CODE: 207

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 Grace (she/her) Daniela (she/her) CJ (they/them) Jackie (she/they) Grace is an Asian girl who Daniela is a Latina girl who CJ is a gender fluid white Jackie is a white transgender speaks English as her first speaks English as her first child who speaks English as girl who speaks English as language. She has an IEP for language. She has no their first language. They have her first language. She has no dyslexia. She does not identified disabilities, and she no identified disabilities, and identified disabilities. She receive free or reduced lunch. does not receive free or they do not receive free or receives free or reduced She has a history of low reduced lunch. She has a reduced lunch. They have a lunch. She has a history of success and average history of average success history of high success and average success and low participation during math and low participation during average participation during participation during math lessons. She also plays math lessons. She also loves math lessons. They also love lessons. She also loves animals. basketball. to dance. to draw and paint. 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 Ava (she/her) Oliver (he/him) Adriel (he/him) Valentina (she/her) Ava is a white girl who speaks. Oliver is a white boy who Adriel is an Indigenous boy Valentina is a Latina girl who English as her first language. speaks English as his first who speaks English as his speaks English as her first She has no identified language. He has no first language. He has no language. She has an IEP for disabilities. She receives free identified disabilities, and he identified disabilities, and he speech impairment or reduced lunch. She has a does not receive free or receives free or reduced (stuttering). She does not history of low success and low reduced lunch. He has a lunch. He has a history of receive free or reduced lunch. participation during math history of high success and average success and low She has a history of average lessons. She also loves high participation during math participation during math success and low participation gardening. lessons. He also enjoys riding lessons. He also loves to play during math lessons. She also his bike. soccer. enjoys spending time in nature. Strategy C Strategy D 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.

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) Liam (he/him) Mateo (he/him) Alejandro (he/him) Liam is a white boy who Jada is a Black girl who Alejandro is a Latino boy who Mateo is a Latino boy who speaks English as her first speaks Spanish as his first speaks English as his first speaks Spanish as his first language. She has no language. He is an EL student language. He has no language. He is an EL student identified disabilities, and she who speaks English at a identified disabilities, and he who speaks English at an does not receive free or beginner level. He has no does not receive free or intermediate level. He has no reduced lunch. She has a identified disabilities. He reduced lunch. He has a identified disabilities. He history of high success and receives free or reduced history of average success receives free or reduced high participation during math lunch. He has a history of low and average participation lunch. He has a history of high lessons. She also plays on a success and low participation during math lessons. He also success and average softball team. during math lessons. He also loves comic books. participation during math lessons. He also likes to play loves to play Minecraft. Strategy F Strategy E 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) Camille (she/her) Angel (she/her) Mason (he/him) Carter is a Black boy who Camille is a white girl who Angel is a Black girl who Mason is a white boy who speaks English as his first speaks French as her first speaks English as her first speaks English as his first language. He has no language. She is an EL language. She has no language. He is on an IEP for identified disabilities, and he student who speaks English identified disabilities, and she severe ADHD. He receives receives free or reduced at an advanced level. She has does not receive free or free or reduced lunch. He has no identified disabilities, and reduced lunch. She has a lunch. He has a history of a history of high success and average success and little to she does not receive free or history of low success and low low participation during math no participation during math reduced lunch. She has a participation during math lessons. He also enjoys lessons. He also loves to cook history of high success and lessons. She also enjoys singing. and bake. high participation during math making origami. 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