CODE: 249

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 Jackie (she/they) Adriel (he/him) Oliver (he/him) Alejandro (he/him) Jackie is a white transgender Oliver is a white boy who Adriel is an Indigenous boy Alejandro is a Latino boy who speaks Spanish as his first girl who speaks English as who speaks English as his speaks English as his first her first language. She has no first language. He has no language. He has no language. He is an EL student identified disabilities. She identified disabilities, and he identified disabilities, and he who speaks English at a receives free or reduced receives free or reduced does not receive free or beginner level. He has no reduced lunch. He has a lunch. She has a history of lunch. He has a history of identified disabilities. He average success and low average success and low history of high success and receives free or reduced participation during math participation during math high participation during math lunch. He has a history of low lessons. She also loves lessons. He also loves to play lessons. He also enjoys riding success and low participation during math lessons. He also animals. soccer. his bike. loves to play Minecraft. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 2550 Valentina (she/her) Angel (she/her) Daniela (she/her) Ava (she/her) Valentina is a Latina girl who Angel is a Black girl who Daniela is a Latina girl who Ava is a white girl who speaks speaks English as her first speaks English as her first speaks English as her first English as her first language. language. She has an IEP for language. She has no language. She has no She has no identified identified disabilities, and she disabilities. She receives free speech impairment identified disabilities, and she (stuttering). 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. She has a history of low success and low She has a history of average history of low success and low history of average success participation during math success and low participation participation during math and low participation during lessons. She also loves during math lessons. She also lessons. She also enjoys math lessons. She also loves gardening. enjoys spending time in making origami. to dance. nature. 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.

CJ (they/them) Mateo (he/him) Camille (she/her) Carter (he/him) Mateo is a Latino boy who Carter is a Black boy who Camille is a white girl who CJ is a gender fluid white speaks Spanish as his first speaks English as his first speaks French as her first child who speaks English as their first language. They have language. He is an EL student language. He has no language. She is an EL who speaks English at an identified disabilities, and he student who speaks English no identified disabilities, and intermediate level. He has no receives free or reduced at an advanced level. She has they do not receive free or identified disabilities. He lunch. He has a history of no identified disabilities, and reduced lunch. They have a she does not receive free or receives free or reduced average success and little to history of high success and lunch. He has a history of high no participation during math average participation during reduced lunch. She has a success and average lessons. He also loves to cook history of high success and math lessons. They also love participation during math and bake. high participation during math to draw and paint. lessons. He also likes to play lessons. She also does the guitar. karate. Strategy E Strategy F First, I added 7 and 3 23 + 27 27 to get 10. I put a zero • I made it 23 + 27 because that's easier for + 23 under the 7. me to think about 23 + (2 + 25)50 • Then I put the 1 up Then I broke the 27 into 2 and 25. (23 + 2) = 25above the 2. Last I Then I combined the 2 with the 23, and I got added 1 + 2 + 2 to get Mason (he/him) Liam (he/him) Grace (she/her) Jada (she/her) Grace is an Asian girl who Jada is a Black girl who Liam is a white boy 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 is on an IEP for language. She has an IEP for language. She has no language. He has no identified disabilities, and she identified disabilities, and he severe ADHD. He receives dyslexia. She does not free or reduced lunch. He has receive free or reduced lunch. does not receive free or does not receive free or reduced lunch. She has a a history of high success and She has a history of low reduced lunch. He has a history of high success and low participation during math success and average history of average success lessons. He also enjoys participation during math high participation during math and average participation singing. lessons. She also plays lessons. She also plays on a during math lessons. He also basketball. softball team. loves comic books. Strategy H Strategy G 1. I made 27 and 23 with 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