CODE: 248

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 CJ (they/them) Alejandro (he/him) Carter (he/him) Oliver (he/him) CJ is a gender fluid white Alejandro is a Latino boy who Carter is a Black boy who Oliver is a white boy who speaks Spanish as his first child who speaks English as speaks English as his first speaks English as his first their first language. They have language. He is an EL student language. He has no language. He has no no identified disabilities, and who speaks English at a identified disabilities, and he identified disabilities, and he they do not receive free or beginner level. He has no receives free or reduced does not receive free or reduced lunch. They have a identified disabilities. He lunch. He has a history of reduced lunch. He has a history of high success and receives free or reduced average success and little to history of high success and average participation during lunch. He has a history of low no participation during math high participation during math math lessons. They also love success and low participation lessons. He also loves to cook lessons. He also enjoys riding to draw and paint. during math lessons. He also and bake. his bike. loves to play Minecraft. Strategy A Strategy B • 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. 25 40 + 3 = 4325 + 2550 Ava (she/her) Jada (she/her) Grace (she/her) Daniela (she/her) Ava is a white girl who speaks: Jada is a Black girl who Grace is an Asian girl who Daniela is a Latina girl who English as her first language. speaks English as her first speaks English as her first speaks English as her first She has no identified language. She has no language. She has an IEP for language. She has no disabilities. She receives free identified disabilities, and she dyslexia. She does not identified disabilities, and she or reduced lunch. She has a does not receive free or receive free or reduced lunch. does not receive free or history of low success and low reduced lunch. She has a She has a history of low reduced lunch. She has a participation during math history of high success and success and average history of average success lessons. She also loves high participation during math participation during math and low participation during gardening. lessons. She also plays on a lessons. She also plays math lessons. She also loves softball team. basketball. to dance. Strategy D Strategy C 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 Λ 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) Jackie (she/they) Mateo (he/him) Mason (he/him) Jackie is a white transgender : Mateo is a Latino boy who Adriel is an Indigenous boy Mason is a white boy who girl who speaks English as speaks Spanish as his first who speaks English as his speaks English as his first her first language. She has no language. He is an EL student first language. He has no language. He is on an IEP for identified disabilities, and he identified disabilities. She who speaks English at an severe ADHD. He receives receives free or reduced intermediate level. He has no receives free or reduced free or reduced lunch. He has lunch. She has a history of identified disabilities. He lunch. He has a history of a history of high success and average success and low receives free or reduced average success and low low participation during math lunch. He has a history of high participation during math participation during math lessons. He also enjoys lessons. She also loves success and average lessons. He also loves to play singing. animals. participation during math soccer. lessons. He also likes to play 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) Liam (he/him) Camille (she/her) Angel (she/her) Valentina is a Latina girl who Liam is a white boy who Camille is a white girl who Angel is a Black girl who speaks English as her first speaks English as his first speaks French as her first speaks English as her first language. She has an IEP for language. He has no language. She is an EL language. She has no identified disabilities, and he student who speaks English identified disabilities, and she speech impairment (stuttering). She does not does not receive free or at an advanced level. She has does not receive free or receive free or reduced lunch, reduced lunch. He has a no identified disabilities, and reduced lunch. She has a She has a history of average she does not receive free or history of low success and low history of average success success and low participation reduced lunch. She has a and average participation participation during math during math lessons. She also during math lessons. He also history of high success and lessons. She also enjoys enjoys spending time in loves comic books. high participation during math making origami. nature. lessons. She also does karate. 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