CODE: 62

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 Daniela (she/her) Mateo (he/him) Jackie (she/they) CJ (they/them) Jackie is a white transgender Daniela is a Latina girl who Mateo is a Latino boy who CJ is a gender fluid white speaks English as her first speaks Spanish as his first girl who speaks English as child who speaks English as language. She has no language. He is an EL student her first language. She has no their first language. They have identified disabilities, and she who speaks English at an identified disabilities. She no identified disabilities, and does not receive free or intermediate level. He has no receives free or reduced they do not receive free or reduced lunch. She has a identified disabilities. He lunch. She has a history of reduced lunch. They have a history of average success receives free or reduced average success and low history of high success and and low participation during lunch. He has a history of high participation during math average participation during math lessons. She also loves success and average lessons. She also loves math lessons. They also love to dance. participation during math animals. to draw and paint. lessons. He also likes to play the guitar. 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. 25 40 + 3 = 4325 + 2550 Valentina (she/her) Grace (she/her) Carter (he/him) Camille (she/her) Valentina is a Latina girl who Grace is an Asian girl who Carter is a Black boy who Camille is a white girl who speaks English as her first speaks English as her first speaks English as his first speaks French as her first language. She has an IEP for language. She has an IEP for language. He has no language. She is an EL speech impairment dvslexia. She does not identified disabilities, and he student who speaks English (stuttering). She does not receive free or reduced lunch. receives free or reduced at an advanced level. She has receive free or reduced lunch. She has a history of low lunch. He has a history of no identified disabilities, and She has a history of average success and average average success and little to she does not receive free or success and low participation participation during math no participation during math reduced lunch. She has a during math lessons. She also lessons. She also plays lessons. He also loves to cook history of high success and enjoys spending time in basketball. and bake. high participation during math nature. lessons. She also does karate. 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, 25 23 0 50 which is 50.

Step 2

• I started at 23.

and got 50.

That makes 25.

Then I took 2 from the 27 to make a jump of 2.

• Then I only needed to add 25 more, so I made another jump

Jada (she/her) Adriel (he/him) Angel (she/her) Liam (he/him) Liam is a white boy who Jada is a Black girl who Adriel is an Indigenous boy Angel is a Black girl who speaks English as her first who speaks English as his speaks English as her first speaks English as his first language. She has no language. She has no first language. He has no language. He has no identified disabilities, and she identified disabilities, and he identified disabilities, and she identified disabilities, and he does not receive free or receives free or reduced does not receive free or does not receive free or reduced lunch. She has a lunch. He has a history of reduced lunch. She has a reduced lunch. He has a history of high success and average success and low history of low success and low history of average success and average participation high participation during math participation during math participation during math lessons. She also plays on a lessons. He also loves to play lessons. She also enjoys during math lessons. He also softball team. making origami. loves comic books. soccer. 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 me to think about. Then I put the 1 up 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 Alejandro (he/him) Oliver (he/him) Mason (he/him) Ava (she/her) Alejandro is a Latino boy who Oliver is a white boy who Mason is a white boy who Ava is a white girl who speaks English as her first language. speaks Spanish as his first speaks English as his first speaks English as his first She has no identified language. He is an EL student language. He has no language. He is on an IEP for who speaks English at a identified disabilities, and he severe ADHD. He receives disabilities. She receives free beginner level. He has no does not receive free or free or reduced lunch. He has or reduced lunch. She has a a history of high success and history of low success and low identified disabilities. He reduced lunch. He has a receives free or reduced history of high success and low participation during math participation during math lessons. He also enjoys lessons. She also loves lunch. He has a history of low high participation during math success and low participation lessons. He also enjoys riding singing. gardening. during math lessons. He also his bike. loves to play Minecraft. Strategy G Strategy H 1. 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. + 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