LESSON 3: ADD AND SUBTRACT WITHIN 20

MAIN COGNITIVE OBJECTIVE(S): Students will acquire knowledge and gain understanding of the connection between adding and subtracting patterns within 20.

MATERIALS: Numberline
**Students will fade out the number line and use a numberboard/Stencil with a 0-9 display to reason through the problems.*

**Students who are able to generate open ended responses by pointing to letters to spell, typing, signing, or speaking, do NOT need to use the options provided.*

TEACH: Today we are going to bring adding and subtracting <u>together</u>.

SPELL: Let's spell TOGETHER to warm up.

TEACH: (*Hold the numbers 0-9 on the numberboard or stencil.*) Three (*Point to the 3*) minus one equals 2 (*Point to the 2.*) Three (*Point to the 3*) plus one equals 4 (*Point to the 4.*). (*Write down 3-1=2 and 3+1=4*)

ASK: So, 3-1= (2. or 5)?
"3-1=2."
ASK: And, 3+1= (5 or 4.)?
"3+1=4."
EXPAND: So, use that pattern then 7-1 equals (4 or 6.)?
"It would be 6." (Point it out on the numberboard/stencil if needed.)
EXPAND: And, 7+1 would be (5 or 8.)?
"It would be 8." (Point it out on the numberboard/stencil if needed.)
**Try a few more out. 8-1, 8+1, 4+1, 4-1, 2+1, 2-1, 1+1, 1-1*

TEACH: Now, let's try it with adding and subtracting <u>two</u>.

ASK: So, we are trying it out with adding and subtracting (2. or 4)?

EXPAND: If 3-1=2, what will 3-2= (1. or 4)?
"It would be 1." (Show it on the numberboard/stencil if needed.)
EXPAND: And, if 3+1=4, then 3+2= (5. or 7)?
"It would be 5." (Show it on the numberboard/stencil if needed.)
EXPAND: And, if 7-1= 6, then 7-2= (5. or 9)?
"It would equal 5." (Show it on the numberboard/stencil if needed.)
EXPAND: And, 7+1=8, so 7+2 will equal (6 or 9.)?
"It would be 9." (Show it on the numberboard/stencil if needed.)
Continue doing more adding and subtracting with 2: 2-2, 2+2, 4-2, 4+2, 6-2, 6+2

TEACH: Ok, now, let's use our knowledge to add and subtract with three or more.

SPELL: Let's spell THREE.

EXPAND: If 3+2=5, what will 3+3=? (4 or 6.)?
"It is 6. See 3 (Point to the 3) plus 1,2,3 (Point to the 4, 5, and then 6 as you say 1,2,3.)." (Show it on the numberboard/stencil if needed.)
EXPAND: And 3-3 will equal? (0. or 5)?
"The answer is 0." (Show it on the numberboard/stencil if needed.)
EXPAND: And What do you think 3+4 will equal? (5 or 7.)?
"It would be 7." (Show it on the numberboard/stencil if needed.)
EXPAND: And 5+4 will equal (7 or 9.)?
"It would be 9." (Show it on the numberboard/stencil if needed.)
Try a few more problems. 3+5, 7-4, 8-6, 6+2

TEACH: Now let's generalize our skills to a bit higher numbers. 3+4=7, so 13+4=17.

EXPAND: Do you see that pattern? (AGREE or DISAGREE)?
Comment on the student's response. (Reshow if needed.)
EXPAND: So, 6-2=4, so 16-2= (14. or 17)?
"It would be 14."
EXPAND: 3-1=2, so 13-1= (11 or 12.)?
"It equals 12."
EXPAND: And 14+2= (14 or 16.)?
"It equals 16."

**Continue with a few more problems. 18-4, 19-3, 15+3*

E*XTENSION ACTIVITY: Let's do some story problems.*

1) *Samuel had 14 apples. He ate 2. How many does he have left?*

EXPAND: Will we (PLUS or MINUS.)?

EXPAND: And 14-2 is (13 or 12.)?

2) *Pablo had 8 dogs. His grandfather gave him 4 more. How many does he have now?*

EXPAND: Will we (PLUS. or MINUS)?

EXPAND: 8+4 equals (12. or 15)?

3) *Charu had 15 horses. Then she got 4 more. How many does she have altogether?*

EXPAND: Will we (PLUS or MINUS)?

EXPAND: 15+4= (17 or 19.)?