CODE: 152

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 Alejandro (he/him) Mason (he/him) Carter (he/him) Liam (he/him) Alejandro is a Latino boy who Mason is a white boy who Carter is a Black boy who Liam is a white boy who speaks Spanish as his first speaks English as his first speaks English as his first speaks English as his first language. He is an EL student language. He is on an IEP for language. He has no language. He has no who speaks English at a severe ADHD. He receives identified disabilities, and he identified disabilities, and he beginner level. He has no free or reduced lunch. He has receives free or reduced does not receive free or identified disabilities. He a history of high success and lunch. He has a history of reduced lunch. He has a receives free or reduced low participation during math average success and little to history of average success lunch. He has a history of low lessons. He also enjoys no participation during math and average participation success and low participation singing. lessons. He also loves to cook during math lessons. He also during math lessons. He also and bake. loves comic books. loves to play Minecraft. 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. 25 + 2Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Mateo (he/him) Ava (she/her) CJ (they/them) Adriel (he/him) Mateo is a Latino boy who Ava is a white girl who speaks CJ is a gender fluid white Adriel is an Indigenous boy speaks Spanish as his first English as her first language. child who speaks English as who speaks English as his language. He is an EL student She has no identified their first language. They have first language. He has no who speaks English at an disabilities. She receives free no identified disabilities, and identified disabilities, and he intermediate level. He has no or reduced lunch. She has a they do not receive free or receives free or reduced identified disabilities. He history of low success and low reduced lunch. They have a lunch. He has a history of receives free or reduced participation during math history of high success and average success and low lunch. He has a history of high lessons. She also loves average participation during participation during math math lessons. They also love success and average gardening. lessons. He also loves to play participation during math to draw and paint. soccer. lessons. He also likes to play 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, 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.

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