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FACTORS OF WHOLE NUMBERS NOT EXCEEDING 48

Subject

Mathematics

Prepared By

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Grade Level

2

Overview

This lesson plan covers teaching content for;

1. Factors of Whole numbers not exceeding 48.

Objectives

Students should be able to;

1. Find factors of whole numbers not exceeding 48

Activity Starter/Instruction

1. Write the word "factor" on the board and ask students to discuss what the word means.
2. Tell the students when you multiply the factors of a number together, you get that number. For example, if you multiply 2×3 , you get 6. This means that the numbers 2 and 3 are factors of the number 6.
3. Write the definition of "factor" on the board (a whole number that divides exactly into another number). Explain to students that today they will learn an important related to multiplication called factor using factor rainbow.

Teacher Practice

Lesson 1-20 Mins

1. Tell students it can be easy to miss a factor if we just list them from memory. Explain that, "One way to ensure that we have listed all the factors of a number is by finding factor pairs: a set of two numbers that, when multiplied together, result in a given product."
2. Tell students that we can use factor rainbows as a way to list factor pairs and find all the factors of a number, in order from least to greatest.
3. Make a rainbow with the factors of 18.
4. Draw an arch with 1 at the end of the arch and 18 at the other end leaving room for other factors inside the first arch.
5. Explain that one and the number itself are always factors of the given number.
6. Ask the students "what other two numbers can be multiplied to get the product of 18?"
7. Tell students that it is helpful to try dividing

Materials Required

- Multiplication chart
- Chart containing divisions not exceeding 48
- White board and marker
- Diagram of a rainbow
- Student workbook

Additional Resources

- <https://www.education.com/lesson-plan/el-s>
- <https://www.education.com/lesson-plan/fact>
- <https://nzmaths.co.nz/resource/multiples-anc>
- <https://www.facebook.com/share.php?u=http%3Fplan%2Fsupport-lesson-the-factor-tree-strat>

Additional Notes

Assessment Activity

1. Instruct students to use the rainbow factor strategy to find all the factors of the number 32.

Guided Practice

Lesson 1-15 Mins

1. Model rainbow factorization with another number such as 36 or 28.
2. Place students in partnerships and give them scratch paper or their math journals. Have them try the rainbow factor strategy with simple numbers such as 10, 15, or 18.
3. Guide students to always find other two numbers that can be multiply to get the number.
4. Also, students might find the division approach more easily. Therefore, explain that both operations are inverse
5. Tell students that when finding your factors, if you repeat a factor such as (3×6) and (6×3) -cross it out, you are done. If you get doubles such as (4×4) -you are done i.e. repeats or doubles let you know you are done.

the product by small numbers such as 2, 3, 4, 5, 7, 8, and 9 to see if they are factors. Since multiplication and division are inverse operations, we can use both operations to help us find the factors.

8. In this case, $2 \times 9 = 18$ and $3 \times 6 = 18$ so write 2, 9, 3, and 6 at each end of the arch.
9. We can also think of it as $18 \div 2 = 9$ and $18 \div 3 = 6$.
10. Now, we know there is no other factor of 18 because 4 and 5 did not work. This means that the factors of 18 are 1, 2, 3, 6, 9, and 18.

Summary

When we can break down a number into smaller pieces, we are able to work with larger numbers more easily.
