CODE: 178

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).
 - Example: 9 + (1 + 7) = (9 + 1) + 7

2nd Grade Student Descriptions Daniela (she/her) Jackie (she/they) Grace (she/her) Carter (he/him) Jackie is a white transgender Grace is an Asian girl who Daniela is a Latina girl who Carter is a Black boy who speaks English as her first girl who speaks English as speaks English as her first speaks English as his first language. She has no her first language. She has no language. She has an IEP for language. He has no identified disabilities, and she identified disabilities. She dyslexia. She does not identified disabilities, and he does not receive free or receives free or reduced receive free or reduced lunch. receives free or reduced reduced lunch. She has a lunch. She has a history of She has a history of low lunch. He has a history of history of average success average success and low success and average average success and little to and low participation during participation during math participation during math no participation during math math lessons. She also loves lessons. She also loves lessons. She also plays lessons. He also loves to cook to dance. animals. basketball. and bake. Strategy A Strategy B 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 + 3 = 4325 + 2550 Camille (she/her) Mason (he/him) CJ (they/them) Angel (she/her) Camille is a white girl who Mason is a white boy who CJ is a gender fluid white Angel is a Black girl who speaks English as her first speaks French as her first speaks English as his first child who speaks English as language. She is an EL language. He is on an IEP for their first language. They have language. She has no student who speaks English severe ADHD. He receives no identified disabilities, and identified disabilities, and she at an advanced level. She has free or reduced lunch. He has they do not receive free or does not receive free or no identified disabilities, and a history of high success and reduced lunch. They have a reduced lunch. She has a she does not receive free or low participation during math history of high success and history of low success and low reduced lunch. She has a lessons. He also enjoys average participation during participation during math history of high success and singing. math lessons. They also love lessons. She also enjoys high participation during math to draw and paint. making origami. 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 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.

Oliver (he/him) Adriel (he/him) Ava (she/her) Liam (he/him) Oliver is a white boy who Liam is a white boy who Adriel is an Indigenous boy Ava is a white girl who speaks who speaks English as his English as her first language. speaks English as his first speaks English as his first She has no identified first language. He has no language. He has no language. He has no identified disabilities, and he disabilities. She receives free identified disabilities, and he identified disabilities, and he receives free or reduced or reduced lunch. She has a does not receive free or does not receive free or lunch. He has a history of history of low success and low reduced lunch. He has a reduced lunch. He has a average success and low participation during math history of high success and history of average success and average participation participation during math lessons. She also loves high participation during math lessons. He also loves to play gardening. lessons. He also enjoys riding iduring math lessons. He also loves comic books. soccer. his bike. 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 Mateo (he/him) Alejandro (he/him) Jada (she/her) Valentina (she/her) Mateo is a Latino boy who Alejandro is a Latino boy who Jada is a Black girl who Valentina is a Latina girl who speaks Spanish as his first speaks Spanish as his first speaks English as her first speaks English as her first language. He is an EL student language. He is an EL student language. She has no language. She has an IEP for who speaks English at an who speaks English at a identified disabilities, and she speech impairment intermediate level. He has no beginner level. He has no does not receive free or (stuttering). She does not reduced lunch. She has a receive free or reduced lunch. identified disabilities. He identified disabilities. He receives free or reduced receives free or reduced history of high success and She has a history of average success and low participation lunch. He has a history of high lunch. He has a history of low high participation during math success and average success and low participation lessons. She also plays on a during math lessons. She also softball team. participation during math during math lessons. He also enjoys spending time in loves to play Minecraft. lessons. He also likes to play nature. the guitar. Strategy G Strategy H 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