

Lesson Plan Idea Format

Grade Level & Subject Area: 2nd Grade Math & Science

Standards/Framework (State Standards, Content Standards, InTASC Standards)

Math:

- AR.Math.Content.2.OA.A.1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
- AR.Math.Content.2.NBT.B.7: Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and the relationship between addition and subtraction; relate the strategy to a written expression or equation
- AR.Math.Content.2.MD.D.9: Generate data by measuring the same attribute of similar objects to the nearest whole unit. Display the measurement data by making a line plot, where the horizontal scale is marked off in whole-number units. Generate data from multiple measurements of the same object. Make a line plot, where the horizontal scale is marked off in whole-number units, to compare precision of measurements Note: After several experiences with generating data to use, the students can be given data already generated to create the line plot.
- AR.Math.Content.2.MD.D.10: Draw a picture graph and a bar graph, with single-unit scale, to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Science:

- 2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

Theme/Series of Lessons (if Not applicable, put N/A. If it is part of a series, of lessons, tell me, give a BRIEF description of the overall and tell me where this particular lesson fits):

N/A

Time (is this a 1 day 50 minute lesson, 5 day 1 hour lesson, once a week over a month lesson....):

1 day, 1 hour lesson

What do the students already know? (This could be the Intro or they have learned information before starting this lesson):

The students will have already been introduced to graphs and will have some experience with reading them. In this lesson, they will apply these skills and work as a class to create a graph and then work individually to answer questions.

Objective (What are the students' going to accomplish):

Given a box of Froot Loops, students will work together as a class to create a table and corresponding bar graph that sorts the cereal pieces by color.

Given a set of data, students will locate, add, and subtract data through various word problems.

Materials:

- standard box of Froot Loops cereal (~12 oz.)
- plastic bowls
- paper towels
- teacher MacBook with access to Google Sheets
- projector
- paper
- pencils
- worksheets with questions about the spreadsheet

Procedure:

To get started, I will give a brief overview of the lesson so that students are prepared and know what is expected of them. I will split them up into 5 groups and have them get their paper and pencils. While they are doing this, I will prepare my computer and projector as well as separate the cereal into 5 different bowls. Each group will get a bowl of the cereal and several paper towels. They will be instructed to sort their cereal into groups by color (red, orange, yellow, green, blue, purple). They will count the Froot Loops in each color group and record their totals on their pieces of paper. Once everyone has finished counting, I will direct their attention to the screen and show them what Google Sheets looks like. I will start creating the table and explain the importance of the labels I am typing as well as what data will go where. I will have the groups list off their data aloud one at a time and enter the data as we go. Before continuing, I will instruct the students to individually add up all of their group's numbers to find the total number of Froot Loops that their group has. I will then use the formula/function features on Google Sheets to show the students how the program can do complex calculations for them. We will compare their answers with those on the spreadsheet before continuing. Then I will create two bar graphs in Sheets – one for the total number of Froot Loops that each group had and one for the total number of each color that we counted. We will have a group discussion about what we see from our graphed data. After our discussion, I will leave the Sheet up on the board so that the students can use it as a reference. I will hand out the worksheet about our data that asks questions about the graphs and table. Students will be asked to find certain information as well as add and subtract certain numbers. As students finish, they will bring me their worksheets and be given time to read a book of their choice before we move on to the next activity.

Assessment (How will the students' show you that the objective has been met):

(Note: the assessment does not have to be a paper and pencil test)

There will be continuous informal assessment throughout the lesson, as students will be given opportunities to ask questions, answer questions, and make comments about what we are doing. The formal assessments will consist of the math problem that they complete about halfway through the lesson as well as their completed worksheets. The results will help me to determine where the students are in their graph reading, addition, and subtraction skills.

A Brief Description of The Entire Lesson - Plus Any Additional Information to be Included:

I will start by preparing all materials and splitting the students into 5 groups. Each group will get a bowl of Froot Loops cereal, sort the cereal pieces by color, and count each color group, recording their numbers on paper. Once they are finished, I will show them Google Sheets and begin to make a table, filling in their data. Before I total the columns and rows, I will have them add up their group's total number of cereal pieces on their paper. I will then create and show them the formulas/functions features of the software and we will all compare answers. I will then create two bar graphs, one of the total number of cereal pieces that each group has and another of the total in each color group that we had as a class. They will be given a worksheet to complete asking them questions that will require them to read the graphs and table as well as add and subtract the numbers found within.