

Math Lesson

Age Level: Kindergarten

Subject(s) Area: Math

Materials Needed: Seeds** (ASK FOR ALLERGY) (for each student), paper flower and ground, dice, cards up to 12, spinner for higher group up to 20, cups, planting items (optional, to replace paper flower)

S Standards:

- **K.OA.2: Use an appropriate strategy to solve word problems that involve adding and subtracting within 10.**

O Objectives:

- I can **explain** how I reached the sum or difference of a problem using manipulatives with 80% accuracy.
 - Level 2: Comprehension

L Learning Activities:

Technology: N/A

Required Vocabulary:

- Addition: add, plus, sum (key words: altogether, in all, total)
- Subtraction: take away, minus, difference (key words: left)

Opening Element: I will explain appropriate behavior during this activity (no eating/throwing the seeds), quietly solve the problems, sit on bumper, explain thinking. I will ask them how they can tell if a word problem is asking them to add or subtract. Then I will also explain the game (see below).

Reflective Questions:

- How did you find that answer?
- Do you think that answer is correct?
- What can you do to figure it out?
- Why do you “just know it?”
- What can you do to check your answer?
- Can you find that answer using a different strategy?

Instructional Methods:

1. I will teach this lesson to 4 separate groups and we will rotate.
2. As I work with individual groups, other students will work on what Mrs. Schuchard wants them to work on.
3. Each group will have a cup filled with seeds. I will have pictures printed off for each student with the scenario of a flower in the field and grass on the ground.
4. I will give each student a printed/paper flower that will have grass under it. (or a bucket/cup if I can find one)

5. Each group will solve the problems using the seeds that either fell to the ground or are added to the flower.
6. **Lower group:** I will give them cards (up to 10) and they will roll one dice. Then, I will give them a problem with the two numbers using phrases below (they will determine if it is addition or subtraction)
7. **Middle group:** I will give them cards (up to 12) and they will roll one dice. Then, I will give them a problem with the two numbers using phrases below (they will determine if it is addition or subtraction)
8. **Higher group:** I will make a spinner and they will spin their two numbers (up to 20). Then, I will give them a problem with the two numbers using phrases below (they will determine if it is addition or subtraction)
9. **Phrases:**
 - a. The farmer had _____ sunflower seeds. He harvested _____ sunflower seeds. How many are left?
 - b. The sunflower had ____ seeds, but ____ blew away. How many are left?
 - c. The baker put _____ seeds in a cup. Then she put __ more seeds in a cup. How many are in the cup altogether?
 - d. I had __ seeds, but I ate _____. How many are left?
 - e. The students glued ____ seeds on the paper. Then, they glued __ more. How many seeds are on the paper total.
 - f. The gardener plants ____ sunflower seeds. Then she plants _____ pumpkin seeds. How many seeds did she plant altogether?
 - g. The squirrel found _____ seeds on the ground. Then, she ate ____ seeds. How many are left?
 - h. The mom planted _____ tulip seeds. Then she planted __ daisy seeds. How many did she plant in all?
 - i. The bird ate ____ seeds. Then another one ate __ seeds. How many seeds were eaten in all?
 - j. I found _____ seeds floating in the river. Then, I found _____ more seeds floating in the river. How many did I find altogether?

- Guided Practice Strategies: I will teach to each level differently. (lower group will have 10, middle groups will have 12, higher group will have 20)
- Independent Concrete Practice/Application: Each student will have materials to complete the problems individually.
- Classroom management/movement: Students will only be with me for a short period of time. I will watch for when they seem to be jittery and have them “relax their bodies” if needed.
- Differentiation: Students are grouped up by skill level. Manipulatives, visuals, and auditory are all provided in this lesson.

Wrap-Up: At the end, I will ask them if they were right at the beginning, when they answered how they can tell whether a problem is asking them to add or subtract. We will have a very short discussion about how they can tell if it is addition or subtraction.

Assessment:

Formative: I will observe individuals and track them on a piece of paper to see if they understand the concept or not.

Summative: N/A



Beans and flower pots counting activity



Planting pot manipulative?

Reflection:

I had a blast teaching this lesson. I miscounted on this lesson and I actually taught 6 rotations. Each rotation was very different and very unique. I bought some big foam flowers and taped a 10s frame on them. Then, I bought some plant cups shown in the picture above. I filled a Tupperware with seeds, grabbed a dice, a deck of cards, and made a spinner that went up to 21. If I was going to do more with the materials, I would have grabbed a dice that went up further than 6 and made my spinner go up further. These kids were really excelled in their math, so I had to differentiate on the fly quite a bit.

When teaching it, I began with an average group. With each group, I explained the game and the expectations so that I wouldn't have any problems. I did not have any behavior problems whatsoever and it was awesome! I began with the cards and the dice for the beginning group and went into the spinner after they seemed to get the smaller numbers easily. I did that with most of the groups. For the group that was really advanced, I started with the spinner right away. This was really tricky because the two boys were advanced and did well, but one boy was extremely advanced. He knew all the answers in his head without using any manipulatives. He asked me if he should go get his dice (that goes up to 20) and I said yes. I had the two boys add the higher numbers and made the really advanced kid add 3 numbers. He was really fast and the other boys were getting kind of frustrated because it was still pretty difficult for them and they needed more time to think. If I would do this again, I would have a set list of problems specifically for him. Or, I would have had him do his own individual dice and his own spinner that went further. He asked if he could do multiplication and I said yes. That is where I stumped him a little bit and he had to think really hard. It showed me how advanced even a kindergartener can be and I really thought on my feet during that group. The two boys complained to me that the one boy knew first grade math before he was in kindergarten and I had to stop them and explain to them that we need to be happy for our friends when they are good at something and that they are doing extremely well for Kindergarten math.

For my low group, I began with some lower cards and used the dice. They did pretty well with this and they all answered the basic addition and subtraction problems. I had a tougher time with this group having them explain to me how they found their answer. Their explanations were way off from what most of the students said. For example, a question said "I planted 6 seeds in my garden. Then I planted 5 more seeds. How many seeds did I plant altogether?" Their explanations said "Well I took 6 and subtracted 5 and that got me 1 and then I knew 1 plus 8 is 9 and then I got 11." So that is something that I am not really sure how to deal with and will need to ask Mrs. Schuchard about.

If I was going to make my word problems different, I would have changed up the wording a little bit. All the problems were very basic, but I could have worded them differently to make it into a 1st grade problem. Most of the students were definitely at 1st grade level, so I would have had to use a 1st grade curriculum to write the problems a little differently.

I had no problem with classroom management during this lesson and even the student with difficult behavior was extremely engaged. I had a tougher time with him in math yesterday, so I asked him if he wanted to use the flower and seeds or do it all in his head. He started by saying he wanted to do it in his head, but then he was intrigued by the others and their flowers. He worked really hard for me and I think he just needs to have a good relationship with his teacher. The more he knew me, the harder he works and focuses for me.

As for assessment, every student had the basic kindergarten problems down. They all knew how to add single digits. Many of them excelled the single digit addition and subtraction and were stumped

when it got to the teens and 20s. The higher group was stumped by the 20s and the highest boy was stumped when I changed it into 3 step problems, along with multiplication. I would teach this lesson pretty similar to how I taught it today because it went really well. I could use the flower 10s frames with multiple strategies too, like how to make 10s.