CODE: 16

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) Jada (she/her) CJ (they/them) Alejandro is a Latino boy who Jada is a Black girl who Liam is a white boy who CJ is a gender fluid white speaks Spanish as his first speaks English as his first speaks English as her first child who speaks English as language. He has no language. He is an EL student language. She has no their first language. They have identified disabilities, and he who speaks English at a identified disabilities, and she no identified disabilities, and does not receive free or beginner level. He has no does not receive free or they do not receive free or reduced lunch. She has a reduced lunch. He has a identified disabilities. He reduced lunch. They have a history of average success receives free or reduced history of high success and history of high success and and average participation lunch. He has a history of low high participation during math average participation during during math lessons. He also success and low participation lessons. She also plays on a math lessons. They also love loves comic books. during math lessons. He also softball team. to draw and paint. loves to play Minecraft. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Ava (she/her) Daniela (she/her) Camille (she/her) Carter (he/him) Ava is a white girl who speaks: Daniela is a Latina girl who Camille is a white girl who Carter is a Black boy who speaks English as her first English as her first language. speaks French as her first speaks English as his first She has no identified language. She has no language. She is an EL language. He has no disabilities. She receives free identified disabilities, and she student who speaks English identified disabilities, and he or reduced lunch. She has a does not receive free or at an advanced level. She has receives free or reduced history of low success and low reduced lunch. She has a no identified disabilities, and lunch. He has a history of participation during math history of average success she does not receive free or average success and little to lessons. She also loves and low participation during reduced lunch. She has a no participation during math gardening. math lessons. She also loves history of high success and lessons. He also loves to cook to dance. high participation during math and bake. lessons. She also does karate. Strategy C Strategy D +2 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 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) Mateo (he/him) Oliver (he/him) Valentina (she/her) Valentina is a Latina girl who Adriel is an Indigenous boy Mateo is a Latino boy who Oliver is a white boy who speaks English as her first who speaks English as his speaks Spanish as his first speaks English as his first language. She has an IEP for first language. He has no language. He is an EL student language. He has no speech impairment identified disabilities, and he who speaks English at an identified disabilities, and he (stuttering). She does not receives free or reduced intermediate level. He has no does not receive free or receive free or reduced lunch. lunch. He has a history of identified disabilities. He reduced lunch. He has a She has a history of average average success and low receives free or reduced history of high success and lunch. He has a history of high high participation during math success and low participation participation during math during math lessons. She also lessons. He also loves to play success and average lessons. He also enjoys riding enjoys spending time in participation during math his bike. soccer. lessons. He also likes to play nature. the guitar. 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 • Then I put the 1 up me to think about. 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 Mason (he/him) Grace (she/her) Angel (she/her) Jackie (she/they) Grace is an Asian girl who Angel is a Black girl who Jackie is a white transgender Mason is a white boy who speaks English as his first speaks English as her first speaks English as her first girl who speaks English as language. He is on an IEP for language. She has an IEP for language. She has no her first language. She has no identified disabilities, and she identified disabilities. She severe ADHD. He receives dyslexia. She does not free or reduced lunch. He has receive free or reduced lunch. does not receive free or receives free or reduced reduced lunch. She has a a history of high success and She has a history of low lunch. She has a history of low participation during math history of low success and low average success and low success and average lessons. He also enjoys participation during math participation during math participation during math singing. lessons. She also plays lessons. She also enjoys lessons. She also loves basketball. making origami. animals. Strategy H Strategy G 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.

20 + 20 = 40

40 + 10 = 50

7 + 3 = 10

Then I added 7 and 3 to get 10.

• Then I added 40 and 10 to get 50.

+ 25 which is 50.

2.