CODE: 245

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 Jackie (she/they) Daniela (she/her) Jada (she/her) Carter (he/him) Jada is a Black girl who Jackie is a white transgender Daniela is a Latina girl who Carter is a Black boy who girl who speaks English as speaks English as her first speaks English as her first speaks English as his first her first language. She has no language. She has no language. She has no language. He has no identified disabilities. She identified disabilities, and she identified disabilities, and she identified disabilities, and he receives free or reduced does not receive free or does not receive free or receives free or reduced reduced lunch. She has a lunch. She has a history of reduced lunch. She has a lunch. He has a history of average success and low history of average success history of high success and average success and little to participation during math and low participation during high participation during math no participation during math lessons. She also loves math lessons. She also loves lessons. She also plays on a lessons. He also loves to cook animals. to dance. softball team. and bake. 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 Mateo (he/him) Alejandro (he/him) Adriel (he/him) Liam (he/him) Mateo is a Latino boy who Alejandro is a Latino boy who Adriel is an Indigenous boy Liam is a white boy who speaks Spanish as his first speaks Spanish as his first who speaks English as his speaks English as his first language. He is an EL student language. He is an EL student first language. He has no language. He has no who speaks English at an who speaks English at a identified disabilities, and he identified disabilities, and he intermediate level. He has no beginner level. He has no receives free or reduced does not receive free or identified disabilities. He identified disabilities. He lunch. He has a history of reduced lunch. He has a receives free or reduced receives free or reduced average success and low history of average success lunch. He has a history of high lunch. He has a history of low participation during math and average participation success and average success and low participation lessons. He also loves to play during math lessons. He also participation during math during math lessons. He also soccer. loves comic books. lessons. He also likes to play loves to play Minecraft. the guitar. 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 0 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) Mason (he/him) Ava (she/her) Camille is a white girl who Mason is a white boy who Oliver is a white boy who Ava is a white girl who speaks English as her first language. speaks French as her first speaks English as his first speaks English as his first She has no identified language. She is an EL language. He is on an IEP for language. He has no disabilities. She receives free student who speaks English severe ADHD. He receives identified disabilities, and he at an advanced level. She has free or reduced lunch. He has does not receive free or or reduced lunch. She has a no identified disabilities, and a history of high success and reduced lunch. He has a history of low success and low she does not receive free or low participation during math history of high success and participation during math lessons. She also loves reduced lunch. She has a lessons. He also enjoys high participation during math history of high success and lessons. He also enjoys riding gardening. singing. high participation during math his bike. lessons. She also does karate. Strategy E Strategy F 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 Valentina (she/her) Angel (she/her) CJ (they/them) Grace (she/her) Valentina is a Latina girl who Angel is a Black girl who CJ is a gender fluid white Grace is an Asian girl who speaks English as her first speaks English as her first child who speaks English as speaks English as her first language. She has an IEP for language. She has no their first language. They have language. She has an IEP for dyslexia. She does not identified disabilities, and she speech impairment no identified disabilities, and (stuttering). She does not does not receive free or they do not receive free or receive free or reduced lunch. receive free or reduced lunch. reduced lunch. She has a reduced lunch. They have a She has a history of low She has a history of average history of low success and low history of high success and success and average success and low participation participation during math average participation during participation during math lessons. She also plays during math lessons. She also lessons. She also enjoys math lessons. They also love enjoys spending time in making origami. to draw and paint. basketball. nature. Strategy H Strategy G 1. I made 27 and 23 with 1. 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