**​Author:**

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**Estimated Time:**

25-30 minutes

**Grade:**

8-9

**Lesson Title:**

Calculating profits from selling virtual lemonade

**Student Prior Knowledge:**

Students will have prior knowledge on the basic concepts of profits and losses, and how to apply them to real world situations.

**Standards:**

MA.C.3.1.2.2.2. The student will assess profits and losses, and how they correlates to real world events.

**Goals:**

Students will be able to assess weather forecasts and customer behavior patterns to determine how much lemonade to make each day, and how this prediction correlates with the subject of profits.

**Materials:**

* Computer
* Website to access the program
* Microsoft excel spread sheet for data
* Report that is due next week

**Procedures:**

(00:00 – 00:15) – Students will access lemonade program and run their lemonade stand while collecting data.

(00:15- 00:30) – Students will analyze their profits and their losses

(00:30-00:40) – Students will find a classmate to go over each other data and compare and contrast each other data.

**Adaptations:**

This lesson is applicable to normal and gifted students. For gifted students I will require a 2-page double spaced summary that provides details on what they observed in their data and when they were asked to pair up with another classmate to look over their data, how did it correlate to their data. For students who are not gifted I would have them write a 1-page double spaced paper explaining their data findings and what could they have done differently.

Adaptations for students with processing issues

1) I would have the students with processing issues to repeat the lesson objective, so that they can better understand the lesson that is being covered.

2) I could pause while speaking, to allow time for the student(s) to write down what I’m saying and also to be able to process the content.

**Original Lesson Plan**

**Objectives**

* Students will employ technology in the development of strategies for solving problems in the real world.
* Students will understand the basic concept of profits and losses.

**Learning outcomes**

* Students will purchase ingredients for making lemonade.
* Students will determine the cost to produce one cup of lemonade.
* Students will assess weather forecasts and customer behavior patterns to determine how much lemonade to make each day.
* Students will use an Office Excel spreadsheet to collect data and record outcomes.
* Students will write a report reflecting on their data and the outcomes.

**Lesson procedure**

**Introduction**

* When you run your own business, you have to make a lot of important decisions based on math. You have to calculate how many supplies to buy, analyze the data you collect from your sales figures every day, and make decisions about the future based on the conclusions you draw from your information.
* In this activity, you will each set up and run your own business—a lemonade stand. You will make all the business decisions about materials, costs, and how to make the lemonade. You will run the lemonade stand, record your data, and then analyze how much money you made or lost.
* Remember that even if the lemonade you sell tastes really good, you may not always sell a lot. Sometimes the weather affects how much lemonade people purchase. You will get to see a weather forecast, but remember that weather forecasts are not always accurate.
* Before you start playing, you will read directions that will show you how to start and operate your lemonade stand. As you run your business, you will use an Office Excel data collection spreadsheet to record your decisions, your data, and your outcomes. When the game is over, you will write a report about the reasons you made a profit or the reasons you did not.

**Student activities**

Follow the steps below to guide your students through this lesson plan. See student guide link at right.

* Step 1: "Run your lemonade stand and record your data"
* Step 2: "Analyze your profits and losses"

**Lesson extension activities**

* Ask students to use one of the charts in Office Excel to help them visualize and analyze their data.
* Ask students to write a strategy handbook for running a successful lemonade stand.
* Ask students to create an ad campaign to attract more customers to their business.

**Conclusion**

Assess students on their data collection and their final reflection. They should use mathematical terms and draw conclusions by reviewing their data.