CODE: 167

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 Liam (he/him) Daniela (she/her) Grace (she/her) Mason (he/him) Grace is an Asian girl who Liam is a white boy who Daniela is a Latina girl who Mason is a white boy who speaks English as his first speaks English as her first speaks English as her first speaks English as his first language. He has no language. She has no language. She has an IEP for language. He is on an IEP for identified disabilities, and he identified disabilities, and she dyslexia. She does not severe ADHD. He receives does not receive free or does not receive free or receive free or reduced lunch. free or reduced lunch. He has reduced lunch. He has a reduced lunch. She has a She has a history of low a history of high success and history of average success history of average success success and average low participation during math and average participation and low participation during participation during math lessons. He also enjoys during math lessons. He also math lessons. She also loves lessons. She also plays singing. loves comic books. to dance. basketball. Strategy A Strategy B 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. 25 + 2Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 25 40 + 3 = 4325 + 2550 Mateo (he/him) Oliver (he/him) Alejandro (he/him) Jackie (she/they) Mateo is a Latino boy who Oliver is a white boy who Alejandro is a Latino boy who : Jackie is a white transgender speaks Spanish as his first speaks English as his first speaks Spanish as his first airl who speaks English as language. He is an EL student language. He has no language. He is an EL student her first language. She has no who speaks English at an identified disabilities, and he who speaks English at a identified disabilities. She intermediate level. He has no does not receive free or beginner level. He has no receives free or reduced identified disabilities. He reduced lunch. He has a identified disabilities. He lunch. She has a history of receives free or reduced history of high success and receives free or reduced average success and low lunch. He has a history of high high participation during math lunch. He has a history of low participation during math success and average lessons. He also enjoys riding success and low participation lessons. She also loves participation during math his bike. during math lessons. He also animals. lessons. He also likes to play loves to play Minecraft. the guitar. 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.

Camille (she/her) CJ (they/them) Jada (she/her) Ava (she/her) Camille is a white girl who Jada is a Black girl who Ava is a white girl who speaks : CJ is a gender fluid white English as her first language. speaks French as her first speaks English as her first child who speaks English as She has no identified language. She is an EL language. She has no their first language. They have student who speaks English identified disabilities, and she disabilities. She receives free no identified disabilities, and at an advanced level. She has does not receive free or or reduced lunch. She has a they do not receive free or no identified disabilities, and reduced lunch. She has a history of low success and low reduced lunch. They have a she does not receive free or history of high success and participation during math history of high success and lessons. She also loves average participation during reduced lunch. She has a high participation during math history of high success and lessons. She also plays on a math lessons. They also love gardening. high participation during math softball team. to draw and paint. lessons. She also does karate. 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 Carter (he/him) Valentina (she/her) Angel (she/her) Adriel (he/him) Valentina is a Latina girl who Angel is a Black girl who Adriel is an Indigenous boy Carter is a Black boy who speaks English as his first speaks English as her first speaks English as her first who speaks English as his language. He has no language. She has an IEP for language. She has no first language. He has no identified disabilities, and she identified disabilities, and he identified disabilities, and he speech impairment receives free or reduced (stuttering). She does not does not receive free or receives free or reduced lunch. He has a history of receive free or reduced lunch. reduced lunch. She has a lunch. He has a history of history of low success and low average success and low average success and little to She has a history of average no participation during math success and low participation participation during math participation during math lessons. He also loves to cook during math lessons. She also lessons. She also enjoys lessons. He also loves to play and bake. enjoys spending time in making origami. soccer. nature. 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