

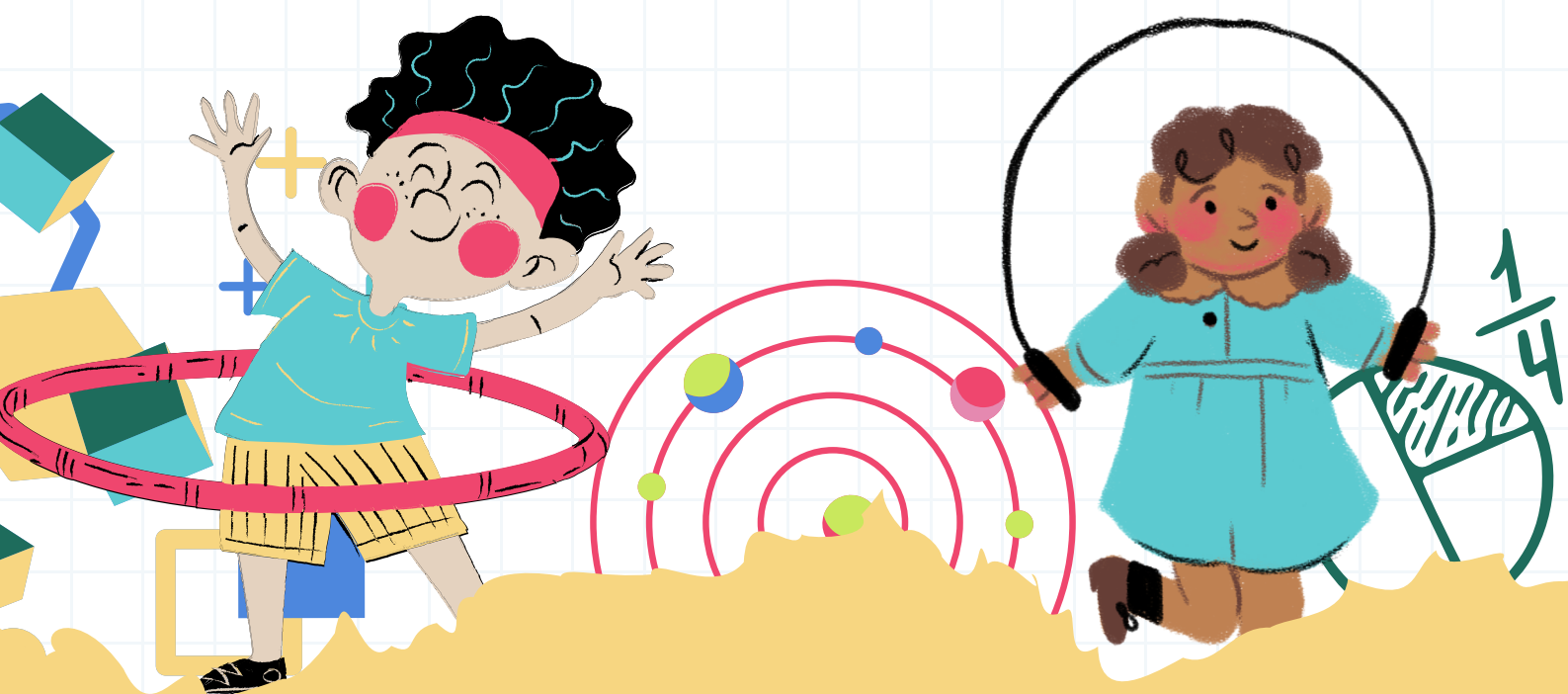


MATH&MOVE

LESSON

USING MOVEMENT TO

form numbers with
multiplication and division!



The lesson focuses on practicing multiplication and division by asking pupils to spin the wheel to land on a number and apply the appropriate math operation to demonstrate how they can form that number.



At the end of this lesson, pupils should be able to:

- Have improved their multiplication and division skills
- Have improved the speed of their thinking
- Identify which math calculation can be used for which end result

TOPIC: Multiplication and division

DURATION: 20 - 30 mins

LEVEL: Ages 8-9

PARTICIPANTS: 20 - 25 pupils, divided into 3 groups

LESSON PREPARATION

Required skills

For this lesson, pupils should already:

- Know the multiplication tables
- Be able to divide numbers that end in 0 or 5
- Know what a unit or a set of ten means
- Form numbers with the decimal base system (referring to everyday objects to signify numbers such as candies or rolls) i.e. $13 = 1T + 3U$ or $1 / (\text{roll})$ and $3 \dots (\text{candies})$

Required materials and set up

1 A spinning wheel with a pointer

- Follow this YouTube link for guidelines on making your own "[Spinning Wheel](#)". There is also a simpler, old-fashioned DIY way to make a spinning wheel: just cut a circle-shaped piece of paper or cardboard, pierce its centre with a pencil, laminate and spin it. In this option, you'll need as many wheels as the pupils' groups as it's quite small in size.
- Divide the face of the wheel into 10 or 12 colourful triangles of equal shape to look like a pie.

