Multiplication and division facts - within two times table

National Curriculum attainment targets

- Recall and use multiplication and division facts for the 2 multiplication table
- Calculate mathematical statements for division within the multiplication tables and write them using the division (+) and equals (=) signs

Previous related lessons

Unit 3, Week 1, Lessons 2–4; Unit 3, Week 2, Lessons 2–4; Unit 4, Week 1, Lessons 2–4; Unit 6, Week 1, Lesson 2

Prerequisites for learning

Pupils need to:

- be familiar with using a number line
- know how to share equally
- begin to recognise that multiplication and division are related (inverse operations)

Vocabulary

zero, nought, two, four, six ... twenty-four, twos, lots of, groups of, sets of, share equally, divide, division, divided by

Recall and use multiplication and division facts for the two times table

Future related lessons

Unit 6, Week 2, Lessons 2–4; Unit 8, Week 1, Lessons 2–4; Unit 10, Week 1, Lessons 2 & 4; Unit 10, Week 2, Lessons 2–4; Unit 12, Week 1, Lessons 2–4

Lesson objective

Success criteria

Pupils can:

- recognise and use the division (÷) and equals (=) signs correctly
- understand the relationship between multiplication and division, applying their knowledge of the two times table to division



Connect Year 2, Unit 6,

Week 1

Getting Started

- Choose an activity from Number Multiplication and division.
- Choose an activity from Fluency in Number Facts: Y1/Y2 Multiplication and division.



Resources

bill.

6 counters (per class)

- Write the division sign (÷) on the board and ask: Can you tell us what this sign means?
- Ask children for their suggestions then say: This is the division sign. When we divide a set of objects we share it equally. Division is the way in which a group or number is split into equal parts so that each part is the same size.
- Display: the Number Line tool showing the numbers 0–30. Say: We have used a number line to help us work out multiplication facts. We can also use a number line to find division facts.
- Explain to the children that division involves dividing a number into equal groups, e.g. $6 \div 2$, and can also be thought of as finding out how many groups there are, e.g. how many groups of two there are in six.
- Show six counters arranged in a row. Say: I am going to subtract the counters in twos to find out how many groups of two there are in six.
- Remove two counters at a time, from right to left. Say: One set of two, two sets of two, three sets of two. There are three sets of two in six. Six shared into sets of two makes three sets, so $6 \div 2 = 3$.
- Write the division problem 6 ÷ 2 on the board and say: Let's check this on the number line. Six divided by two or how many groups of two are there in six?
- Set up the frog to start on 6 on the number line. Say: The frog is going to make jumps of two back along the number line until it reaches zero.
- Count: One, two, three... and show the jumps from six to zero.
- Ask: How many jumps of two did the frog make? (three) Say: So six divided by two is three.

- Complete the calculation: $6 \div 2 = 3$.
- Now write the fact 8 ÷ 2 on the board and say: Eight divided by two. I want to find the answer to this division problem using the number line.
- Reset the number line and set up the frog to start on 8.
- Ask: How many jumps of two do you think it will take to get to zero?
- Choose individual children to answer and then show the four jumps back from eight to zero.
- Ask: How many jumps of two did the frog make? (4) Say: So eight divided by two is four.
- Complete the calculation: $8 \div 2 = 4$.
- Write 10 ÷ 2 on the board and ask: Can you find the answer to the division problem, ten divided by two, using the number line? Work with your partner.
- Children work in pairs to find the answer (5). Demonstrate this using the number line.
- Continue in the same way up to $24 \div 2$, displaying all division facts from $2 \div 2 = 1$ up to $24 \div 2 = 12$.

Individualised Learning

Refer to Activity 3 from the Learning activities on page 261.

Activity Book 2B: – Page 16: Bird nest division Progress Guide 2: – Extension, Year 2, Unit 6, Week 1, Lesson 3: Number line sharing Resources: scissors and glue (per child)

Plenary

- Write $8 \div 2 = 4$ and $4 \times 2 = 8$ on the board and ask: What do you notice about these two facts?
- Encourage children to suggest that both of these division and multiplication facts use the same numbers.
- Say: Division and multiplication are related and both involve equal groups. In these two related facts the numbers used are the same but in a different order.
- Demonstrate this by choosing eight children to come to the front of the class. Arrange the children in four groups of two and ask: **Can you tell me the multiplication fact that shows this situation?**
- Children suggest 4 × 2 = 8. Say: Four groups, each with two children, makes two, four, six, eight eight children altogether. Four times two equals eight.
- Now ask children to stand in a row, and say: Eight children shared into two equal groups.
- Share the children, one at a time, into two equal groups of four. Ask: Can you tell me the division fact that shows this situation?
- Children suggest the fact 8 ÷ 2 = 4. Write this fact on the board and say: **Eight children shared** equally between two groups makes four children in each group eight divided by two is four.
- Arrange the children in a row once more and ask: Have we added any children to the eight we started with? (no) Have we taken any away so that we have fewer than eight? (no)
- Demonstrate this using the two facts. For example, look at $4 \times 2 = 8$, then rearrange this fact, replacing the \times symbol with the \div symbol so that the calculation now appears as $8 \div 2 = 4$.
- Repeat this in the same way, using other related facts within the two times table.

Homework Guide 2

Year 2, Unit 6, Week 1, Lesson 3: Multiply and divide by 2

