point of quick recall should be a goal for all students and will serve them well in their math studies. Multiplication facts are actually easier to learn than you might think. First of all, it is only essential to learn the facts from 1 to 9. Somewhere along the way students can learn that anything multiplied by zero is zero. Hopefully, that is an easy one. Students also need to learn to multiply by ten as a precursor to learning how to multiply other powers of ten. After those three skills are learned, everything else is long multiplication. Multiplying by 11 is actually two-digit multiplication. Now, learning fact tables of 11 and beyond will do no harm to those students who are keen and able to learn these things quickly, and it might help them figure out how many eggs are in a gross faster than anyone else, but keep it simple for those students who struggle a bit more. Multiplication Facts Tables The multiplication tables with individual questions include a separate box for each number. In each box, the single number is multiplied by every other number with each question on one line. The tables may be used for various purposes such as introducing the multiplication tables, skip counting, as a lookup table, patterning activities, and memorizing. Multiplication Facts Tables from 1 to 12 Multiplication Facts Tables from 0 to 11 Multiplication Facts Tables from 13 to 24 The compact multiplication tables are basically lookup charts. To look up a multiplication fact, find the first factor in the column header and the second factor in the row headers; then use straight edges, your fingers or your eyes to find where the column and row intersect to get the product. These tables are better than the previous tables for finding patterns, but they can be used in similar ways. Each PDF includes a filled out table page and a blank table page. The blank tables can be used for practice or assessment. You might also make a game out of it, such as "Pin the Fact on the Table" (a play on Pin the Tail on the Donkey). Students are given a product (answer) and they pin it on an enlarged version or the table (photocopier enlargement, interactive whiteboard, overhead projector, etc.). Paper-saving versions with multiple tables per page are included. The left-handed versions of the multiplication tables recognize that students who use their left hands might block the row headings on the right-handed versions. Compact Multiplication Facts Tables from 1 to 7 Compact Multiplication Facts Tables from 1 to 9 Compact Multiplication Facts Tables from 1 to 10 Compact Multiplication Facts Tables from 1 to 12 Multiplication Facts up to the 10 Times Table Multiplying by 10 is often a lesson itself, but here we have included it with the other facts. Students usually learn how to multiply by 10 fairly quickly, so this section really is not a whole lot more difficult than the multiplication facts to 81 section. Multiplication Facts up to the 10 Times Table (No Zeros or Ones) Multiplication Facts up to the 10 Times Table (No Zeros) Multiplication Facts up to the 10 Times Table (With Zeros) Horizontally Arranged Multiplication Facts up to the 10 Times Table Some students find it easier to focus on one multiplication fact at a time. These multiplication worksheets include some repetition, of course, as there is only one thing to multiply by. Once students practice a few times, these facts will probably get stuck in their heads for life. Some of the later versions include a range of focus numbers. In those cases, each question will randomly have one of the focus numbers in question. For example, if the range is 6 to 8, the question might include a 6, 7 or 8 or more than one depending on which other factor was chosen for the second factor. Multiplying (1 to 10) by Individual Facts (100 Questions per Page) Multiplying (1 to 10) by Ranges Individual Facts (100 Questions per Page) Multiplying (1 to 10) by Individual Facts (50 Questions per Page) Multiplying (1 to 10) by Ranges of Individual Facts (50 Questions per Page) Multiplying (1 to 10) by Individual Facts (36 Questions per Page) Multiplying (1 to 10) by Ranges of Individual Facts (42 Questions per Page) Horizontally Arranged Multiplying (1 to 10) by Individual Facts (100 Questions per Page) Horizontally Arranged Multiplying (1 to 10) by Individual Facts (50 Questions per Page) Horizontally Arranged Multiplying (1 to 10) by Individual Facts (25 Questions per Page; Large Print) If a student is learning their times tables one at a time, these worksheets will help with practice and assessment along the way. Each one increases the range for the second factor. Multiplying (1 to 10) by Increasing Ranges of Individual Facts (100 Questions per Page) Multiplying (1 to 10) by Increasing Ranges of Individual Facts (50 Questions per Page) Multiplying Doubles Multiplying Doubles up to 10 x 10 Multiplication Facts up to the 12 Times Table The Holy Grail of elementary mathematics. Once you learn your twelve times table, it is smooth sailing from now on, right? Well, not exactly, but having a good mental recall of the multiplication facts up to 144 will certainly set you on the right path for future success in your math studies. Multiplication Facts up to the 12 Times Table (No Zeros or Ones) Multiplication Facts up to the 12 Times Table (No Zeros) Multiplication Facts up to the 12 Times Table (With Zeros) Horizontally Arranged Multiplication Facts up to the 11 Times Table Horizontally Arranged Multiplication Facts up to the 12 Times Table With one, two or three target numbers at a time, students are able to practice just the multiplication facts they need. Multiplying (1 to 12) by Individual Facts (100 Questions per Page) Multiplying (1 to 12) by RAnges of Individual Facts (100 Questions per Page) Multiplying (1 to 12) by Individual Facts (50 Questions per Page) Multiplying (1 to 12) by Ranges of Individual Facts (50 Questions per Page) Horizontally Arranged Multiplying (0 to 12) by Individual Facts (100 Questions per Page) Horizontally Arranged Multiplying (0 to 12) by Individual Facts (50 Questions per Page) Horizontally Arranged Multiplying (0 to 12) by Individual Facts (25 Questions per Page; Large Print) In the following multiplication worksheets, the facts are grouped into anchor groups. Multiplying (1 to 12) by Anchor Facts (Commonly Grouped Facts) Multiplying (1 to 12) by Increasing Ranges of Individual Facts (100 Questions per Page) Multiplying (1 to 12) by Increasing Ranges of Individual Facts (50 Questions per Page) On the following multiplication worksheets, the questions are in order and might be useful for students to remember their times tables or to help them with skip counting. Repetitive Multiplying of Individual Facts by (1 to 12) Multiplying Doubles Multiplying Doubles up to 12 x 12 Math Reading Kindergarten Vocabulary Spelling Spelling by Grade Grade 1 Grade 2 Grade 3 Grade 4 Grade 5 Grammar & Writing Science Science by Grade Kindergarten Grade 1 Grade 2 Grade 3 Cursive | Bookstore Multiplication is one of the basic math operations that we using in almost every aspect of our everyday living. You might notice it or you may not be too conscious about it but you are already multiplying things such as when you would buy something at the grocery or convenience store or when you would be computing your daily expenses at the end of the day. And with that, it is recommended that we master the art of multiplying numbers as early as in our childhood. This is to train our minds in multi