CODE: 12

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 Jada (she/her) Liam (he/him) Jackie (she/they) CJ (they/them) Jackie is a white transgender Jada is a Black girl who Liam is a white boy who CJ is a gender fluid white speaks English as her first speaks English as his first girl who speaks English as child who speaks English as language. She has no language. He has no her first language. She has no their first language. They have identified disabilities, and she identified disabilities, and he identified disabilities. She no identified disabilities, and does not receive free or does not receive free or receives free or reduced they do not receive free or reduced lunch. She has a reduced lunch. He has a lunch. She has a history of reduced lunch. They have a history of high success and history of average success average success and low history of high success and high participation during math and average participation participation during math average participation during lessons. She also plays on a during math lessons. He also lessons. She also loves math lessons. They also love loves comic books. softball team. animals. to draw and paint. 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. 25 + 2Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 40 25 40 + 3 = 4325 + 2550 Camille (she/her) Ava (she/her) Adriel (he/him) Alejandro (he/him) Camille is a white girl who Ava is a white girl who speaks Adriel is an Indigenous boy Alejandro is a Latino boy who speaks French as her first English as her first language. who speaks English as his speaks Spanish as his first language. She is an EL She has no identified first language. He has no language. He is an EL student student who speaks English disabilities. She receives free identified disabilities, and he who speaks English at a at an advanced level. She has or reduced lunch. She has a receives free or reduced beginner level. He has no no identified disabilities, and history of low success and low lunch. He has a history of identified disabilities. He she does not receive free or participation during math average success and low receives free or reduced reduced lunch. She has a lessons. She also loves participation during math lunch. He has a history of low history of high success and gardening. lessons. He also loves to play success and low participation high participation during math soccer. during math lessons. He also lessons. She also does loves to play Minecraft. karate. Strategy C Strategy D 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.

Oliver (he/him) Valentina (she/her) Angel (she/her) Daniela (she/her) Oliver is a white boy who Valentina is a Latina girl who Angel is a Black girl who Daniela is a Latina girl who speaks English as his first speaks English as her first speaks English as her first speaks English as her first language. She has no language. He has no language. She has an IEP for language. She has no identified disabilities, and he speech impairment identified disabilities, and she identified disabilities, and she does not receive free or (stuttering). She does not does not receive free or does not receive free or reduced lunch. He has a receive free or reduced lunch. reduced lunch. She has a reduced lunch. She has a She has a history of average history of high success and history of low success and low history of average success success and low participation high participation during math participation during math and low participation during during math lessons. She also lessons. He also enjoys riding lessons. She also eniovs math lessons. She also loves his bike. enjoys spending time in making origami. to dance. nature. 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 • Then I put the 1 up me to think about. 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 50. Grace (she/her) Mateo (he/him) Carter (he/him) Mason (he/him) Mateo is a Latino boy who Carter is a Black boy who Grace is an Asian girl who Mason is a white boy who speaks Spanish as his first speaks English as his first speaks English as her first speaks English as his first language. He is an EL student language. He has no language. She has an IEP for language. He is on an IEP for who speaks English at an identified disabilities, and he dyslexia. She does not severe ADHD. He receives intermediate level. He has no receives free or reduced receive free or reduced lunch. free or reduced lunch. He has identified disabilities. He lunch. He has a history of She has a history of low a history of high success and success and average low participation during math receives free or reduced average success and little to lunch. He has a history of high no participation during math participation during math lessons. He also enjoys lessons. She also plays success and average lessons. He also loves to cook singing. and bake. basketball. participation during math lessons. He also likes to play the guitar. Strategy G Strategy H 1. I made 27 and 23 with 1. 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