**Lesson Title:** Relate Addition and Subtraction

**Teacher’s Name:** Katelynn Johnson

**Grade:** 2nd Grade Mrs. Swanson

**Time:** 35-45 minutes

**Math Standard**

*Add and Subtract within 20.*

**2.OA.2:** Fluently add and subtract within 20 using mental strategies. By the end of Grade2, know from memory all sums of two one-digit numbers.

**Assessment**

**+:** A student who is working towards meeting expectations, but did not complete/participate in class discussions or math worksheet.

**++:** A student who is meeting expectations somewhat with average work competition or little to no effort in both activities. Participating in the group discussions or completing the math problems.

**+++:** A student who met expectations of completing all expectations (group discussions, math worksheet, and own section).

**Adaptations for Diverse Learners:** Adaptations and accommodations will be made for a student if needed.

Alexandra is pulled for special education math with Ms. Brazeau during our math time.

Hunter will have adaptions such as only completing 3/4 math problems that I have made. I will assist him with thoughts on the last part of the problem “On your own” section. I will prompt him with examples to help him complete this section.

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| **Vocabulary (Content and academic):**   * Related facts-facts that use the same number * Part * Whole | **Materials:**   * Each student should have 12 linker cubes (6 of one color, 6 of another color) * Projector * Online math book * White board * 1 math worksheet per student * Little candy-1 per student |

One student each day does morning board after lunch. In the morning board duties we talk about money (one of our 2 grade math standards). This takes about 5-10 minutes before math begins!

***I Can Statement: I can use related facts (part/part/whole) to solve addition and subtraction problems.***

**Anticipatory Set: (5 minutes)**

* Show a picture of candy bar/~~apple~~ and talk with elbow partners about what they see.
  + Is the candy bar whole?
  + Are there different parts of this candy bar?
* Talk about how this candy bar is part of a whole
* During my anticipatory set, I first used a pencil and I cracked that in half to get my students attention. Then I talked about how this pencil was a whole thing until I cracked it into two parts. I then asked the students if a part of something can only be broken in half and one student said, “You could’ve broken that pencil in three parts!”
* I also then broke the candy bar into four parts and taped it to the whiteboard to make it whole again.

**Lesson Sequence (estimated times)**

**I DO SECTION (10 minutes)**

* ~~Use smart board and projector to go to page 69 and talk about part & whole.~~
* Instead of using the projector and whiteboard to introduce part/part/whole, I used linker cubes for the example and taped them to the board to show the whole set of linker cubes.
* Another revision I could add to the lesson would be a quick sample video of part/part/whole addition and subtraction. This would be something that the students are used to and can relate to when working on problems.
* Put 4 yellow cubes in one part section and 3 red cubes in the other part section
* Then put 4yellow cubes + 3red cubes in the whole section and talk about how the yellow and red dots are apart of a whole math problem.
* Show a math problem and talk about 2 addends being a part of the whole sum!
* An addition I would make to this section is doing more of the linker cube examples before sending the students off. I only did one using the linker cubes, and I think the students could’ve used one or two more examples of the linker cubes that they would be using during their math worksheet.

**WE DO SECTION (5 minutes)**

* Together on the big board do examples on pg. 70 # 1&2. Have students use their cubes to help me solve this problem.
* I did not use the problems on pg. 70 instead I made up my own problem on the board and then had the students help me solve it on the board. The lesson was moving so smoothly, I would’ve had to go to the back of the room and get the page set up and I thought I should just use the problem (I remembered it) and just write it on the board.

**YOU DO SECTION (10 minutes)**

* Have each student partner up and complete the handmade worksheet that I made.
  + Students may use cubes at this time to aid in solving the problems
* At the end of the page have students complete the “On your own” section by themselves.
  + This was my favorite part of the lesson, seeing the examples that students came up with for their own part/part/whole problems. I had some students draw me pictures and some wrote about part/part/whole things. Example: part of a cat is its head and the other part is it’s body; together that is a whole cat. I had one example using tires on a car as parts and the body of the car as a part, putting both together making a whole car.

**Closure:**

* Bring class back together at the end of the lesson and talk about examples of part and whole.
  + At the end of the lesson, I would add in one last talk about part/part/whole. I was pressed for time and I think this quick wrap-up would have ended the lesson perfectly.
* Give each student a little candy bar and say “Thanks for being a part of my whole class.”

**Reflection:**

1.AI was so excited to teach this lesson to my second graders for two reasons, one-math is right after lunch and the students are always come back ready to roar and two- I love when I get to use real life examples to make a connection to student’s lives. Overall, I thought this whole lesson was very successful. The main focus of the lesson was for the students to make the connection between addition and subtraction. I was teaching them how to make this connection using part/part/whole. I was aware of my students not seeing this type of content before, I made sure to start small with the content and focus on the vocabulary that was a huge chunk of the lesson.

