CODE: 105

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) Alejandro (he/him) Camille (she/her) Jackie (she/they) Alejandro is a Latino boy who Camille is a white girl who Liam is a white boy who Jackie is a white transgender speaks French as her first speaks English as his first speaks Spanish as his first girl who speaks English as language. He has no language. He is an EL student language. She is an EL her first language. She has no identified disabilities, and he who speaks English at a student who speaks English identified disabilities. She does not receive free or beginner level. He has no at an advanced level. She has receives free or reduced reduced lunch. He has a identified disabilities. He no identified disabilities, and lunch. She has a history of history of average success receives free or reduced she does not receive free or average success and low and average participation lunch. He has a history of low reduced lunch. She has a participation during math during math lessons. He also success and low participation history of high success and lessons. She also loves high participation during math animals. loves comic books. during math lessons. He also loves to play Minecraft. lessons. She also does karate. 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. 25 40 + 3 = 4325 + 2550 Mateo (he/him) Angel (she/her) Daniela (she/her) Carter (he/him) Mateo is a Latino boy who Angel is a Black girl who Daniela is a Latina girl who Carter is a Black boy who speaks Spanish as his first speaks English as her first speaks English as her first speaks English as his first language. He is an EL student language. She has no language. She has no language. He has no who speaks English at an identified disabilities, and she identified disabilities, and she identified disabilities, and he intermediate level. He has no does not receive free or does not receive free or receives free or reduced identified disabilities. He reduced lunch. She has a reduced lunch. She has a lunch. He has a history of receives free or reduced history of low success and low history of average success average success and little to lunch. He has a history of high participation during math and low participation during no participation during math success and average lessons. She also enjoys math lessons. She also loves lessons. He also loves to cook participation during math making origami. to dance. and bake. lessons. He also likes to play 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, 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.

Jada (she/her) Oliver (he/him) Ava (she/her) Grace (she/her) Jada is a Black girl who Oliver is a white 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 language. She has no She has no identified language. She has an IEP for 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 does not receive free or or reduced lunch. She has a receive free or reduced lunch. reduced lunch. She has a reduced lunch. He has a history of low success and low. She has a history of low history of high success and history of high success and participation during math success and average lessons. She also loves high participation during math high participation during math participation during math lessons. She also plays on a lessons. He also enjoys riding lessons. She also plays gardening. his bike. softball team. 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 Valentina (she/her) CJ (they/them) Adriel (he/him) Mason (he/him) Valentina is a Latina girl who CJ is a gender fluid white Adriel is an Indigenous boy Mason is a white boy who speaks English as her first child who speaks English as who speaks English as his speaks English as his first their first language. They have language. She has an IEP for first language. He has no language. He is on an IEP for speech impairment no identified disabilities, and identified disabilities, and he severe ADHD. He receives (stuttering). She does not they do not receive free or receives free or reduced free or reduced lunch. He has reduced lunch. They have a lunch. He has a history of a history of high success and receive free or reduced lunch. She has a history of average history of high success and average success and low low participation during math success and low participation average participation during participation during math lessons. He also enjoys during math lessons. She also math lessons. They also love lessons. He also loves to play singing. enjoys spending time in to draw and paint. soccer. 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