

Standards addressed by these experiences:

3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.*

3.OA.3 Use multiplication and division within 100 to solve word problems in situations **involving equal groups**, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Materials:

- Chart Paper (or construction paper) enough for each pair of students
- Markers
- Math Notebooks

Pose the following problem to students:

1. Ask students, “Why would I want to put you in groups?”
2. Tell students that today you are going to work on putting the class into groups of different sizes. To do this, you will need to know how many students are in the class. (Decide as a class if you want to use the number of students on the role, or the number present that day)
3. Ask students how many groups there would be if you put them into pairs. Have several students explain their reasoning. Were there any leftover students? Why or why not?
4. Tell the students that they are going to work together to find other groupings of the class. They will use their chart paper with their partner to determine the number of groups they can make with different groupings and explain how they got their answers. They are to put the class into groups of 3, 4, 5, and 10 and tell the number of groups (you can extend the groups to 6, 7, 8, & 9, but this unit deals specifically with 2, 3, 4, 5, & 10). Tell them to indicate whether or not there were any students left out and how many were left out.
5. Allow students time to work and create their posters. Monitor students and ask students to explain their thinking as you walk from group to group.
6. When all groups are finished, bring students together to share their findings. Highlight different solution strategies and compare to see if they all found the same number of groups and if there were any leftover students.
7. Good questions to ask during discussion:
 - Who can explain what _____ did?
 - How did this student find the number of groups?
 - Who can explain this thinking?
 - What number sentence should I write to match this thinking?
 - What do you notice?
 - Did anyone think about the problem in the same way? In a different way?
8. Pose these follow-up questions for homework for students to do individually in their math notebooks and discuss the next day:
 - There are 32 students going on a field trip. They will be going by car and each car holds 5 students. How many cars will they need?
 - There are 27 students and five cars. How many will have to ride in each car?