CODE: 196

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

and got 50.

Then I only needed to add 25 more, so I made another jump

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