CODE: 184

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 Adriel (he/him) Carter (he/him) Liam (he/him) Grace (she/her) Adriel is an Indigenous boy Carter is a Black boy who Liam is a white boy who Grace is an Asian girl who who speaks English as his speaks English as his first speaks English as his first speaks English as her first first language. He has no language. He has no language. He has no language. She has an IEP for identified disabilities, and he identified disabilities, and he identified disabilities, and he dyslexia. She does not receives free or reduced receives free or reduced does not receive free or receive free or reduced lunch. lunch. He has a history of lunch. He has a history of reduced lunch. He has a She has a history of low average success and low average success and little to history of average success success and average participation during math no participation during math and average participation participation during math lessons. He also loves to play lessons. He also loves to cook during math lessons. He also lessons. She also plays soccer. and bake. loves comic books. 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. 25 40 + 3 = 4325 + 2550 CJ (they/them) Jada (she/her) Jackie (she/they) Valentina (she/her) CJ is a gender fluid white Jada is a Black girl who Jackie is a white transgender Valentina is a Latina girl who child who speaks English as speaks English as her first girl who speaks English as speaks English as her first her first language. She has no their first language. They have language. She has no language. She has an IEP for no identified disabilities, and identified disabilities, and she identified disabilities. She speech impairment they do not receive free or does not receive free or receives free or reduced (stuttering). She does not reduced lunch. They have a reduced lunch. She has a lunch. She has a history of receive free or reduced lunch. history of high success and history of high success and average success and low She has a history of average average participation during high participation during math participation during math success and low participation lessons. She also loves math lessons. They also love lessons. She also plays on a during math lessons. She also to draw and paint. softball team. animals. enjoys spending time in nature. Strategy C Strategy D Step 1 1. I made 27 and 23 +2 +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 Λ 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) Camille (she/her) Mateo (he/him) Angel (she/her) Oliver is a white boy who Angel is a Black girl who Camille is a white girl who Mateo is a Latino boy who speaks English as his first speaks English as her first speaks French as her first speaks Spanish as his first language. He has no language. She has no language. She is an EL language. He is an EL student identified disabilities, and she identified disabilities, and he student who speaks English who speaks English at an does not receive free or does not receive free or at an advanced level. She has intermediate level. He has no reduced lunch. He has a reduced lunch. She has a no identified disabilities, and identified disabilities. He she does not receive free or history of high success and history of low success and low receives free or reduced reduced lunch. She has a participation during math lunch. He has a history of high high participation during math lessons. He also enjoys riding lessons. She also enjoys history of high success and success and average his bike. making origami. high participation during math participation during math lessons. She also does lessons. He also likes to play karate. 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 • 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 Mason (he/him) Ava (she/her) Daniela (she/her) Alejandro (he/him) Ava is a white girl who speaks Daniela is a Latina girl who Aleiandro is a Latino boy who Mason is a white boy who speaks English as his first English as her first language. speaks English as her first speaks Spanish as his first language. He is on an IEP for She has no identified language. She has no language. He is an EL student disabilities. She receives free identified disabilities, and she severe ADHD. He receives who speaks English at a free or reduced lunch. He has or reduced lunch. She has a does not receive free or beginner level. He has no reduced lunch. She has a identified disabilities. He a history of high success and history of low success and low low participation during math participation during math history of average success receives free or reduced lessons. He also enjoys lessons. She also loves and low participation during lunch. He has a history of low math lessons. She also loves singing. gardening. success and low participation to dance. during math lessons. He also 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