CODE: 175

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 Camille (she/her) Daniela (she/her) Mateo (he/him) Mason (he/him) Mateo is a Latino boy who Camille is a white girl who Daniela is a Latina girl who Mason is a white boy who speaks French as her first speaks English as her first speaks Spanish as his first speaks English as his first language. She is an EL language. She has no language. He is an EL student language. He is on an IEP for student who speaks English identified disabilities, and she who speaks English at an severe ADHD. He receives at an advanced level. She has does not receive free or intermediate level. He has no free or reduced lunch. He has no identified disabilities, and reduced lunch. She has a identified disabilities. He a history of high success and she does not receive free or history of average success receives free or reduced low participation during math reduced lunch. She has a and low participation during lunch. He has a history of high lessons. He also enjoys history of high success and math lessons. She also loves success and average singing. high participation during math to dance. participation during math lessons. She also does lessons. He also likes to play karate. the guitar. 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. 25 40 + 3 = 4325 + 2550 Angel (she/her) Jackie (she/they) Jada (she/her) Liam (he/him) Angel is a Black girl who Jackie is a white transgender Jada is a Black girl who Liam is a white boy who speaks English as her first girl who speaks English as speaks English as her first speaks English as his first her first language. She has no language. She has no language. She has no language. He has no identified disabilities, and she identified disabilities. She 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. She has a history of reduced lunch. She has a reduced lunch. He has a history of low success and low average success and low history of high success and history of average success participation during math participation during math high participation during math and average participation lessons. She also enjoys lessons. She also loves lessons. She also plays on a during math lessons. He also animals. making origami. softball team. loves comic books. 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, 23 0 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.

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