CODE: 85

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 Mason (he/him) Angel (she/her) Adriel (he/him) Carter (he/him) Angel is a Black girl who Adriel is an Indigenous boy Mason is a white boy who Carter is a Black boy who who speaks English as his speaks English as his first speaks English as her first speaks English as his first language. He is on an IEP for language. She has no first language. He has no language. He has no severe ADHD. He receives identified disabilities, and she identified disabilities, and he identified disabilities, and he free or reduced lunch. He has does not receive free or receives free or reduced receives free or reduced a history of high success and reduced lunch. She has a lunch. He has a history of lunch. He has a history of low participation during math history of low success and low average success and low average success and little to lessons. He also enjoys participation during math participation during math no participation during math singing. lessons. She also enjoys lessons. He also loves to play Hessons. He also loves to cook making origami. soccer. and bake. 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 + 3 = 4325 + 2550 Jackie (she/they) Oliver (he/him) Valentina (she/her) Ava (she/her) Jackie is a white transgender Oliver is a white boy who Valentina is a Latina girl who Ava is a white girl who speaks girl who speaks English as speaks English as his first speaks English as her first English as her first language. her first language. She has no language. He has no language. She has an IEP for She has no identified identified disabilities. She identified disabilities, and he speech impairment disabilities. She receives free receives free or reduced does not receive free or (stuttering). She does not or reduced lunch. She has a lunch. She has a history of reduced lunch. He has a receive free or reduced lunch. history of low success and low average success and low history of high success and She has a history of average participation during math participation during math high participation during math success and low participation lessons. She also loves lessons. She also loves lessons. He also enjoys riding during math lessons. She also gardening. animals. his bike. enjoys spending time in nature. Strategy D Strategy C 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.

CJ (they/them) Camille (she/her) Mateo (he/him) Jada (she/her) CJ is a gender fluid white Mateo is a Latino boy who Camille is a white girl who Jada is a Black girl who child who speaks English as speaks Spanish as his first speaks French as her first speaks English as her first their first language. They have language. He is an EL student language. She is an EL language. She has no no identified disabilities, and who speaks English at an student who speaks English identified disabilities, and she they do not receive free or intermediate level. He has no at an advanced level. She has idoes not receive free or reduced lunch. They have a identified disabilities. He no identified disabilities, and reduced lunch. She has a history of high success and receives free or reduced she does not receive free or history of high success and average participation during lunch. He has a history of high reduced lunch. She has a high participation during math math lessons. They also love success and average history of high success and lessons. She also plays on a to draw and paint. participation during math high participation during math softball team. lessons. He also likes to play lessons. She also does karate. 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 Alejandro (he/him) Liam (he/him) Daniela (she/her) Grace (she/her) Aleiandro is a Latino boy who Liam is a white boy who Daniela is a Latina girl who Grace is an Asian girl who speaks Spanish as his first speaks English as his first speaks English as her first speaks English as her first language. He is an EL student language. He has no language. She has no language. She has an IEP for identified disabilities, and he identified disabilities, and she who speaks English at a dyslexia. She does not beginner level. He has no does not receive free or does not receive free or receive free or reduced lunch. identified disabilities. He reduced lunch. She has a reduced lunch. He has a She has a history of low receives free or reduced history of average success history of average success success and average lunch. He has a history of low and average participation and low participation during participation during math math lessons. She also loves lessons. She also plays success and low participation during math lessons. He also during math lessons. He also loves comic books. to dance. basketball. loves to play Minecraft. Strategy G Strategy H 1. 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. 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