CODE: 155

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 Jada (she/her) Valentina (she/her) Daniela (she/her) Oliver (he/him) Jada is a Black girl who Valentina is a Latina girl who Daniela is a Latina girl who Oliver is a white boy who speaks English as her first speaks English as her first speaks English as her first speaks English as his first language. She has no language. She has an IEP for language. She has no language. He has no identified disabilities, and she speech impairment identified disabilities, and she identified disabilities, and he does not receive free or (stuttering). She does not does not receive free or does not receive free or receive free or reduced lunch. reduced lunch. She has a reduced lunch. She has a reduced lunch. He has a history of high success and She has a history of average history of average success history of high success and high participation during math success and low participation and low participation during high participation during math lessons. She also plays on a during math lessons. She also math lessons. She also loves lessons. He also enjoys riding softball team. enjoys spending time in to dance. his bike. nature. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 25Angel (she/her) Ava (she/her) Mason (he/him) Alejandro (he/him) Angel is a Black girl who Ava is a white girl who speaks Mason is a white boy who Aleiandro is a Latino boy who speaks English as his first speaks English as her first English as her first language. speaks Spanish as his first language. She has no She has no identified language. He is on an IEP for language. He is an EL student identified disabilities, and she disabilities. She receives free severe ADHD. He receives who speaks English at a does not receive free or or reduced lunch. She has a free or reduced lunch. He has beginner level. He has no reduced lunch. She has a history of low success and low a history of high success and identified disabilities. He history of low success and low participation during math low participation during math receives free or reduced participation during math lessons. She also loves lessons. He also enjoys lunch. He has a history of low lessons. She also enjoys gardening. singing. success and low participation making origami. during math lessons. He also loves to play Minecraft. 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.

and got 50.

Then I only needed to add 25 more, so I made another jump

Adriel (he/him) Camille (she/her) Grace (she/her) Carter (he/him) Grace is an Asian girl who Adriel is an Indigenous boy Camille is a white girl who Carter is a Black boy who speaks English as her first who speaks English as his speaks French as her first speaks English as his first language. She has an IEP for first language. He has no language. She is an EL language. He has no identified disabilities, and he dyslexia. She does not student who speaks English identified disabilities, and he receive free or reduced lunch. receives free or reduced at an advanced level. She has receives free or reduced She has a history of low lunch. He has a history of no identified disabilities, and lunch. He has a history of she does not receive free or success and average average success and low average success and little to reduced lunch. She has a no participation during math participation during math participation during math lessons. She also plays lessons. He also loves to play history of high success and lessons. He also loves to cook basketball. high participation during math and bake. lessons. She also does karate. 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)above the 2. Last I Then I broke the 27 into 2 and 25. (23 + 2) = 25Then I combined the 2 with the 23, and I got added 1 + 2 + 2 to get Liam (he/him) CJ (they/them) Mateo (he/him) Jackie (she/they) CJ is a gender fluid white Liam is a white boy who Mateo is a Latino boy who Jackie is a white transgender child who speaks English as speaks English as his first girl who speaks English as speaks Spanish as his first language. He is an EL student her first language. She has no their first language. They have language. He has no identified disabilities, and he identified disabilities. She no identified disabilities, and who speaks English at an they do not receive free or does not receive free or intermediate level. He has no receives free or reduced reduced lunch. They have a reduced lunch. He has a identified disabilities. He lunch. She has a history of history of high success and receives free or reduced average success and low history of average success average participation during and average participation lunch. He has a history of high participation during math math lessons. They also love during math lessons. He also success and average lessons. She also loves to draw and paint. loves comic books. participation during math animals. 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