CODE: 115

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) Alejandro (he/him) Oliver (he/him) Carter (he/him) Alejandro is a Latino boy who Oliver is a white boy who Valentina is a Latina girl who Carter is a Black boy who speaks English as her first speaks Spanish as his first speaks English as his first speaks English as his first language. She has an IEP for language. He is an EL student language. He has no language. He has no speech impairment who speaks English at a identified disabilities, and he identified disabilities, and he (stuttering). She does not beginner level. He has no does not receive free or receives free or reduced reduced lunch. He has a receive free or reduced lunch. identified disabilities. He lunch. He has a history of She has a history of average receives free or reduced history of high success and average success and little to success and low participation lunch. He has a history of low high participation during math no participation during math during math lessons. She also success and low participation lessons. He also enjoys riding Hessons. He also loves to cook enjoys spending time in during math lessons. He also his bike. and bake. nature. loves to play Minecraft. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Mason (he/him) Ava (she/her) Camille (she/her) Adriel (he/him) Mason is a white boy who Ava is a white girl who speaks Camille is a white girl who Adriel is an Indigenous boy speaks French as her first speaks English as his first English as her first language. who speaks English as his language. He is on an IEP for She has no identified language. She is an EL first language. He has no severe ADHD. He receives disabilities. She receives free student who speaks English identified disabilities, and he free or reduced lunch. He has or reduced lunch. She has a at an advanced level. She has receives free or reduced a history of high success and history of low success and low no identified disabilities, and lunch. He has a history of low participation during math participation during math she does not receive free or average success and low lessons. He also enjoys lessons. She also loves reduced lunch. She has a participation during math singing. gardening. history of high success and lessons. He also loves to play high participation during math soccer. lessons. She also does karate. 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.

Liam (he/him) CJ (they/them) Angel (she/her) Jada (she/her) Liam is a white boy who CJ is a gender fluid white Angel is a Black girl who Jada is a Black girl who speaks English as his first child who speaks English as speaks English as her first speaks English as her first their first language. They have language. She has no language. He has no language. She has no identified disabilities, and he no identified disabilities, and identified disabilities, and she identified disabilities, and she does not receive free or they do not receive free or does not receive free or does not receive free or reduced lunch. He has a reduced lunch. They have a reduced lunch. She has a reduced lunch. She has a history of average success history of high success and history of low success and low history of high success and and average participation average participation during participation during math high participation during math during math lessons. He also math lessons. They also love lessons. She also enjoys lessons. She also plays on a loves comic books. to draw and paint. making origami. softball team. 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 Grace (she/her) Mateo (he/him) Daniela (she/her) Jackie (she/they) Grace is an Asian girl who Daniela is a Latina girl who Mateo is a Latino boy who Jackie is a white transgender speaks English as her first speaks English as her first speaks Spanish as his first girl who speaks English as language. He is an EL student ther first language. She has no language. She has an IEP for language. She has no dvslexia. She does not identified disabilities, and she who speaks English at an identified disabilities. She receive free or reduced lunch. does not receive free or intermediate level. He has no receives free or reduced She has a history of low identified disabilities. He lunch. She has a history of reduced lunch. She has a success and average history of average success receives free or reduced average success and low and low participation during lunch. He has a history of high participation during math participation during math lessons. She also plays math lessons. She also loves success and average lessons. She also loves basketball. to dance. participation during math animals. lessons. He also likes to play the guitar. Strategy H Strategy G 1. I made 27 and 23 with 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