CODE: 227

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 Jada (she/her) Daniela (she/her) Grace (she/her) Mason (he/him) Grace is an Asian girl who Jada is a Black girl who Daniela is a Latina girl who Mason is a white boy who speaks English as her first speaks English as her first speaks English as her first speaks English as his first language. She has no language. She has no language. She has an IEP for language. He is on an IEP for identified disabilities, and she 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. She has a reduced lunch. She has a She has a history of low a history of high success and history of high success and history of average success success and average low participation during math high participation during math and low participation during participation during math lessons. He also enjoys lessons. She also plays on a math lessons. She also loves lessons. She also plays singing. softball team. 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 Oliver (he/him) CJ (they/them) Liam (he/him) Jackie (she/they) CJ is a gender fluid white Jackie is a white transgender Oliver is a white boy who Liam is a white boy who speaks English as his first child who speaks English as speaks English as his first airl who speaks English as language. He has no their first language. They have language. He has no her first language. She has no identified disabilities. She identified disabilities, and he no identified disabilities, and identified disabilities, and he does not receive free or they do not receive free or does not receive free or receives free or reduced reduced lunch. He has a reduced lunch. They have a reduced lunch. He has a lunch. She has a history of history of high success and history of high success and history of average success average success and low high participation during math average participation during and average participation participation during math lessons. He also enjoys riding math lessons. They also love during math lessons. He also lessons. She also loves his bike. to draw and paint. loves comic books. animals. 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, 23 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.

Carter (he/him) Camille (she/her) Mateo (he/him) Adriel (he/him) Carter is a Black boy who Mateo is a Latino boy who Camille is a white girl who Adriel is an Indigenous boy speaks English as his first speaks Spanish as his first speaks French as her first who speaks English as his language. He has no language. He is an EL student language. She is an EL first language. He has no identified disabilities, and he who speaks English at an student who speaks English identified disabilities, and he receives free or reduced intermediate level. He has no at an advanced level. She has receives free or reduced lunch. He has a history of identified disabilities. He no identified disabilities, and lunch. He has a history of she does not receive free or average success and little to receives free or reduced average success and low lunch. He has a history of high no participation during math reduced lunch. She has a participation during math lessons. He also loves to cook success and average history of high success and lessons. He also loves to play and bake. participation during math high participation during math soccer. lessons. She also does lessons. He also likes to play karate. Strategy F Strategy E 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 Valentina (she/her) Alejandro (he/him) Angel (she/her) Ava (she/her) Valentina is a Latina girl who Aleiandro is a Latino boy who Angel is a Black girl who Ava is a white girl who speaks speaks English as her first speaks Spanish as his first speaks English as her first English as her first language. She has no identified language. She has an IEP for language. He is an EL student language. She has no disabilities. She receives free identified disabilities, and she speech impairment who speaks English at a (stuttering). She does not beginner level. He has no does not receive free or or reduced lunch. She has a identified disabilities. He receive free or reduced lunch. reduced lunch. She has a history of low success and low receives free or reduced She has a history of average history of low success and low participation during math success and low participation lunch. He has a history of low participation during math lessons. She also loves during math lessons. She also success and low participation lessons. She also enjoys gardening. during math lessons. He also enjoys spending time in making origami. nature. loves to play Minecraft. Strategy H Strategy G 1. 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