CODE: 187

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 Oliver (he/him) Jackie (she/they) Ava (she/her) Valentina (she/her) Jackie is a white transgender Ava is a white girl who speaks Valentina is a Latina girl who Oliver is a white boy who English as her first language. speaks English as his first girl who speaks English as speaks English as her first She has no identified language. He has no her first language. She has no language. She has an IEP for identified disabilities, and he identified disabilities. She disabilities. She receives free speech impairment does not receive free or receives free or reduced or reduced lunch. She has a (stuttering). She does not reduced lunch. He has a lunch. She has a history of history of low success and low receive free or reduced lunch. history of high success and average success and low participation during math She has a history of average high participation during math participation during math lessons. She also loves success and low participation during math lessons. She also lessons. He also enjoys riding lessons. She also loves gardening. his bike. animals. enjoys spending time in 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 + 3 = 4325 + 25Jada (she/her) Camille (she/her) Angel (she/her) Mateo (he/him) Jada is a Black girl who Camille is a white girl who Angel is a Black girl who Mateo is a Latino boy who speaks French as her first speaks English as her first speaks English as her first speaks Spanish as his first language. She has no language. She is an EL language. She has no language. He is an EL student identified disabilities, and she student who speaks English identified disabilities, and she who speaks English at an does not receive free or at an advanced level. She has does not receive free or intermediate level. He has no reduced lunch. She has a no identified disabilities, and reduced lunch. She has a identified disabilities. He history of high success and she does not receive free or history of low success and low receives free or reduced high participation during math reduced lunch. She has a participation during math lunch. He has a history of high lessons. She also plays on a history of high success and lessons. She also enjoys success and average softball team. high participation during math making origami. participation during math lessons. She also does lessons. He also likes to play karate. 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, 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.

Mason (he/him) Carter (he/him) Grace (she/her) Adriel (he/him) Mason is a white boy who Carter is a Black boy who Grace is an Asian girl who Adriel is an Indigenous boy speaks English as his first speaks English as his first speaks English as her first who speaks English as his language. He is on an IEP for language. She has an IEP for first language. He has no language. He has no severe ADHD. He receives identified disabilities, and he dyslexia. She does not identified disabilities, and he free or reduced lunch. He has receives free or reduced receive free or reduced lunch. Freceives free or reduced a history of high success and lunch. He has a history of She has a history of low lunch. He has a history of low participation during math average success and little to success and average average success and low lessons. He also enjoys no participation during math participation during math participation during math lessons. He also loves to cook lessons. She also plays lessons. He also loves to play singing. and bake. basketball. soccer. 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 Liam (he/him) Alejandro (he/him) Daniela (she/her) CJ (they/them) Liam is a white boy who Alejandro is a Latino boy who Daniela is a Latina girl who CJ is a gender fluid white speaks English as his first speaks Spanish as his first speaks English as her first child who speaks English as language. She has no their first language. They have language. He has no language. He is an EL student identified disabilities, and he who speaks English at a identified disabilities, and she no identified disabilities, and does not receive free or beginner level. He has no does not receive free or they do not receive free or identified disabilities. He reduced lunch. She has a reduced lunch. They have a reduced lunch. He has a history of average success receives free or reduced history of average success history of high success and and low participation during average participation during and average participation lunch. He has a history of low during math lessons. He also success and low participation math lessons. She also loves math lessons. They also love loves comic books. during math lessons. He also to dance. to draw and paint. loves to play Minecraft. Strategy G Strategy H 1. 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