CODE: 228

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 Valentina (she/her) Jackie (she/they) Adriel (he/him) Daniela (she/her) Jackie is a white transgender Adriel is an Indigenous boy Valentina is a Latina girl who Daniela is a Latina girl who speaks English as her first girl who speaks English as who speaks English as his speaks English as her first language. She has an IEP for her first language. She has no first language. He has no language. She has no speech impairment identified disabilities. She identified disabilities, and he identified disabilities, and she (stuttering). She does not receives free or reduced receives free or reduced does not receive free or receive free or reduced lunch. lunch. She has a history of lunch. He has a history of reduced lunch. She has a She has a history of average average success and low average success and low history of average success success and low participation participation during math participation during math and low participation during during math lessons. She also lessons. She also loves lessons. He also loves to play imath lessons. She also loves enjoys spending time in animals. soccer. to dance. nature. Strategy A Strategy B 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Camille (she/her) Mason (he/him) Mateo (he/him) Liam (he/him) Camille is a white girl who Mason is a white boy who Mateo is a Latino boy who Liam is a white boy who speaks French as her first speaks English as his first speaks Spanish as his first speaks English as his first language. She is an EL language. He is on an IEP for language. He is an EL student language. He has no student who speaks English severe ADHD. He receives who speaks English at an identified disabilities, and he at an advanced level. She has free or reduced lunch. He has intermediate level. He has no does not receive free or no identified disabilities, and a history of high success and identified disabilities. He reduced lunch. He has a she does not receive free or low participation during math receives free or reduced history of average success reduced lunch. She has a lessons. He also enjoys lunch. He has a history of high and average participation history of high success and singing. success and average during math lessons. He also high participation during math participation during math loves comic books. lessons. She also does lessons. He also likes to play karate. the guitar. 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, 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) Ava (she/her) Jada (she/her) Carter (he/him) Ava is a white girl who speaks I Jada is a Black girl who Alejandro is a Latino boy who : Carter is a Black boy who English as her first language. speaks English as her first speaks Spanish as his first speaks English as his first She has no identified language. She has no language. He is an EL student language. He has no disabilities. She receives free identified disabilities, and she who speaks English at a identified disabilities, and he or reduced lunch. She has a does not receive free or beginner level. He has no receives free or reduced history of low success and low reduced lunch. She has a identified disabilities. He lunch. He has a history of receives free or reduced participation during math history of high success and average success and little to lessons. She also loves lunch. He has a history of low high participation during math no participation during math lessons. She also plays on a success and low participation lessons. He also loves to cook gardening. softball team. during math lessons. He also and bake. loves to play Minecraft. Strategy F Strategy E First, I added 7 and 3 23 + 27 27 to get 10. I put a zero I made it 23 + 27 because that's easier for + 23 under the 7. me to think about. 23 + (2 + 25)50 Then I put the 1 up Then I broke the 27 into 2 and 25. (23 + 2) = 25above the 2. Last I Then I combined the 2 with the 23, and I got added 1 + 2 + 2 to get 50. Grace (she/her) Oliver (he/him) Angel (she/her) CJ (they/them) Grace is an Asian girl who Oliver is a white boy who Angel is a Black girl who CJ is a gender fluid white speaks English as her first speaks English as his first speaks English as her first child who speaks English as language. She has an IEP for language. He has no language. She has no their first language. They have dyslexia. She does not identified disabilities, and he identified disabilities, and she no identified disabilities, and receive free or reduced lunch. does not receive free or does not receive free or they do not receive free or She has a history of low reduced lunch. He has a reduced lunch. She has a reduced lunch. They have a history of low success and low history of high success and success and average history of high success and participation during math high participation during math participation during math average participation during lessons. She also plays lessons. He also enjoys riding lessons. She also enjoys math lessons. They also love basketball. making origami. to draw and paint. Strategy G Strategy H 1. I made 27 and 23 with 1. 27 + 23 the blocks • 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