Division

Lesson plan and teacher's notes · Grade 2 Mathematics · 2 periods of 40 minutes

School	(write school name)	**Teacher**	(write name)
Date	(date)	**Class**	Grade 2
Subject	Mathematics	**Enrolment**	Boys ___ Girls ___ Total ___
Time	80 minutes	**Topic**	Division

Learners with visual impairment learn division as equal sharing and repeated subtraction with beans, bottle tops and sticks, feel the division symbol on a raised card, divide small numbers without remainders, and link division to multiplication. Two periods of 40 minutes.

Specific outcomes

By the end of the lesson, learners should be able to:

1. Show division as equal sharing and repeated subtraction
2. Write and read division sentences
3. Divide single-digit numbers and small two-digit numbers without a remainder
4. Relate division to multiplication

Prior knowledge

- Learners can count objects by touch
- Learners know multiplication as groups of equal size
- Learners can subtract small numbers

Teaching and learning materials

- Beans, bottle tops, counters and sticks
- Containers or cups
- Raised tactile cards with the division and multiplication symbols
- Braille number cards
- Chalk and board

References

Ministry of Education (CDC) Grade 2 Mathematics syllabus and module; 25Schools learners' note: Division.

Lesson development

Stage and time	Teacher activities	Learner activities
Equal sharing and repeated subtraction 25 min	Place 12 beans on the table and let learners share them equally among 3 containers, feeling and counting each bean. Then start with 12 beans and keep removing groups of 3 until none are left, with learners counting each step aloud. Introduce the division symbol on a raised tactile card. Give each learner 8 counters to share among 2 containers, and 10 sticks to subtract in groups of 2, linking to 10 divided by 2 is 5. Learners match division sentences to objects with Braille cards.	Share and count, subtract groups aloud and match sentences to objects.
Story problems and sentences 15 min	Give the story: you have 15 sweets and share them equally among 5 friends. Learners solve with beans and state 15 divided by 5 is 3. Learners start with 12 counters and subtract groups of 4, recording the steps orally or in Braille. Let them feel and write sentences such as 6 divided by 2 is 3. Reinforce that division is sharing equally and taking away repeatedly.	Solve with objects, record the steps and state the sentence.
Division and multiplication 25 min	Make 4 groups of 6 beans, count 24, and say 4 times 6 is 24. Share the 24 beans into 4 groups to find 6 in each: 24 divided by 4 is 6. Share them into 6 groups to find 4 in each: 24 divided by 6 is 4. Show tactile cards for the multiplication and division symbols so learners feel the difference. Learners build 3 groups of 5 to get 15, then divide 15 into 3 groups. They divide 20 beans into 4 groups and link 20 divided by 4 is 5 with 4 times 5 is 20.	Build groups, share them out and link each division sentence to a multiplication sentence.
Close 15 min	Learners work in pairs to give an oral story, solve it with objects and state the division and multiplication sentences. Encourage oral counting and group work for peer support. Close by asking: what are the two ways of thinking about division. Always connect the actions to the division symbol.	Tell stories, solve them and state both sentences.

Teacher's content notes

Read these before the lesson. They are what you need to know, not what to copy onto the board.

Meaning

Division means sharing things equally. It teaches fairness. It can be shown by equal sharing and by repeated subtraction.

Division sentences

Use the division sign to write sentences such as 10 divided by 2 is 5. Let learners feel the sign on a raised card.

Link to multiplication

If 4 times 6 is 24 then 24 divided by 4 is 6 and 24 divided by 6 is 4. Build the groups first, then share them back.

Questions to ask during the lesson

Question	Expected answer
The teacher puts 12 beans on the table and asks a learner to share them equally among 3 containers. (a) How many go in each. (b) What do we call this way of dividing. (c) What is the sentence.	(a) 4. (b) Equal sharing. (c) 12 divided by 3 is 4.
A learner has 10 sticks and takes away groups of 2 until none remain. (a) How many groups does he take away. (b) What do we call this way. (c) What is the sentence.	(a) 5. (b) Repeated subtraction. (c) 10 divided by 2 is 5.
The teacher builds 4 groups of 6 beans and then shares 24 beans into 6 groups. (a) What is 4 times 6. (b) What is 24 divided by 6. (c) How are they linked.	(a) 24. (b) 4. (c) Division undoes multiplication.

Worked examples for the board

15 sweets among 5 friends

Step 1: Put 15 beans on the table. Step 2: Share them one at a time among 5 containers. Step 3: Count each container: 3. Step 4: Write 15 divided by 5 is 3.

