CODE: 136

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 Adriel (he/him) Mateo (he/him) Liam (he/him) Angel (she/her) Angel is a Black girl who Adriel is an Indigenous boy Mateo is a Latino boy who Liam 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 first language. He has no language. He is an EL student language. He has no language. She has no identified disabilities, and he who speaks English at an identified disabilities, and he identified disabilities, and she receives free or reduced intermediate level. He has no does not receive free or does not receive free or lunch. He has a history of identified disabilities. He reduced lunch. He has a reduced lunch. She has a average success and low receives free or reduced history of average success history of low success and low participation during math lunch. He has a history of high and average participation participation during math lessons. He also loves to play success and average during math lessons. He also lessons. She also enjoys soccer. participation during math loves comic books. making origami. 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 = 43 25 + 2550 Mason (he/him) Camille (she/her) Daniela (she/her) Oliver (he/him) Mason is a white boy who Camille is a white girl who Daniela is a Latina girl who Oliver is a white boy who speaks English as his first speaks French as her first speaks English as her first speaks English as his first language. He is on an IEP for language. She is an EL language. She has no language. He has no severe ADHD. He receives student who speaks English identified disabilities, and she identified disabilities, and he free or reduced lunch. He has at an advanced level. She has does not receive free or does not receive free or a history of high success and no identified disabilities, and reduced lunch. She has a reduced lunch. He has a low participation during math she does not receive free or history of average success history of high success and lessons. He also enjoys reduced lunch. She has a and low participation during high participation during math singing. history of high success and math lessons. She also loves lessons. He also enjoys riding high participation during math to dance. his bike. lessons. She also does karate. 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, 25 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.

Ava (she/her) Alejandro (he/him) CJ (they/them) Carter (he/him) Ava is a white girl who speaks Carter is a Black boy who Alejandro is a Latino boy who CJ is a gender fluid white English as her first language. speaks English as his first speaks Spanish as his first child who speaks English as language. He is an EL student their first language. They have She has no identified language. He has no disabilities. She receives free identified disabilities, and he who speaks English at a no identified disabilities, and or reduced lunch. She has a receives free or reduced beginner level. He has no they do not receive free or history of low success and low lunch. He has a history of identified disabilities. He reduced lunch. They have a receives free or reduced participation during math average success and little to history of high success and lessons. She also loves lunch. He has a history of low average participation during no participation during math lessons. He also loves to cook success and low participation math lessons. They also love gardening. and bake. during math lessons. He also to draw and paint. 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. Grace (she/her) Valentina (she/her) Jada (she/her) Jackie (she/they) Valentina is a Latina girl who Jada is a Black girl who Grace is an Asian girl who Jackie is a white transgender speaks English as her first speaks English as her first speaks English as her first girl who speaks English as language. She has an IEP for language. She has no language. She has an IEP for her first language. She has no speech impairment identified disabilities, and she dyslexia. She does not identified disabilities. She (stuttering). She does not does not receive free or receive free or reduced lunch. receives free or reduced receive free or reduced lunch. reduced lunch. She has a She has a history of low lunch. She has a history of She has a history of average success and average average success and low history of high success and success and low participation high participation during math participation during math participation during math lessons. She also plays during math lessons. She also lessons. She also plays on a lessons. She also loves enjoys spending time in softball team. basketball. animals. nature. Strategy G Strategy H 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