CODE: 87

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).
 - Example: 9 + (1 + 7) = (9 + 1) + 7

2nd Grade Student Descriptions CJ (they/them) Oliver (he/him) Adriel (he/him) Camille (she/her) CJ is a gender fluid white Oliver is a white boy who Adriel is an Indigenous boy Camille is a white girl who speaks French as her first child who speaks English as speaks English as his first who speaks English as his their first language. They have language. He has no first language. He has no language. She is an EL no identified disabilities, and identified disabilities, and he identified disabilities, and he student who speaks English they do not receive free or does not receive free or receives free or reduced at an advanced level. She has reduced lunch. They have a reduced lunch. He has a lunch. He has a history of no identified disabilities, and history of high success and history of high success and average success and low she does not receive free or average participation during high participation during math participation during math reduced lunch. She has a math lessons. They also love lessons. He also enjoys riding lessons. He also loves to play history of high success and high participation during math to draw and paint. his bike. soccer. lessons. She also does karate. 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. 25 + 2Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Mateo (he/him) Liam (he/him) Valentina (she/her) Angel (she/her) Mateo is a Latino boy who Liam is a white boy who Valentina is a Latina girl who Angel is a Black girl who speaks Spanish as his first speaks English as his first speaks English as her first speaks English as her first language. He is an EL student language. He has no language. She has an IEP for language. She has no who speaks English at an identified disabilities, and he speech impairment identified disabilities, and she intermediate level. He has no does not receive free or (stuttering). She does not does not receive free or identified disabilities. He reduced lunch. He has a receive free or reduced lunch. reduced lunch. She has a receives free or reduced history of average success She has a history of average history of low success and low lunch. He has a history of high and average participation success and low participation participation during math success and average during math lessons. He also during math lessons. She also lessons. She also enjoys participation during math loves comic books. enjoys spending time in making origami. lessons. He also likes to play nature. the guitar. 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,

which is 50.

23 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

50

0

• I started at 23.

and got 50.

That makes 25.

Step 2

Alejandro (he/him) Ava (she/her) Carter (he/him) Mason (he/him) Alejandro is a Latino boy who Ava is a white girl who speaks Carter is a Black boy who Mason is a white boy who speaks Spanish as his first English as her first language. speaks English as his first speaks English as his first language. He is an EL student She has no identified language. He has no language. He is on an IEP for who speaks English at a disabilities. She receives free identified disabilities, and he severe ADHD. He receives beginner level. He has no or reduced lunch. She has a receives free or reduced free or reduced lunch. He has identified disabilities. He history of low success and low lunch. He has a history of a history of high success and receives free or reduced participation during math average success and little to low participation during math lessons. She also loves lunch. He has a history of low no participation during math lessons. He also enjoys lessons. He also loves to cook singing. success and low participation gardening. during math lessons. He also and bake. loves to play Minecraft. 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 50. Daniela (she/her) Jada (she/her) Jackie (she/they) Grace (she/her) Daniela is a Latina girl who Jada is a Black girl who Jackie is a white transgender Grace is an Asian girl who speaks English as her first speaks English as her first girl who speaks English as speaks English as her first language. She has no language. She has no her first language. She has no language. She has an IEP for identified disabilities, and she identified disabilities, and she identified disabilities. She dyslexia. She does not does not receive free or does not receive free or receives free or reduced receive free or reduced lunch. reduced lunch. She has a reduced lunch. She has a lunch. She has a history of She has a history of low average success and low history of average success success and average history of high success and high participation during math and low participation during participation during math participation during math math lessons. She also loves lessons. She also plays on a lessons. She also loves lessons. She also plays softball team. to dance. animals. basketball. 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