CODE: 182

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

Camille (she/her) Oliver (he/him) Grace (she/her) Daniela (she/her) Camille is a white girl who Oliver is a white boy who Grace is an Asian girl who Daniela is a Latina girl who speaks French as her first speaks English as his first speaks English as her first speaks English as her first language. She has an IEP for language. She has no language. She is an EL language. He has no dyslexia. She does not student who speaks English identified disabilities, and he identified disabilities, and she at an advanced level. She has does not receive free or receive free or reduced lunch. does not receive free or no identified disabilities, and reduced lunch. He has a She has a history of low reduced lunch. She has a she does not receive free or history of high success and success and average history of average success and low participation during reduced lunch. She has a high participation during math participation during math history of high success and lessons. He also enjoys riding lessons. She also plays math lessons. She also loves high participation during math his bike. basketball. to dance. lessons. She also does karate. 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 Mateo (he/him) Valentina (she/her) Jackie (she/they) Angel (she/her) Valentina is a Latina girl who Angel is a Black girl who Mateo is a Latino boy who Jackie is a white transgender girl who speaks English as speaks English as her first speaks English as her first speaks Spanish as his first language. He is an EL student language. She has an IEP for her first language. She has no language. She has no identified disabilities. She identified disabilities, and she who speaks English at an speech impairment intermediate level. He has no (stuttering). She does not receives free or reduced does not receive free or receive free or reduced lunch. reduced lunch. She has a identified disabilities. He lunch. She has a history of receives free or reduced average success and low history of low success and low She has a history of average lunch. He has a history of high success and low participation participation during math participation during math during math lessons. She also lessons. She also enjoys success and average lessons. She also loves participation during math enjoys spending time in animals. making origami. lessons. He also likes to play nature. the guitar. Strategy G Strategy H 1. 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