CODE: 98

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).
 - Example: 9 + (1 + 7) = (9 + 1) + 7

2nd Grade Student Descriptions CJ (they/them) Alejandro (he/him) Mateo (he/him) Liam (he/him) Alejandro is a Latino boy who CJ is a gender fluid white Mateo is a Latino boy who Liam is a white boy who child who speaks English as speaks Spanish as his first speaks Spanish as his first speaks English as his first their first language. They have language. He is an EL student language. He is an EL student language. He has no no identified disabilities, and who speaks English at a who speaks English at an identified disabilities, and he they do not receive free or beginner level. He has no intermediate level. He has no does not receive free or reduced lunch. They have a identified disabilities. He identified disabilities. He reduced lunch. He has a history of high success and receives free or reduced receives free or reduced history of average success average participation during lunch. He has a history of low lunch. He has a history of high and average participation math lessons. They also love success and low participation success and average during math lessons. He also to draw and paint. during math lessons. He also participation during math loves comic books. loves to play Minecraft. 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) Jackie (she/they) Camille (she/her) Angel (she/her) Mason is a white boy who Jackie is a white transgender Camille is a white girl who Angel is a Black girl who speaks English as his first girl who speaks English as speaks French as her first speaks English as her first her first language. She has no language. He is on an IEP for language. She is an EL language. She has no severe ADHD. He receives identified disabilities. She student who speaks English identified disabilities, and she free or reduced lunch. He has receives free or reduced at an advanced level. She has does not receive free or a history of high success and lunch. She has a history of no identified disabilities, and reduced lunch. She has a low participation during math average success and low she does not receive free or history of low success and low lessons. He also enjoys participation during math reduced lunch. She has a participation during math singing. lessons. She also loves history of high success and lessons. She also enjoys animals. high participation during math making origami. lessons. She also does karate. Strategy C Strategy D Step 1 1. I made 27 and 23 +2 +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.

and got 50.

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

Daniela (she/her) Carter (he/him) Ava (she/her) Grace (she/her) Daniela is a Latina girl who Carter is a Black boy who Ava is a white girl who speaks Grace is an Asian girl who English as her first language. speaks English as her first speaks English as his first speaks English as her first She has no identified language. She has an IEP for language. She has no language. He has no identified disabilities, and she identified disabilities, and he disabilities. She receives free dyslexia. She does not does not receive free or receives free or reduced or reduced lunch. She has a receive free or reduced lunch. reduced lunch. She has a lunch. He has a history of history of low success and low. She has a history of low history of average success average success and little to participation during math success and average and low participation during lessons. She also loves no participation during math participation during math math lessons. She also loves lessons. He also loves to cook lessons. She also plays gardening. to dance. and bake. basketball. 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 Jada (she/her) Adriel (he/him) Oliver (he/him) Valentina (she/her) Jada is a Black girl who Adriel is an Indigenous boy Oliver is a white boy who Valentina is a Latina girl who speaks English as her first who speaks English as his speaks English as his first speaks English as her first first language. He has no language. She has no language. He has no language. She has an IEP for identified disabilities, and she identified disabilities, and he identified disabilities, and he speech impairment does not receive free or receives free or reduced does not receive free or (stuttering). She does not reduced lunch. She has a reduced lunch. He has a receive free or reduced lunch. lunch. He has a history of history of high success and average success and low history of high success and She has a history of average success and low participation high participation during math participation during math high participation during math lessons. He also loves to play during math lessons. She also lessons. She also plays on a lessons. He also enjoys riding softball team. soccer. his bike. enjoys spending time in nature. 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