CODE: 109

Background

Imagine you are teaching a math lesson to a class of 16 second grade students. The purpose of this lesson is to examine the ways properties of operations can be used to add numbers.

You have asked the students to work with a partner to solve the problem 27 + 23 using any method that works best for them. The partners have completed their work. Now you plan to select 3 individual students to present their work to the class.

Look at the strategies below and the descriptions of the students. Then choose which three students you would like to have present.

The Problem

27 + 23

Learning Goal

Your goal is for the students to be able to understand how properties of operation can be used to add numbers.

- · You want the students to understand that two numbers can be added in any order (commutative property).
 - Example: 3 + 4 = 4 + 3
- You also want the students to understand that 3 numbers can be regrouped and added in any order (associative property).
 - \cdot Example: 9 + (1 + 7) = (9 + 1) + 7

2nd Grade Student Descriptions Mason (he/him) Angel (she/her) Adriel (he/him) Alejandro (he/him) Angel is a Black girl who Adriel is an Indigenous boy Alejandro is a Latino boy who Mason is a white boy who who speaks English as his speaks Spanish as his first speaks English as his first speaks English as her first language. He is on an IEP for language. She has no first language. He has no language. He is an EL student severe ADHD. He receives identified disabilities, and she identified disabilities, and he who speaks English at a free or reduced lunch. He has does not receive free or receives free or reduced beginner level. He has no a history of high success and reduced lunch. She has a lunch. He has a history of identified disabilities. He low participation during math history of low success and low average success and low receives free or reduced lessons. He also enjoys participation during math participation during math lunch. He has a history of low singing. lessons. She also enjoys lessons. He also loves to play success and low participation during math lessons. He also making origami. soccer. loves to play Minecraft. Strategy B Strategy A 27 + 23 I broke the 27 into 25 and 2. • First I added 20 and 20 to get 40. • Then I added the 2 and 23 to make 25. Then I added 3 more to get 43. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 2550 Jackie (she/they) Oliver (he/him) Ava (she/her) Daniela (she/her) Jackie is a white transgender Oliver is a white boy who Ava is a white girl who speaks: Daniela is a Latina girl who girl who speaks English as speaks English as his first English as her first language. speaks English as her first her first language. She has no language. He has no She has no identified language. She has no identified disabilities. She identified disabilities, and he disabilities. She receives free identified disabilities, and she receives free or reduced does not receive free or or reduced lunch. She has a does not receive free or lunch. She has a history of reduced lunch. He has a history of low success and low reduced lunch. She has a average success and low history of high success and participation during math history of average success participation during math high participation during math lessons. She also loves and low participation during gardening. lessons. She also loves lessons. He also enjoys riding math lessons. She also loves his bike. animals. to dance. Strategy C Strategy D Step 1 1. I made 27 and 23 +2 +25 with the blocks. 2. I combined the tens together. Then I combined the ones. That's 4 tens, which is 40. Plus 10 ones, 23 n 50 which is 50. • I started at 23. Step 2 Then I took 2 from the 27 to make a jump of 2. That makes 25. Then I only needed to add 25 more, so I made another jump and got 50.

CJ (they/them) Carter (he/him) Grace (she/her) Jada (she/her) Carter is a Black boy who Grace is an Asian girl who Jada is a Black girl who CJ is a gender fluid white speaks English as his first speaks English as her first speaks English as her first child who speaks English as language. She has no their first language. They have language. He has no language. She has an IEP for identified disabilities, and he dyslexia. She does not identified disabilities, and she no identified disabilities, and receives free or reduced receive free or reduced lunch. does not receive free or they do not receive free or lunch. He has a history of She has a history of low reduced lunch. She has a reduced lunch. They have a average success and little to success and average history of high success and history of high success and high participation during math average participation during no participation during math participation during math lessons. He also loves to cook lessons. She also plays lessons. She also plays on a math lessons. They also love and bake. basketball. softball team. to draw and paint. Strategy E Strategy F First, I added 7 and 3 27 to get 10. I put a zero 23 + 27 + 23 under the 7. I made it 23 + 27 because that's easier for 50 me to think about. Then I put the 1 up 23 + (2 + 25)Then I broke the 27 into 2 and 25. above the 2. Last I (23 + 2) = 25Then I combined the 2 with the 23, and I got added 1 + 2 + 2 to get Liam (he/him) Mateo (he/him) Camille (she/her) Valentina (she/her) Liam is a white boy who Mateo is a Latino boy who Camille is a white girl who Valentina is a Latina girl who speaks English as his first speaks Spanish as his first speaks French as her first speaks English as her first language. She is an EL language. He has no language. He is an EL student language. She has an IEP for identified disabilities, and he who speaks English at an student who speaks English speech impairment does not receive free or intermediate level. He has no at an advanced level. She has (stuttering). She does not identified disabilities. He receive free or reduced lunch. reduced lunch. He has a no identified disabilities, and history of average success receives free or reduced she does not receive free or She has a history of average reduced lunch. She has a success and low participation and average participation lunch. He has a history of high during math lessons. He also success and average history of high success and during math lessons. She also loves comic books. high participation during math participation during math enjoys spending time in lessons. He also likes to play lessons. She also does nature. the guitar. karate. Strategy H Strategy G 1. I made 27 and 23 with the blocks 2. I pulled 2 apart from the 27 to make 25. 3. I put the 2 with the 23 to make 25. That makes 25 27 + 23• First I added 20 and 20 to get 40. + 25 which is 50. Then I added 7 and 3 to get 10. 20 + 20 = 40• Then I added 40 and 10 to get 50. 7 + 3 = 1040 + 10 = 50