CODE: 86

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 Carter (he/him) Liam (he/him) Valentina (she/her) Grace (she/her) Valentina is a Latina girl who Carter is a Black boy who Liam is a white boy who Grace is an Asian girl who speaks English as his first speaks English as his first speaks English as her first speaks English as her first language. He has no language. He has no language. She has an IEP for language. She has an IEP for identified disabilities, and he identified disabilities, and he speech impairment dyslexia. She does not receives free or reduced does not receive free or (stuttering). She does not receive free or reduced lunch. lunch. He has a history of reduced lunch. He has a receive free or reduced lunch. She has a history of low average success and little to history of average success She has a history of average success and average no participation during math and average participation success and low participation participation during math lessons. He also loves to cook during math lessons. He also during math lessons. She also lessons. She also plays and bake. loves comic books. enjoys spending time in basketball. nature. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 2550 Ava (she/her) Jackie (she/they) Daniela (she/her) Jada (she/her) Ava is a white girl who speaks Jackie is a white transgender Daniela is a Latina girl who Jada is a Black girl who English as her first language. girl who speaks English as speaks English as her first speaks English as her first She has no identified her first language. She has no language. She has no language. She has no disabilities. She receives free identified disabilities. She identified disabilities, and she identified disabilities, and she or reduced lunch. She has a receives free or reduced does not receive free or does not receive free or history of low success and low lunch. She has a history of reduced lunch. She has a reduced lunch. She has a participation during math average success and low history of average success history of high success and lessons. She also loves participation during math and low participation during high participation during math gardening. lessons. She also loves math lessons. She also loves lessons. She also plays on a animals. to dance. softball team. Strategy D Strategy C 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. That makes 25. Then I only needed to add 25 more, so I made another jump

and got 50.

CJ (they/them) Alejandro (he/him) Camille (she/her) Adriel (he/him) CJ is a gender fluid white Camille is a white girl who Alejandro is a Latino boy who : Adriel is an Indigenous boy child who speaks English as speaks French as her first speaks Spanish as his first who speaks English as his language. He is an EL student first language. He has no their first language. They have language. She is an EL no identified disabilities, and student who speaks English who speaks English at a identified disabilities, and he they do not receive free or at an advanced level. She has beginner level. He has no receives free or reduced reduced lunch. They have a no identified disabilities, and identified disabilities. He lunch. He has a history of she does not receive free or receives free or reduced history of high success and average success and low average participation during lunch. He has a history of low reduced lunch. She has a participation during math math lessons. They also love history of high success and success and low participation lessons. He also loves to play to draw and paint. high participation during math during math lessons. He also soccer. lessons. She also does loves to play Minecraft. 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 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 Oliver (he/him) Mateo (he/him) Mason (he/him) Angel (she/her) Oliver is a white boy who Angel is a Black girl who Mateo is a Latino boy who Mason is a white boy who speaks English as his first speaks English as his first speaks English as her first speaks Spanish as his first language. He is an EL student language. He is on an IEP for language. He has no language. She has no identified disabilities, and he identified disabilities, and she who speaks English at an severe ADHD. He receives intermediate level. He has no free or reduced lunch. He has does not receive free or does not receive free or reduced lunch. He has a reduced lunch. She has a identified disabilities. He a history of high success and low participation during math history of high success and history of low success and low receives free or reduced lunch. He has a history of high lessons. He also enjoys high participation during math participation during math success and average singing. lessons. He also enjoys riding lessons. She also enjoys participation during math his bike. making origami. lessons. He also likes to play the guitar. 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 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