

Division (Intro) *Secondary*

Key Inquiry Questions

1. Why are detail in math important?
2. How do we divide by grouping?

Learning Outcomes

1. Students will be able to divide by grouping by the end of the lesson.
2. Students will be able to use their instructions on a math problem and find any mistakes by the end of the lesson.
3. Students will be able to find mistakes in detail in the pb and j activity by the end of the lesson.

Overview

In this lesson students will begin to learn the basics of division using grouping as well as learning about the importance of detail for writing and mathematics. Students will begin the lesson with a peanut butter and jelly activity (if peanut butter and jelly is unfamiliar, foods with three ingredients will be used). Students will write down the steps to making a peanut butter and jelly sandwich while the teacher does the exact steps the students say. Next, students will begin the lesson on basic division by watching a video, located on the SoalrSPELL, and taking down notes as they go. After students have completed the lesson on division with grouping, students will create their own division problem and create steps to complete it. Students will partner up and have their partner use these steps to complete the problem. Students will turn in these problems and steps for a grade.

Materials

SolarSPELL Resource:

1. Introduction to Division part 1 (Math -> Multiplication and Division).

Other:

- Writing Utensil
- Paper
- Three ingredients to chosen food item.

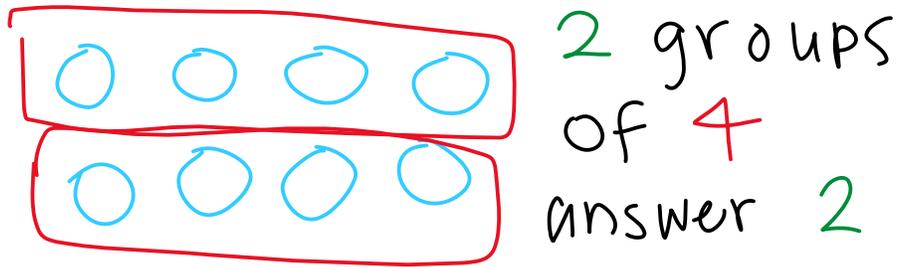
Suggested Procedure

Before Lesson:

- Ask students to take out a sheet of paper.
 - On this paper, ask students to write down the steps to making a peanut butter and jelly sandwich.
 - If a peanut butter and jelly sandwich is unfamiliar, please choose a food that only takes three ingredients to make.
- As students are writing down the steps to making a peanut butter and jelly (or selected food) bring out the ingredients to making the item.
- Once students are done writing down steps, call volunteers to tell the steps to make the sandwich (make sure to follow their exact steps).
 - Examples:
 - Student: “Put jelly on the bread”.
 - Teacher: Put the jar of jelly on top of the bread.
 - The statement that the student said was not correct because they made no detail about opening the jar and taking out the jelly with a utensil.
 - Student: “Put the bread on the plate”.
 - Teacher: Put the whole bag of bread on the plate.
 - The statement the student said was incorrect because they made no detail about opening the bag of bread and how many pieces to take out of the bag.
- Continue to do this until students can give specific detail on how to make the peanut butter and jelly sandwich (or selected food).
 - Should be close to:
 1. Take out two pieces of bread out of the bag and place them next to each other on the plate.
 2. Grab the peanut butter jar and take off the lid.
 3. Place a butter knife in the peanut butter jar and take out, close to, one tablespoon of peanut butter from the jar.
 4. Place the tablespoon of peanut butter on one piece of bread and spread till the one side of the bread is covered.
 5. Place a butter knife in the jelly jar and take out, close to, one tablespoon of jelly from the jar.
 6. Place the tablespoon of jelly on the other piece of bread and spread till the one side of the bread is covered.
 7. Put the two slices of bread together with the peanut butter and jelly touching.

During Lesson:

- Ask students to take out a piece of paper.
 - On this piece of paper ask students to follow along with the video.
 - Play the video labeled “Introduction to Division part 1” located on the SolarSPELL.
- After playing the video, go through an example with students. $8 \div 4$.
 - Have students follow along on their notes sheet.



- After doing an example with students have students partner up.
 - Once they have found a partner, ask students to do these next five problems with their partner.
 - $15 \div 5$ Answer: 3
 - $19 \div 3$ Answer: 6 r 1
 - $24 \div 6$ Answer: 4
 - $16 \div 2$ Answer: 8
 - $20 \div 7$ Answer: 2 r 6

After Lesson:

- After students have completed the five additional problems, have each student take out a piece of paper.
- Explain to students on this piece of paper they will write down steps to solving a division problem by grouping.
 - Students will create their own division problem.
 - Students will solve the division problem on a different piece of paper.
 - On another sheet of paper, students will create steps to explain how they solved the division problem.
 - Remind students of the peanut butter and jelly example: steps need to be specific.
- After students have solved their problem and created steps for their problem, ask students to partner up.
- With their partner they are going to trade their unsolved problem paper and their paper with steps on it.
- Each partner will solve the problem exactly the way the steps says to solve the problem.
- Partners will compare their answer to what the actual answer is.
- Students will take the answer their partner got and use it to see where their directions may have gone wrong.
 - Repeat these steps until the partner gets the right answer using the steps.

Assessment:

- Students will turn in their problem, steps to the problem, and their answer to the problem at the end of the lesson.