CODE: 143

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 Jackie (she/they) Daniela (she/her) Carter (he/him) CJ (they/them) Jackie is a white transgender Carter is a Black boy who Daniela is a Latina girl who CJ is a gender fluid white girl who speaks English as speaks English as her first speaks English as his first child who speaks English as her first language. She has no language. She has no language. He has no their first language. They have identified disabilities. She identified disabilities, and she identified disabilities, and he no identified disabilities, and receives free or reduced does not receive free or receives free or reduced they do not receive free or lunch. She has a history of reduced lunch. She has a lunch. He has a history of reduced lunch. They have a average success and low history of average success average success and little to history of high success and participation during math and low participation during no participation during math average participation during lessons. She also loves math lessons. She also loves lessons. He also loves to cook math lessons. They also love animals. to dance. and bake. to draw and paint. Strategy B Strategy A 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 Liam (he/him) Mateo (he/him) Jada (she/her) Camille (she/her) Liam is a white boy who Mateo is a Latino boy who Jada is a Black girl who Camille is a white girl who speaks English as his first speaks Spanish as his first speaks English as her first speaks French as her first language. He has no language. He is an EL student language. She has no language. She is an EL identified disabilities, and he who speaks English at an identified disabilities, and she student who speaks English does not receive free or intermediate level. He has no does not receive free or at an advanced level. She has reduced lunch. He has a identified disabilities. He reduced lunch. She has a no identified disabilities, and history of average success receives free or reduced history of high success and she does not receive free or and average participation lunch. He has a history of high high participation during math reduced lunch. She has a during math lessons. He also success and average lessons. She also plays on a history of high success and participation during math loves comic books. softball team. high participation during math lessons. He also likes to play lessons. She also does the guitar. 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, 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.

Adriel (he/him) Alejandro (he/him) Valentina (she/her) Angel (she/her) Adriel is an Indigenous boy Valentina is a Latina girl who Angel is a Black girl who Alejandro is a Latino boy who who speaks English as his speaks English as her first speaks English as her first speaks Spanish as his first language. She has no first language. He has no language. She has an IEP for language. He is an EL student identified disabilities, and he speech impairment identified disabilities, and she who speaks English at a receives free or reduced (stuttering). She does not does not receive free or beginner level. He has no lunch. He has a history of receive free or reduced lunch. reduced lunch. She has a identified disabilities. He She has a history of average history of low success and low receives free or reduced average success and low success and low participation lunch. He has a history of low participation during math participation during math lessons. He also loves to play during math lessons. She also lessons. She also eniovs success and low participation soccer. enjoys spending time in making origami. during math lessons. He also loves to play Minecraft. nature. 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 • 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. Mason (he/him) Oliver (he/him) Ava (she/her) Grace (she/her) Mason is a white boy who Oliver is a white boy who Ava is a white girl who speaks Grace is an Asian girl who speaks English as his first speaks English as his first English as her first language. speaks English as her first language. He is on an IEP for language. He has no She has no identified language. She has an IEP for severe ADHD. He receives identified disabilities, and he disabilities. She receives free dyslexia. She does not free or reduced lunch. He has does not receive free or or reduced lunch. She has a receive free or reduced lunch. a history of high success and reduced lunch. He has a history of low success and low. She has a history of low success and average low participation during math history of high success and participation during math lessons. She also loves participation during math lessons. He also enjoys high participation during math singing. lessons. He also enjoys riding gardening. lessons. She also plays basketball. Strategy G Strategy H 1. 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