CODE: 39

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) Liam (he/him) Mason (he/him) Daniela (she/her) Jada is a Black girl who Liam is a white boy who Mason is a white boy who Daniela is a Latina girl who speaks English as her first speaks English as his first speaks English as his first speaks English as her first language. She has no language. He has no language. He is on an IEP for language. She has no identified disabilities, and she identified disabilities, and he severe ADHD. He receives identified disabilities, and she does not receive free or does not receive free or free or reduced lunch. He has idoes not receive free or reduced lunch. She has a reduced lunch. He has a a history of high success and reduced lunch. She has a history of high success and history of average success low participation during math history of average success high participation during math and average participation lessons. He also enjoys and low participation during lessons. She also plays on a during math lessons. He also singing. math lessons. She also loves loves comic books. to dance. softball team. 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. 40 25 40 + 3 = 4325 + 2550 Jackie (she/they) CJ (they/them) Alejandro (he/him) Ava (she/her) Jackie is a white transgender CJ is a gender fluid white Alejandro is a Latino boy who Ava is a white girl who speaks girl who speaks English as child who speaks English as speaks Spanish as his first English as her first language. her first language. She has no their first language. They have language. He is an EL student She has no identified identified disabilities. She no identified disabilities, and who speaks English at a disabilities. She receives free receives free or reduced they do not receive free or beginner level. He has no or reduced lunch. She has a lunch. She has a history of reduced lunch. They have a identified disabilities. He history of low success and low average success and low history of high success and receives free or reduced participation during math participation during math average participation during lunch. He has a history of low lessons. She also loves lessons. She also loves math lessons. They also love success and low participation gardening. animals. to draw and paint. during math lessons. He also loves to play Minecraft. 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.

Camille (she/her) Mateo (he/him) Angel (she/her) Grace (she/her) Camille is a white girl who Mateo is a Latino boy who Angel is a Black girl who Grace is an Asian girl who speaks French as her first speaks Spanish as his first speaks English as her first speaks English as her first language. She has no language. She has an IEP for language. She is an EL language. He is an EL student student who speaks English who speaks English at an identified disabilities, and she dyslexia. She does not at an advanced level. She has intermediate level. He has no does not receive free or receive free or reduced lunch. no identified disabilities, and identified disabilities. He reduced lunch. She has a She has a history of low she does not receive free or receives free or reduced history of low success and low success and average lunch. He has a history of high participation during math reduced lunch. She has a participation during math history of high success and success and average lessons. She also enjoys lessons. She also plays high participation during math participation during math making origami. basketball. lessons. She also does lessons. He also likes to play karate. 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 Carter (he/him) Adriel (he/him) Valentina (she/her) Oliver (he/him) Valentina is a Latina girl who Adriel is an Indigenous boy Oliver is a white boy who Carter is a Black boy who speaks English as his first speaks English as her first who speaks English as his speaks English as his first language. He has no language. She has an IEP for first language. He has no language. He has no identified disabilities, and he identified disabilities, and he identified disabilities, and he speech impairment receives free or reduced (stuttering). She does not receives free or reduced does not receive free or receive free or reduced lunch. lunch. He has a history of lunch. He has a history of reduced lunch. He has a average success and low average success and little to She has a history of average history of high success and no participation during math success and low participation participation during math high participation during math lessons. He also loves to cook during math lessons. She also lessons. He also loves to play lessons. He also enjoys riding and bake. enjoys spending time in soccer. his bike. nature. Strategy G Strategy H 1. I made 27 and 23 with 1. 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