CODE: 22

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 Camille (she/her) Oliver (he/him) Daniela (she/her) Liam (he/him) Daniela is a Latina girl who Camille is a white girl who Oliver is a white boy who Liam is a white boy who speaks English as her first speaks French as her first speaks English as his first speaks English as his first language. She is an EL language. He has no language. She has no language. He has no student who speaks English identified disabilities, and he identified disabilities, and she identified disabilities, and he at an advanced level. She has does not receive free or does not receive free or does not receive free or reduced lunch. She has a no identified disabilities, and reduced lunch. He has a reduced lunch. He has a she does not receive free or history of high success and history of average success history of average success reduced lunch. She has a high participation during math and low participation during and average participation math lessons. She also loves history of high success and lessons. He also enjoys riding during math lessons. He also high participation during math his bike. to dance. loves comic books. lessons. She also does karate. Strategy A Strategy B • 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 Jackie (she/they) Ava (she/her) Grace (she/her) Jada (she/her) Jackie is a white transgender Ava is a white girl who speaks Grace is an Asian girl who Jada is a Black girl who girl who speaks English as English as her first language. speaks English as her first speaks English as her first her first language. She has no She has no identified language. She has an IEP for language. She has no identified disabilities. She disabilities. She receives free dvslexia. She does not identified disabilities, and she receives free or reduced or reduced lunch. She has a receive free or reduced lunch. does not receive free or lunch. She has a history of history of low success and low She has a history of low reduced lunch. She has a average success and low participation during math success and average history of high success and participation during math lessons. She also loves participation during math high participation during math lessons. She also loves gardening. lessons. She also plays lessons. She also plays on a animals. basketball. softball team. Strategy D Strategy C 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.

Carter (he/him) Alejandro (he/him) Mateo (he/him) Valentina (she/her) Carter is a Black boy who Valentina is a Latina girl who Alejandro is a Latino boy who Mateo is a Latino boy who speaks English as his first speaks English as her first speaks Spanish as his first speaks Spanish as his first language. He has no language. She has an IEP for language. He is an EL student language. He is an EL student identified disabilities, and he speech impairment who speaks English at a who speaks English at an receives free or reduced (stuttering). She does not beginner level. He has no intermediate level. He has no lunch. He has a history of receive free or reduced lunch. identified disabilities. He identified disabilities. He She has a history of average receives free or reduced average success and little to receives free or reduced success and low participation lunch. He has a history of low lunch. He has a history of high no participation during math lessons. He also loves to cook during math lessons. She also success and low participation success and average and bake. enjoys spending time in during math lessons. He also participation during math loves to play Minecraft. lessons. He also likes to play nature. Strategy F Strategy E 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 Angel (she/her) Mason (he/him) CJ (they/them) Adriel (he/him) Adriel is an Indigenous boy Angel is a Black girl who CJ is a gender fluid white Mason is a white boy who speaks English as her first speaks English as his first child who speaks English as who speaks English as his language. She has no language. He is on an IEP for their first language. They have first language. He has no no identified disabilities, and identified disabilities, and she identified disabilities, and he severe ADHD. He receives does not receive free or free or reduced lunch. He has they do not receive free or receives free or reduced reduced lunch. She has a a history of high success and reduced lunch. They have a lunch. He has a history of history of low success and low low participation during math history of high success and average success and low participation during math lessons. He also enjoys average participation during participation during math lessons. She also enjoys singing. math lessons. They also love lessons. He also loves to play soccer. making origami. to draw and paint. 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. 2. 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