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# Stardew Valley Farmer's Market Math

**Subject:** Mathematics (Financial Literacy, Problem-Solving, Data Analysis)

**Grade Level:** 4th - 7th Grade (easily adaptable)

**Time Allotment:** 60 - 90 minutes

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## Materials Needed

- Paper for creating a "Farm Ledger" and signs
  - Pencils, markers, and colored pencils
  - Play money (or slips of paper labeled with denominations like 1g, 5g, 10g, 50g)
  - A calculator (optional, for checking work or for students who need support with computation)
  - Access to the internet to look up crop prices on the Stardew Valley Wiki, or a pre-made price list (see example below)
  - Optional: Small bowls, baskets, or actual fruits/vegetables to represent the produce for a more hands-on experience
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## Learning Objectives

By the end of this lesson, the student will be able to:

- Apply multiplication, addition, and subtraction to solve multi-step, real-world problems.
  - Calculate potential revenue and final profit for a small business venture.
  - Analyze sales data to determine which products are most profitable.
  - Creatively design and organize a market stall based on a plan.
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## Lesson Procedure

### Part 1: The Mayor's Request (Warm-Up - 10 minutes)

1. **Introduction:** Announce with excitement, "Great news from Pelican Town! Mayor Lewis is organizing the first-ever Farmer's Market in the town square, and he has personally invited you, the valley's best farmer, to run a stall. Your goal is to plan your stall, sell your produce, and make as much profit as you can in one day!"
  2. **Brainstorm:** Ask the student, "Let's plan for the Spring season. What are some of the best crops to grow in Spring? Which ones do you think would sell the best at a market? Why?" (e.g., Strawberries might be popular, but Cauliflower sells for more per item).
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## Part 2: Planning Your Farm Stand (Main Activity - 25 minutes)

1. **Choose Your Inventory:** Have the student create a "Farm Ledger" on a piece of paper. They should choose 3 to 5 Spring crops to sell. Next to each crop, they will decide on an inventory number (how many they "harvested" to sell).

*Example:*

- Parsnips: 20
- Cauliflower: 10
- Green Beans: 15
- Strawberries: 30

2. **Research Prices:** Using the Stardew Valley Wiki (or a provided price list), the student will look up the base selling price for each of their chosen crops. They will add this price to their Farm Ledger.

*Example Price List:*

- Parsnip: 35g
- Cauliflower: 175g
- Green Bean: 40g
- Strawberry: 120g

3. **Create a Market Sign:** This is the creative part! The student will use markers and paper to design a fun, colorful sign for their stall. The sign must clearly list each crop and its price per item. Encourage them to name their farm (e.g., "Echo Creek Farm").

4. **Calculate Potential Revenue:** Before the market opens, the student must calculate their maximum possible earnings. They will multiply the quantity of each crop by its selling price and then add all those totals together. This shows them their goal for the day.

*(Example: 20 Parsnips x 35g = 700g. They do this for all crops and sum the results).*

## Part 3: Market Day! (Simulation Activity - 25 minutes)

1. **Set Up Shop:** The student arranges their "produce" (bowls, drawings, or real items), their market sign, and their cash box with play money.
2. **Role-Play Scenarios:** As the teacher, you will now become different residents of Pelican Town. Approach the stand with different shopping requests. The student's job is to fulfill the order, calculate the total cost, take the payment, and provide correct change.

*Example Scenarios:*

- "Hi! I'm Penny. I'd like 4 Green Beans for a recipe, please."
- "Howdy. Gus sent me over from the Saloon. He needs 5 Cauliflowers for the soup tonight."
- "Hello there. I'm Maru. I'm building a new gadget and need 1 Parsnip for... reasons. And could I also get 2 Strawberries?"

3. **Track Sales:** After each transaction, the student must update their Farm Ledger, marking down how many of each item they have sold.

## Part 4: Closing Time (Wrap-Up & Reflection - 10 minutes)

1. **Count the Till:** At the end of "Market Day," the student counts all the money in their cash box. This is their final revenue.
2. **Analyze the Results:** Compare the final money earned with the sales tracked on the Farm Ledger. Do they match?
3. **Discussion:** Talk about the results using guiding questions:
  - Which crop made you the most money overall? Was it the one with the highest price or the one you sold the most of?
  - Did you have any produce left over? Why do you think it didn't sell?
  - If you were to do this again next week, what would you change? Would you bring more of one crop and less of another?

- What was the most challenging part of running your market stall?
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## Assessment

- **Farm Ledger Accuracy:** Review the student's Farm Ledger to check for correct calculations of potential revenue, sales tracking, and final profit.
  - **Problem-Solving Observation:** Observe how the student handles the customer transactions. Are they able to calculate totals and make change correctly?
  - **Reflection Quality:** Assess the thoughtfulness of the student's answers during the final discussion. Can they analyze their results and suggest improvements?
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## Differentiation and Extension

- **For Extra Support:**
  - Provide a pre-made list of crops with rounded prices (e.g., 50g, 100g) to simplify multiplication.
  - Allow the use of a calculator for all calculations.
  - Focus on simpler transactions with only one type of item per customer.
- **For an Advanced Challenge:**
  - **Introduce a "Stall Fee":** Mayor Lewis charges a 250g fee to rent the stall space. This amount must be subtracted from the final revenue to find the true profit.
  - **Artisan Goods:** Introduce the concept of value-added products. How much more profit could be made by selling 5 jars of Strawberry Jam instead of 5 raw Strawberries? (Jam sells for 290g). This involves an extra calculation step.
  - **Star Quality:** Introduce silver and gold star crops, which sell for more. The student must manage a mixed inventory and price items accordingly.

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