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Game of Totals

Grade K

Introduction

This activity is a fun way to develop an understanding of quantity and ways to make a total of 10. In this activity students will have an opportunity to count, add, keep track of totals, and use visuals to see the sum. They will consider what quantities they will need to reach a total of 10 and will also create a strategy for reaching a total before their partner does.

Video

Mistakes are Powerful, https://youcubed.org/weeks/week-3-grade-K/

Agenda for the activity

Activity	Time	Description	Materials
Mindset Message	5 min	Play the mindset video, ***Mistakes are Powerful,*** https://youcubed.org/weeks/week-3-grade-K/	• Mindset video day 5, ***Mistakes are Powerful***
Play Game of Totals	10 min	• Introduce the Game of Totals by playing it once with your students. Show them how to keep track of their totals on the ten frame • Invite students to play the game with a partner a few times. • With their partners discuss their strategy.	• Counters (plastic circles, pennies, beans, their own fingers, etc.) • Rules Handout • Ten Frame Hand-out
Whole class conversation	5 min	Discuss: • Who usually wins, player 1 or 2? • Is there a way a player can make sure they always win?	
Play Game of Totals with numbered fingers	10 min	Have students decide which finger will be their 1 finger, 2 finger, and 3 finger. Have students play the game again using specific fingers to move 1st, 2nd, and 3rd counters.	• Hand Handout

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Mindset Message Closure	5 min	Mistakes are Powerful: Ask students to reflect on the video they watched and of the value of struggles they went through, or mistakes they made. If they struggled or made mistakes in this lesson, point out to students that their brains have grown and new pathways have formed!	

Activity

Play the game as an example for the class once. Encourage students to use counters and the ten frame for this game. It is always good to use manipulatives and models – reinforce this message with your students. It is good for brain connections. It is valuable for students to see visuals of quantities and to practice counting quantities and moving counters with their fingers. You can also hand out the rules handout which has the numbers they can use for the game. Invite students to put counters next to the numbers so that they are constantly associating the number with its quantity.

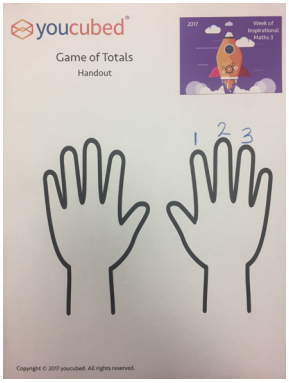
This is a game for two players. The rules are:

- The first player chooses one of the numbers 1, 2, and 3 and places that many counters on the ten frame.
- The second player chooses a number from the same set, and adds it on to the first player's number on the same ten frame.
- The players continue to take turns choosing a number from the set and adding it to the previous total.
- The player who makes it to the total of 10 wins!

Try playing the game with a friend a few times.

Have students consider and discuss as whole class:

- Who usually wins, player 1 or player 2?
- Is there a way a player can make sure they always win?



Give students the Hand Handout. Each student can decide which fingers will be the 1 counter, 2 counter, and 3 counter. Allow students to choose which fingers are 1, 2, and 3 (left or right hand). These are the fingers they will use to move the 1st counter the 2nd counter and the 3rd counter (depending on which number they choose.) Research has shown that finger perception triggers the same part of the brain that students use to do arithmetic. Studies

have shown that increased finger perception predicts higher scores on arithmetic tests. Show students how to move the counters based on their fingers and then give them an opportunity to play the game again a few times.

Ask students to reflect on the video they watched and of the value of struggles they went through, or mistakes they made. If they struggled or made mistakes in this lesson, point out to students that their brains have grown and new pathways have formed!

Extensions

- Try a different total with a different set of numbers to choose from.

Materials

- Counters (plastic circles, pennies, beans, their own fingers, etc.)
- Rules Handout
- Ten Frames Handout
- Hand Handout

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Rules Handout

This is a game for two players. The rules are:

- The first player chooses one of the numbers 1, 2, and 3 and places that many counters on the ten frame.
- The second player chooses a number from the same set, and adds it on to the first player's number on the same 10-frame.
- The players continue to take turns choosing a number from the set and adding it to the previous total.
- The player who makes it to the total of 10 wins!

Try playing the game with a friend a few times. Do player 1 and player 2 have equal chance of winning? Is there a way a player can make sure of winning?

Give students the numbers below to remind them which numbers they can choose from to reach their total. Or have students write these numbers on their own paper. They could also put counters with these numbers to remind them of the numbers and the quantity associated with each number.

1	2	3

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Ten Frames Handout

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Hand Handout