

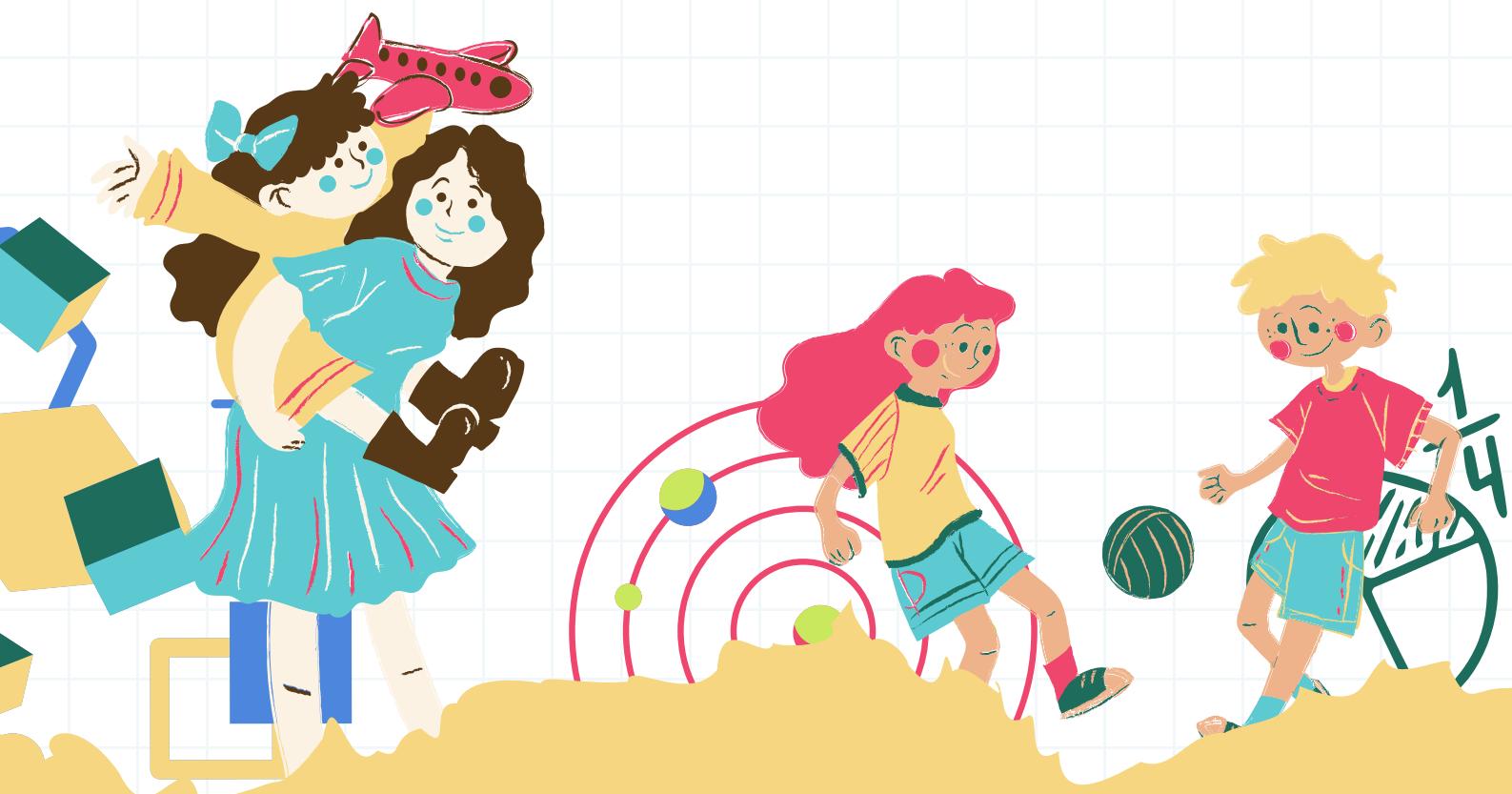


MATH&MOVE

LESSON

USING MOVEMENT TO

identify the different parts of
a whole!



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This lesson focuses on introducing pupils to a visual representation of fractions by dividing them into groups and instructing members of the performing group to complete different movements, so that the rest of the class can identify how many pupils out of the entire group are doing which movements.

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



- Understand the relationship between the whole (denominator) and the parts of the whole (numerator)
- Grasp how fractions are written and how they can be visually presented
- Write and manipulate their own fraction numbers

TOPIC: Fractions

DURATION: 15 - 30 mins

LEVEL: Ages 6-7

PARTICIPANTS: groups of 4-10 pupils



LESSON

LESSON PREPARATION

Required skills

For this lesson, pupils should already know how to:

- Count up to 10
- Recognise the relationship between smaller and bigger numbers

Required materials and set up

1 1 completely clear play area of at least 20-30 m²

- In order to ensure that children have enough space to carry out all of the movements, the play area needs to be large enough to guarantee they don't bump into or trip over each other.

2 1 upbeat dance song for the performing group to start moving together

- You can use the popular "Follow the leader" melody to activate pupils to move together connected like a train, until you suddenly pause the music.

Required materials and set up

3 Action cards containing the movements members of the 'performing' group need to do: stomp your feet, bounce an imaginary ball, wave both hands, sneeze without stopping, hug your body like you're freezing, climb a mountain, etc.

- It's important that you make 5 duplicates of each action card to ensure that more than 1 pupil will be doing an exercise. Place the action cards inside a box/hat for children to draw from at the beginning of the exercise.

Stomp your feet

Bounce a ball

Wave both hands

Sneeze without stopping

Climb a mountain

Since this lesson requires whole-body movements, warm up the pupils beforehand by instructing them to: make circles with their arms, walk in place 1 minute, rotate their wrists and ankles, reach for the sky and then touch the ground, etc.

LESSON INSTRUCTIONS



- Once you've set up the play area for pupils, explain to them that you will be dancing and doing movements in class to identify the different parts of a whole. Explain what a 'whole' could be: all students in a class, an entire apple, a whole classroom, etc.
- Ask for volunteers (4-10) who would like to draw movements from a hat/box to later show to the class as a group. Have the volunteers pick their movements by taking an action card and keep the movement a secret!



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- Once all the members of the ‘performing’ group have picked an action card, begin the activities by asking all of them to do the same movement – holding onto the shoulders of one another and moving along like a train to the beat of an energetic song.
- Stop the song after 20-30 seconds, and then instruct the group to show their movement!



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- The rest of the class watching the different movements now has to answer the teacher’s questions to determine the different parts of the whole. Ask the pupils first: “How many children are performing movements?” and write down their answer on a board
 - For example: 8 pupils – which would represent the ‘whole’
- Then ask the class to identify which movements they can see and write those down one under the other
 - For example: Stomping feet, Reaching to the sky, Bouncing a ball, etc.
- Finally, ask the pupils how many of the 8 pupils are doing which activity and write that down on the board
 - For example: Stomping feet -> 4 out of 8 pupils, Bouncing a ball -> 1 out of 8 pupils.

CONCLUSION



Once you’ve written down how many children are doing which activities, make an overview with the class, such as “4 children are stomping their feet, 1 girl is bouncing a ball and 3 children are reaching to the sky”. Explain that together, they make up a whole group of 8 children.

TO GO FURTHER



You can begin the exercise with smaller groups and then increase in size for the subsequent rounds.

You can also play with the notion of manipulating fractions by asking questions such as: “Which number do I put on the board if I want ALL of the children to be stomping their feet?” or “Which number do I put here if I want half of the children to be stretching to the sky?” (ie. how many out of 8, if 8 is the group size).

RECOMMENDATIONS FOR INCLUSION

How to adapt this lesson to older pupils

This activity can be adapted to pupils aged 8-9 years by showing them both a visual representation of a fraction and a fraction number, with a numerator and denominator. For example: present pupils with the image of half of a pie and then ask them which fraction goes with the visual $\frac{1}{2}$ or $\frac{1}{4}$.

Each answer is paired with an action card, so for whichever answer they choose, they need to do the movement – if they pick $\frac{1}{2}$, they stomp their feet, and if they pick $\frac{1}{4}$, they clap their hands.

Accommodations for pupils with specific learning disorders

- Children with learning disorders have difficulties remembering sequences, so instead of adding choreography to the movements, allow pupils to express themselves freely. To avoid confusion, the movements on the action cards should be simple and familiar (like ‘waving goodbye’).
- Children with learning disorders can get overwhelmed with new tasks, so use the introductory music as a warm-up to the activity to relieve any tension.

BIBLIOGRAPHY

Dance teaching ideas. “Dance Activities - Fractional Thinking,” 2022. https://danceteachingideas.com/wp-content/uploads/2022/02/DTI_FractionalThinking.pdf.

Fractions & Fitness - LEVEL: EASY for 3rd - 6th Graders, 2021. <https://www.youtube.com/watch?v=lOzoCaSPoEw>.

Repertory Dance Theatre. “Fractions, Rhythm and Movement.” Dance to learn, 2023. <https://rdtdancetolearn.org/lesson-plans/fractions-rhythm-and-movement>.