Required materials and set up

2 Cards with numbers for the spinning wheel (one-digit, two-digit or three-digit)

- Cut cardboard into squares (10 or 12 depending on the wheel triangles), write random numbers on them (prioritise numbers that end in 5 or 0 if pupils struggle with division) and stick them on the wheel, one on each triangle.

3 Cards with symbols of the 2 operations (x and ÷)

- 2 or 3 cards of each symbol would suffice as each pupil returns the card back to the teacher when he/she has finished
- To make them follow the same procedure in the prior step

4 Cards with numbers to be used for the multiplication/division operations

- Place these cards in a pile in your learning area, so pupils will have to 'dig' through the pile to find the numbers they're looking for. If you choose to work with results that end in 0 or 5, you will need 20 number cards for your operations (from 5 to 100, if you would like for 100 to be the largest number).

LESSON INSTRUCTIONS

1

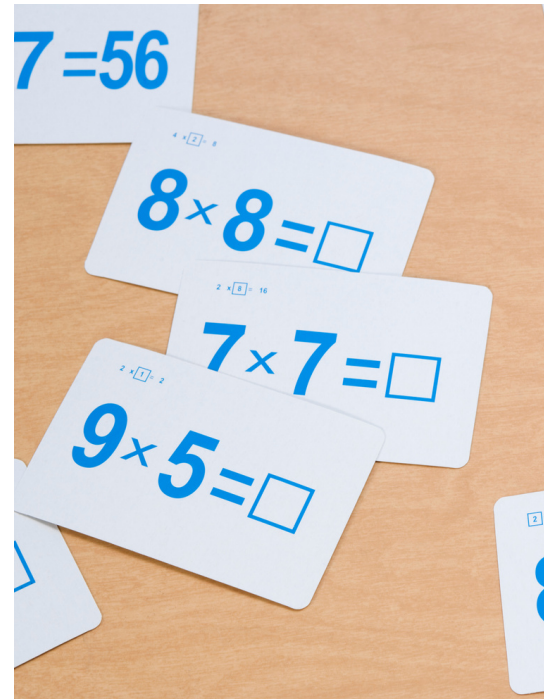
- Once you've prepared all the needed material, revise with your pupils the concept of using different mathematical operations to get the same result, ie. "To make 20, you can multiply 10×2 or 5×4 , and you can divide $100 \div 5$, or $40 \div 2$, etc."
- After this introduction to the lesson's concept, divide the class in groups of 3 and explain that they will take turns spinning the wheel and choosing an operation (x or ÷) and 2 number cards from the pile to make the number shown by the pointer.



2

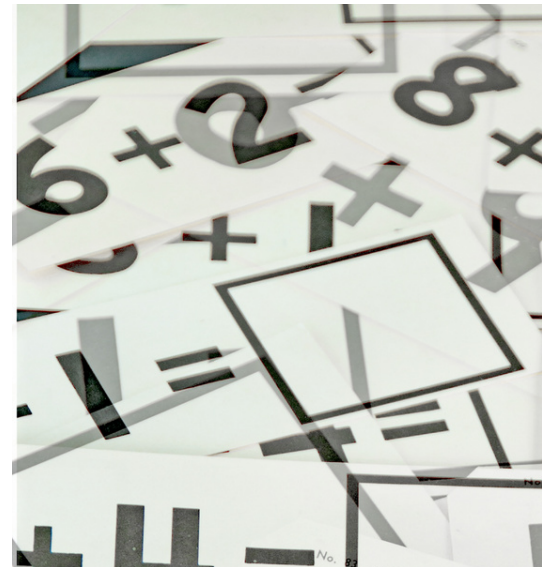
2

- Beginning with the first group, have a pupil spin the wheel. They read aloud the number indicated by the pointer (i.e. 15) and decide whether to use multiplication or division to get that result.
- The pupil chooses the correct symbol card and looks for the 2 numbers they need to make their operation from the pile of number cards.



3

- Have the rest of the group members take turns spinning the wheel, performing an operation and placing their mathematical operations in the learning area, one below another.
- The game continues until all pupils have had their turn.



CONCLUSION



The class has a discussion regarding which number on the wheel was the most difficult to pair with an operation and whether pupils enjoyed this playful way of learning.

TO GO FURTHER



If pupils are confident enough after the end of the activity the teacher can ask them to find a way to construct the result using both operations.

RECOMMENDATIONS FOR INCLUSION

How to adapt this lesson to younger pupils

To make the lesson suitable for learners aged 6-7 years old, you can replace multiplication and division with addition and subtraction. The cards on the wheel can be two-digit numbers from 10 – 20. Once pupils calculate the number using either addition or subtraction, they can show their thinking by using a 20-number line set on the floor to step to their result.

Accommodations for pupils with specific learning disorders

Incorporate props to help children visualise the arithmetic operations by keeping multiplication and division tables in the learning area for pupils to refer to.

In addition, keeping the results as numbers that end in 0 or 5 can simplify the task of multiplying and dividing.

BIBLIOGRAPHY

Voyager Sopris Learning. “How to Teach Multiplication & Division to Students Struggling with Math,” 2022. <http://www.voyagersopris.com/vsl/blog/how-to-teach-multiplication-division-to-students-struggling-with-math>.