Linking 4 times 6

Step 1: Make 4 groups of 6 and count 24. Step 2: Write 4 times 6 is 24. Step 3: Share 24 into 4 groups to get 6 each. Step 4: Write 24 divided by 4 is 6.

Board plan

Write the title Division. Write 12 beans shared among 3 containers gives 4 each. Write 4 times 6 is 24, 24 divided by 4 is 6, 24 divided by 6 is 4.

Action	Sentence	Answer
Share 12 beans among 3 containers	12 divided by 3	4
Take away groups of 2 from 10 sticks	10 divided by 2	5
Share 24 beans into 4 groups	24 divided by 4	6

The finished board

Mistakes to expect

Learners often think	Put it right
Division means making numbers smaller by taking one away.	Share objects into equal groups and count each group to show what division means.
Any sharing is division, even when the groups are unequal.	Let learners feel and count each group to check that all the groups are the same.
Division and multiplication are not related.	Build 4 groups of 6 to get 24 and then share the 24 back into 4 groups.

Differentiation

Learners who struggle

Use small numbers such as 6 beans among 2 cups. Let learners place the beans one at a time into the cups and count.

Learners who finish early

Ask learners to make their own sharing story with 20 beans and give both the division sentence and the multiplication sentence.

Hearing or visual impairment

For learners with a visual impairment, use raised symbols, Braille number cards and objects that can be counted by touch. Allow time and let them explain orally.

No projector, no printing

Use stones, seeds and bottle tops for objects and old tins or cups for containers. Cut the symbols from cardboard with glued string to make them raised.

If time is short

Keep equal sharing, repeated subtraction and the link to multiplication. Move the pair stories to the next lesson.

Evaluation

Question or task	A correct answer shows
The teacher gives Mulenga 15 sweets and asks him to share them equally among 5 friends. (a) How many does each friend get. (b) What is the division sentence. (c) What multiplication sentence goes with it.	(a) 3. (b) 15 divided by 5 is 3. (c) 5 times 3 is 15.
Chanda has 12 counters and subtracts groups of 4 until none are left. Her teacher listens. (a) How many groups does she take away. (b) What is the division sentence. (c) What is the multiplication sentence.	(a) 3. (b) 12 divided by 4 is 3. (c) 3 times 4 is 12.

Homework

Bupe has 20 beans and her mother asks her to share them equally among 4 bowls. (a) How many beans go in each bowl. (b) Write the division sentence. (c) Write the multiplication sentence that checks it.

Extra practice with answers

Question	Answer
1. A teacher gives Njavwa 8 counters to share equally between 2 containers. She feels each container. (a) How many in each. (b) What is the division sentence. (c) What is 2 times 4.	(a) 4. (b) 8 divided by 2 is 4. (c) 8.
2. Mwamba builds 3 groups of 5 beans and then shares the 15 beans back into 3 groups. (a) What is 3 times 5. (b) What is 15 divided by 3. (c) How many in each group.	(a) 15. (b) 5. (c) 5.
3. A group shares 20 beans into 4 groups and finds the number in each group. (a) How many in each group. (b) What is the division sentence. (c) What is the multiplication sentence.	(a) 5. (b) 20 divided by 4 is 5. (c) 4 times 5 is 20.
4. A learner has 6 beans and takes away 2 at a time until none are left. (a) How many times does she take away. (b) What is the division sentence. (c) Is this sharing or repeated subtraction.	(a) 3. (b) 6 divided by 2 is 3. (c) Repeated subtraction.

Answers to the learners' check-yourself questions

1. What does division mean.
   Sharing things equally.
2. What is 10 divided by 2.
   5.
3. If 4 times 6 is 24, what is 24 divided by 4.
   6.
4. What is 6 divided by 2.
   3.
5. Mulenga has 15 sweets to share equally among 5 friends. His teacher asks him to find how many each friend gets. (a) What is the division sentence. (b) How many does each friend get. (c) What would we do to check using multiplication.
   (a) 15 divided by 5. (b) 3. (c) Multiply 5 times 3 to get 15.
6. Chanda has 12 counters and takes away groups of 4 until none are left. Her friend counts the steps. (a) How many groups of 4 does she take away. (b) What is the division sentence. (c) Which multiplication sentence goes with it.
   (a) 3. (b) 12 divided by 4 is 3. (c) 3 times 4 is 12.

Teacher's reflection

What went well:

What I will change next time:

Learners who need follow-up: