CODE: 77

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) Grace (she/her) Mason (he/him) Ava (she/her) Carter is a Black boy who Grace is an Asian girl who Mason 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. He has no language. She has an IEP for language. He is on an IEP for She has no identified identified disabilities, and he dyslexia. She does not severe ADHD. He receives disabilities. She receives free receives free or reduced receive free or reduced lunch. free or reduced lunch. He has or reduced lunch. She has a lunch. He has a history of She has a history of low a history of high success and history of low success and low average success and little to success and average low participation during math participation during math no participation during math participation during math lessons. He also enjoys lessons. She also loves lessons. He also loves to cook lessons. She also plays singing. gardening. and bake. basketball. Strategy B Strategy A 27 + 23 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 CJ (they/them) Liam (he/him) Camille (she/her) Oliver (he/him) CJ is a gender fluid white Liam is a white boy who Camille is a white girl who Oliver is a white boy who child who speaks English as speaks English as his first speaks French as her first speaks English as his first their first language. They have language. He has no language. She is an EL language. He has no no identified disabilities, and identified disabilities, and he student who speaks English identified disabilities, and he they do not receive free or does not receive free or at an advanced level. She has idoes not receive free or reduced lunch. They have a reduced lunch. He has a no identified disabilities, and reduced lunch. He has a history of high success and history of average success she does not receive free or history of high success and average participation during and average participation reduced lunch. She has a high participation during math math lessons. They also love during math lessons. He also history of high success and lessons. He also enjoys riding to draw and paint. loves comic books. high participation during math his bike. lessons. She also does karate. 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 Λ 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.

Alejandro (he/him) Mateo (he/him) Angel (she/her) Jackie (she/they) Angel is a Black girl who Jackie is a white transgender Alejandro is a Latino boy who Mateo is a Latino boy who speaks English as her first girl who speaks English as speaks Spanish as his first speaks Spanish as his first language. She has no her first language. She has no language. He is an EL student language. He is an EL student identified disabilities. She identified disabilities, and she who speaks English at a who speaks English at an does not receive free or receives free or reduced beginner level. He has no intermediate level. He has no reduced lunch. She has a lunch. She has a history of identified disabilities. He identified disabilities. He receives free or reduced history of low success and low average success and low receives free or reduced lunch. He has a history of low lunch. He has a history of high participation during math participation during math lessons. She also enjoys lessons. She also loves success and low participation success and average making origami. animals. during math lessons. He also participation during math loves to play Minecraft. lessons. He also likes to play 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 Valentina (she/her) Adriel (he/him) Daniela (she/her) Jada (she/her) Adriel is an Indigenous boy Valentina is a Latina girl who Daniela is a Latina girl who Jada is a Black girl who who speaks English as his speaks English as her first speaks English as her first speaks English as her first first language. He has no language. She has an IEP for language. She has no language. She has no identified disabilities, and he identified disabilities, and she identified disabilities, and she speech impairment receives free or reduced (stuttering). She does not does not receive free or does not receive free or receive free or reduced lunch. reduced lunch. She has a reduced lunch. She has a lunch. He has a history of average success and low history of average success She has a history of average history of high success and success and low participation participation during math and low participation during high participation during math math lessons. She also loves lessons. She also plays on a lessons. He also loves to play during math lessons. She also soccer. enjoys spending time in to dance. softball team. nature. Strategy G Strategy H 1. I made 27 and 23 with 1. 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