CODE: 197

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 Camille (she/her) Valentina (she/her) Adriel (he/him) Jackie (she/they) Camille is a white girl who Valentina is a Latina girl who Adriel is an Indigenous boy Jackie is a white transgender speaks French as her first speaks English as her first who speaks English as his girl who speaks English as language. She is an EL language. She has an IEP for first language. He has no her first language. She has no student who speaks English speech impairment identified disabilities, and he identified disabilities. She at an advanced level. She has (stuttering). She does not receives free or reduced receives free or reduced receive free or reduced lunch. no identified disabilities, and lunch. He has a history of lunch. She has a history of she does not receive free or She has a history of average average success and low average success and low reduced lunch. She has a success and low participation participation during math participation during math history of high success and during math lessons. She also lessons. He also loves to play lessons. She also loves high participation during math soccer. enjoys spending time in animals. lessons. She also does nature. karate. Strategy A Strategy B • 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 Liam (he/him) Daniela (she/her) Ava (she/her) Angel (she/her) Liam is a white boy who Daniela is a Latina girl who Ava is a white girl who speaks Angel is a Black girl who speaks English as his first speaks English as her first English as her first language. speaks English as her first language. He has no language. She has no She has no identified language. She has no identified disabilities, and he identified disabilities, and she disabilities. She receives free identified disabilities, and she does not receive free or does not receive free or or reduced lunch. She has a does not receive free or reduced lunch. He has a reduced lunch. She has a history of low success and low reduced lunch. She has a history of average success history of average success participation during math history of low success and low and average participation and low participation during lessons. She also loves participation during math during math lessons. He also math lessons. She also loves gardening. lessons. She also enjoys loves comic books. to dance. making origami. 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.

Jada (she/her) CJ (they/them) Alejandro (he/him) Grace (she/her) Jada is a Black girl who Alejandro is a Latino boy who CJ is a gender fluid white Grace is an Asian girl who speaks English as her first speaks Spanish as his first child who speaks English as speaks English as her first language. She has no their first language. They have language. She has an IEP for language. He is an EL student identified disabilities, and she who speaks English at a no identified disabilities, and dyslexia. She does not does not receive free or beginner level. He has no they do not receive free or receive free or reduced lunch. reduced lunch. She has a identified disabilities. He reduced lunch. They have a She has a history of low history of high success and receives free or reduced history of high success and success and average lunch. He has a history of low average participation during high participation during math participation during math lessons. She also plays on a success and low participation math lessons. They also love lessons. She also plays softball team. during math lessons. He also to draw and paint. basketball. loves to play Minecraft. Strategy F Strategy E 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 • Then I put the 1 up me to think about. 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 50. Mateo (he/him) Oliver (he/him) Carter (he/him) Mason (he/him) Mateo is a Latino boy who Oliver is a white boy who Carter is a Black boy who Mason is a white boy who speaks Spanish as his first speaks English as his first speaks English as his first speaks English as his first language. He is an EL student language. He has no language. He has no language. He is on an IEP for who speaks English at an identified disabilities, and he identified disabilities, and he severe ADHD. He receives intermediate level. He has no does not receive free or receives free or reduced free or reduced lunch. He has identified disabilities. He reduced lunch. He has a lunch. He has a history of a history of high success and average success and little to low participation during math receives free or reduced history of high success and lunch. He has a history of high high participation during math no participation during math lessons. He also enjoys success and average lessons. He also enjoys riding lessons. He also loves to cook singing. participation during math his bike. and bake. lessons. He also likes to play the guitar. Strategy H Strategy G 1. 1. I made 27 and 23 with 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