1.D The beginning of the lesson went well. I started the lesson by snapping a pencil over my knee to get my students attention-of course the boys in my class went nuts! This grabbed their attention and was an easy way to show part and whole to my students. I then proceeded by breaking a candy bar in fourths and taping it on the whiteboard to show another part/part/whole example. Finally, I used the linker cubes and colored on the board for an example. 4.A Here is where I would add more examples using linker cubes. I talked about how there are different examples in the classroom like part/part/whole paper, water bottles, desks, crayons, books (pages that are part of a book). This made the lesson stronger because of the real life examples that the students could relate to.

1.C In the middle of the lesson where students were completing the worksheet with a partner went well and they used the math manipulative (linker cubes) to solve the problems. I gave clear instructions and expectations before releasing students to work on their assignment. I have realized that clear specific instructions are so so so important for young students. The sequence of my lesson was very specific. I used the I DO, We DO, You DO method to ensure proper introduction and background knowledge was present for the assignment.

1.F The conclusion of the lesson was when the students had to do the “on your own” section which was draw or write a part/part/whole example. I allowed for drawing/writing because some of my students struggle with writing still and need to be guided more. Drawing was pretty cool to see because each example was different from the next! After the conclusion of the lesson I brought my kids to art and Dr. Johnson and I debriefed. I used the worksheet and the on your own section for my assessment of the content. I wanted to have part of the worksheet be with a partner for first time problems and then the on your own section was more of a formal assessment that I later sat down and dissected. A lot of my students used real life examples such as parts of a car, parts of a water bottle, and parts of animals (tail, body, head).

4.E My conversation with Dr. Johnson went very well. We were both happy with the outcome of my lesson. We talked about how I used good transition techniques between activities (3,2,1) and how my variety of teaching strategies is a strength of mine. I did hands on, visual, and auditory things to make this lesson go smoothly. We talked about how I made my own math page, but followed the curriculum of our second grade math book. I sometimes like to make pages on my own to switch things up and make math more fun! We talked about how my clear directions in the beginning of the lesson lead to a successful partner work and individual work results. We also talked about how my classroom management is strong and I use some good techniques to get my students engaged or back on task. Dr. Johnson added that she would like me to contact parents using positive notes and such to let them know how their students are doing. I thought this was a great tip on how to build a good relationship with student’s parents. The day after my observation, Mrs. Swanson showed me character sheets that WES sends home to parents (these are positive notes about their pillars of character around the school) TRRFCC. I have made it a weekly goal to send home at least five character sheets for different students. We also talked about preparing for parent teacher conferences and how I can make important inputs for each student. I am looking forward to PTCs and the rest of the semester!

4.EMy cooperating teacher was not here for my lesson, but I showed her my results and we talked about how I felt and she was pleased with the outcome. Mrs. Swanson liked that I made my lesson eye-catching and in “the students world”. This lesson was kind of an introduction to a big section-fact families and she is glad that I took my time to teach relationship numbers because it is a solid base for the rest of the chapter.

1.B Using my knowledge about my students, lead to a successful lesson. At the beginning of the lesson I kept my direct instruction lesser than 10 minutes. My class needs to move or be active or hands on in order to make content sink in. If I stood up in front of them for more than 20 minutes talking, everything would go in one ear and out the other. Instead of introducing vocabulary by writing on the board I used real life examples like the pencil and candy bar to demonstrate part and whole vocabulary.

1.EWhen the students dispersed to do the partner problems I allowed them to choose their own partners. Often times I pair up students based on ability level. My lower students are normally placed with an at level student because sometimes a second grader can help another second grader learn math in a different way than a teacher can. One of my favorite things about teaching young children is that they like to help and teach each other in the time of need. Recently, I had created two different sets of groups that we use in the classroom. Group A is based on ability where I try to put a student that is above grade level, at grade, and below grade level. Group B is based on personalities and team working ability.

1.B My student’s interests include hands on movement activities. I always try to base the beginning of a lesson with an introduction video and then direct instruction. From there, students normally move throughout the room to complete tasks. Normally during math I try to use a manipulative or math whiteboards to allow for some creativity.

Overall, this lesson was fun for me and my students!

4.A When looking over this lesson for the future, I would make some minor changes and add in a few more linker cube examples that the students did on their sheet. I made my revisions in the lesson plan above in red ink.

4.E When receiving constructive criticism from Dr. Johnson and Mrs. Swanson, I take it seriously and always strive to implement those strategies in the next lesson to make it stronger.