CODE: 239

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 Angel (she/her) Mateo (he/him) Daniela (she/her) Mason (he/him) Angel is a Black girl who Mateo is a Latino boy who Daniela is a Latina girl who Mason is a white boy who speaks English as her first speaks English as her first speaks Spanish as his first speaks English as his first language. She has no language. He is an EL student language. She has no language. He is on an IEP for identified disabilities, and she who speaks English at an identified disabilities, and she severe ADHD. He receives does not receive free or intermediate level. He has no does not receive free or free or reduced lunch. He has reduced lunch. She has a reduced lunch. She has a identified disabilities. He a history of high success and history of low success and low receives free or reduced history of average success low participation during math participation during math lunch. He has a history of high and low participation during lessons. He also enjoys lessons. She also enjoys success and average math lessons. She also loves singing. making origami. participation during math to dance. lessons. He also likes to play the guitar. Strategy B Strategy A • 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. 25 + 2Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Adriel (he/him) Jada (she/her) Ava (she/her) Oliver (he/him) Adriel is an Indigenous boy Jada is a Black girl who Ava is a white girl who speaks: Oliver is a white boy who who speaks English as his speaks English as her first English as her first language. speaks English as his first first language. He has no language. She has no She has no identified language. He has no identified disabilities, and he identified disabilities, and she disabilities. She receives free identified disabilities, and he receives free or reduced does not receive free or or reduced lunch. She has a does not receive free or lunch. He has a history of reduced lunch. She has a history of low success and low reduced lunch. He has a average success and low history of high success and participation during math history of high success and participation during math high participation during math lessons. She also loves high participation during math lessons. He also loves to play lessons. She also plays on a gardening. lessons. He also enjoys riding softball team. soccer. his bike. Strategy C Strategy D Step 1 1. I made 27 and 23 +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 0 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.

Valentina (she/her) CJ (they/them) Camille (she/her) Grace (she/her) Grace is an Asian girl who CJ is a gender fluid white Camille is a white girl who Valentina is a Latina girl who speaks English as her first child who speaks English as speaks French as her first speaks English as her first language. She has an IEP for their first language. They have language. She has an IEP for language. She is an EL dyslexia. She does not no identified disabilities, and student who speaks English speech impairment receive free or reduced lunch. Ithey do not receive free or at an advanced level. She has (stuttering). She does not She has a history of low reduced lunch. They have a no identified disabilities, and receive free or reduced lunch. she does not receive free or She has a history of average success and average history of high success and reduced lunch. She has a average participation during success and low participation participation during math during math lessons. She also lessons. She also plays math lessons. They also love history of high success and basketball. to draw and paint. high participation during math enjoys spending time in lessons. She also does nature. karate. Strategy F Strategy E First, I added 7 and 3 23 + 27 27 to get 10. I put a zero • I made it 23 + 27 because that's easier for + 23 under the 7. me to think about 23 + (2 + 25)50 • Then I put the 1 up Then I broke the 27 into 2 and 25. (23 + 2) = 25above the 2. Last I Then I combined the 2 with the 23, and I got added 1 + 2 + 2 to get Liam (he/him) Jackie (she/they) Carter (he/him) Alejandro (he/him) Liam is a white boy who Aleiandro is a Latino boy who Jackie is a white transgender Carter is a Black boy who girl who speaks English as speaks English as his first speaks English as his first speaks Spanish as his first her first language. She has no language. He has no language. He has no language. He is an EL student identified disabilities. She identified disabilities, and he identified disabilities, and he who speaks English at a receives free or reduced receives free or reduced does not receive free or beginner level. He has no reduced lunch. He has a identified disabilities. He lunch. She has a history of lunch. He has a history of average success and low average success and little to receives free or reduced history of average success participation during math no participation during math and average participation lunch. He has a history of low lessons. He also loves to cook during math lessons. He also success and low participation lessons. She also loves animals. and bake. loves comic books. during math lessons. He also loves to play Minecraft. Strategy H Strategy G 1. I made 27 and 23 with 1. the blocks. 27 + 23• First I added 20 and 20 to get 40. 2. I pulled 2 apart from the Then I added 7 and 3 to get 10. 20 + 20 = 4027 to make 25. • Then I added 40 and 10 to get 50. 3. I put the 2 with the 23 to 7 + 3 = 10make 25. That makes 25 + 25 which is 50. 40 + 10 = 50