CODE: 36

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 Liam (he/him) Valentina (she/her) Jada (she/her) Alejandro (he/him) Jada is a Black girl who Liam is a white boy who Valentina is a Latina girl who Alejandro is a Latino boy who speaks Spanish as his first speaks English as his first speaks English as her first speaks English as her first language. He has no language. She has an IEP for language. She has no language. He is an EL student identified disabilities, and he speech impairment identified disabilities, and she who speaks English at a does not receive free or (stuttering). She does not does not receive free or beginner level. He has no receive free or reduced lunch. reduced lunch. She has a reduced lunch. He has a identified disabilities. He history of average success She has a history of average history of high success and receives free or reduced and average participation success and low participation high participation during math lunch. He has a history of low during math lessons. He also during math lessons. She also lessons. She also plays on a success and low participation during math lessons. He also loves comic books. enjoys spending time in softball team. nature. loves to play Minecraft. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 2550 Mason (he/him) Adriel (he/him) Ava (she/her) CJ (they/them) Mason is a white boy who Adriel is an Indigenous boy Ava is a white girl who speaks : CJ is a gender fluid white speaks English as his first who speaks English as his English as her first language. child who speaks English as language. He is on an IEP for first language. He has no She has no identified their first language. They have severe ADHD. He receives identified disabilities, and he disabilities. She receives free no identified disabilities, and free or reduced lunch. He has receives free or reduced or reduced lunch. She has a they do not receive free or lunch. He has a history of a history of high success and history of low success and low reduced lunch. They have a low participation during math average success and low participation during math history of high success and lessons. She also loves lessons. He also enjoys participation during math average participation during singing. lessons. He also loves to play gardening. math lessons. They also love soccer. to draw and paint. 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 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.

Camille (she/her) Mateo (he/him) Daniela (she/her) Angel (she/her) Daniela is a Latina girl who Angel is a Black girl who Camille is a white girl who Mateo is a Latino boy who speaks English as her first speaks English as her first speaks French as her first speaks Spanish as his first language. She has no language. She has no language. She is an EL language. He is an EL student identified disabilities, and she identified disabilities, and she student who speaks English who speaks English at an does not receive free or does not receive free or at an advanced level. She has intermediate level. He has no reduced lunch. She has a reduced lunch. She has a no identified disabilities, and identified disabilities. He she does not receive free or history of average success history of low success and low receives free or reduced reduced lunch. She has a and low participation during lunch. He has a history of high participation during math math lessons. She also loves lessons. She also enjoys history of high success and success and average to dance. making origami. high participation during math participation during math lessons. She also does lessons. He also likes to play karate. 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 Grace (she/her) Carter (he/him) Oliver (he/him) Jackie (she/they) Grace is an Asian girl who Oliver is a white boy who Jackie is a white transgender Carter is a Black boy who speaks English as her first speaks English as his first speaks English as his first girl who speaks English as language. She has an IEP for language. He has no language. He has no her first language. She has no identified disabilities, and he identified disabilities, and he identified disabilities. She dyslexia. She does not receive free or reduced lunch. receives free or reduced does not receive free or receives free or reduced She has a history of low reduced lunch. He has a lunch. He has a history of lunch. She has a history of success and average average success and little to history of high success and average success and low participation during math no participation during math high participation during math participation during math lessons. He also loves to cook lessons. She also plays lessons. He also enjoys riding lessons. She also loves basketball. and bake. his bike. animals. Strategy G Strategy H 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