CODE: 18

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) Grace (she/her) Angel (she/her) Alejandro (he/him) Angel is a Black girl who Oliver is a white boy who Grace is an Asian girl who Alejandro is a Latino boy who speaks Spanish as his first speaks English as his first speaks English as her first speaks English as her first language. He has no language. She has an IEP for language. She has no language. He is an EL student identified disabilities, and he dyslexia. She does not identified disabilities, and she who speaks English at a does not receive free or receive free or reduced lunch. does not receive free or beginner level. He has no reduced lunch. She has a reduced lunch. He has a She has a history of low identified disabilities. He history of high success and success and average history of low success and low receives free or reduced high participation during math participation during math participation during math lunch. He has a history of low lessons. He also enjoys riding lessons. She also plays lessons. She also enjoys success and low participation during math lessons. He also his bike. basketball. making origami. loves to play Minecraft. 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. Then I knew that 25 plus 25 is 50 because 2 quarters are 50 cents. 25 40 + 3 = 4325 + 2550 Camille (she/her) Mateo (he/him) Daniela (she/her) Liam (he/him) Camille is a white girl who Mateo is a Latino boy who Daniela is a Latina girl who Liam is a white boy who speaks French as her first speaks Spanish as his first speaks English as her first speaks English as his first language. She is an EL language. He is an EL student language. She has no language. He has no who speaks English at an student who speaks English identified disabilities, and she identified disabilities, and he at an advanced level. She has intermediate level. He has no does not receive free or does not receive free or no identified disabilities, and identified disabilities. He reduced lunch. She has a reduced lunch. He has a she does not receive free or receives free or reduced history of average success history of average success reduced lunch. She has a lunch. He has a history of high and low participation during and average participation history of high success and success and average math lessons. She also loves during math lessons. He also high participation during math participation during math to dance. loves comic books. 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, 23 50 which is 50 I started at 23.

Then I took 2 from the 27 to make a jump of 2.

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

That makes 25.

and got 50.

Step 2

Ava (she/her) CJ (they/them) Mason (he/him) Valentina (she/her) Ava is a white girl who speaks Mason is a white boy who CJ is a gender fluid white Valentina is a Latina girl who English as her first language. speaks English as his first child who speaks English as speaks English as her first She has no identified their first language. They have language. She has an IEP for language. He is on an IEP for disabilities. She receives free severe ADHD. He receives no identified disabilities, and speech impairment or reduced lunch. She has a free or reduced lunch. He has they do not receive free or (stuttering). She does not history of low success and low a history of high success and reduced lunch. They have a receive free or reduced lunch. participation during math low participation during math history of high success and She has a history of average lessons. She also loves average participation during success and low participation lessons. He also enjoys during math lessons. She also math lessons. They also love gardening. singing. to draw and paint. enjoys spending time in nature. 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 50. Jackie (she/they) Jada (she/her) Adriel (he/him) Carter (he/him) Jackie is a white transgender Jada is a Black girl who Adriel is an Indigenous boy Carter is a Black boy who girl who speaks English as speaks English as her first who speaks English as his speaks English as his first her first language. She has no language. She has no first language. He has no language. He has no identified disabilities, and he identified disabilities. She identified disabilities, and she identified disabilities, and he receives free or reduced does not receive free or receives free or reduced receives free or reduced lunch. She has a history of reduced lunch. She has a lunch. He has a history of lunch. He has a history of average success and low average success and low average success and little to history of high success and high participation during math participation during math no participation during math participation during math lessons. She also loves lessons. She also plays on a lessons. He also loves to play lessons. He also loves to cook animals. softball team. soccer. and bake. 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