CODE: 25

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 Mateo (he/him) Daniela (she/her) Jada (she/her) Mason (he/him) Jada is a Black girl who Mateo is a Latino boy who Daniela is a Latina girl who Mason is a white boy who speaks Spanish as his first speaks English as her first speaks English as her first speaks English as his first language. He is an EL student language. She has no language. She has no language. He is on an IEP for who speaks English at an identified disabilities, and she identified disabilities, and she severe ADHD. He receives intermediate level. He has no does not receive free or does not receive free or free or reduced lunch. He has reduced lunch. She has a identified disabilities. He reduced lunch. She has a a history of high success and receives free or reduced history of average success history of high success and low participation during math lunch. He has a history of high and low participation during high participation during math lessons. He also enjoys success and average math lessons. She also loves lessons. She also plays on a singing. participation during math to dance. softball team. lessons. He also likes to play the guitar. 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 Valentina (she/her) Adriel (he/him) Carter (he/him) Jackie (she/they) Adriel is an Indigenous boy Valentina is a Latina girl who Carter is a Black boy who Jackie is a white transgender speaks English as her first who speaks English as his speaks English as his first girl who speaks English as language. She has an IEP for first language. He has no language. He has no her first language. She has no speech impairment identified disabilities, and he identified disabilities, and he identified disabilities. She (stuttering). She does not receives free or reduced receives free or reduced receives free or reduced receive free or reduced lunch. lunch. He has a history of lunch. He has a history of lunch. She has a history of She has a history of average average success and low average success and little to average success and low success and low participation participation during math no participation during math participation during math during math lessons. She also lessons. He also loves to play lessons. He also loves to cook lessons. She also loves enjoys spending time in soccer. and bake. animals. nature. Strategy C Strategy D +2 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 50 which is 50 I started at 23. Step 2

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

That makes 25.

and got 50.

Oliver (he/him) Liam (he/him) Angel (she/her) Ava (she/her) Oliver is a white boy who Angel is a Black girl who Liam is a white boy who Ava is a white girl who speaks English as her first language. speaks English as his first speaks English as her first speaks English as his first language. She has no She has no identified language. He has no language. He has no identified disabilities, and she disabilities. She receives free identified disabilities, and he identified disabilities, and he does not receive free or does not receive free or does not receive free or or reduced lunch. She has a reduced lunch. He has a reduced lunch. She has a reduced lunch. He has a history of low success and low history of high success and history of low success and low history of average success participation during math and average participation participation during math lessons. She also loves high participation during math lessons. He also enjoys riding Hessons. She also enjoys during math lessons. He also gardening. his bike. loves comic books. making origami. 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 Grace (she/her) CJ (they/them) Alejandro (he/him) Camille (she/her) Grace is an Asian girl who CJ is a gender fluid white Alejandro is a Latino boy who Camille is a white girl who speaks English as her first child who speaks English as speaks Spanish as his first speaks French as her first their first language. They have language. He is an EL student language. She is an EL language. She has an IEP for dvslexia. She does not no identified disabilities, and who speaks English at a student who speaks English receive free or reduced lunch. they do not receive free or beginner level. He has no at an advanced level. She has She has a history of low reduced lunch. They have a identified disabilities. He no identified disabilities, and success and average history of high success and receives free or reduced she does not receive free or average participation during reduced lunch. She has a participation during math lunch. He has a history of low lessons. She also plays math lessons. They also love success and low participation history of high success and during math lessons. He also high participation during math basketball. to draw and paint. loves to play Minecraft. lessons. She also does karate. Strategy H Strategy G 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