Farming Framework

Sixth Grade STEM Startups

Developed by:
The teachers, students, and mentors in the
Gaming Research Integration for Learning Laboratory® (GRILL®) Summer 2015

TABLE OF CONTENTS

1. FARMING FRAMEWORK

1.1. OVERVIEW

Fred is new to the farming business and he doesn't know very much. He has just purchased a house, a barn, and a decent plot of land. Now, Fred has charged you with the task of creating a layout for his plot and tracking the budget.

Here is what Fred needs:

1. Livestock: Fred would like to have a variety of farm animals roaming within his plot

-Choose which types of animals Fred should purchase and why

-Cite information

2. Price of livestock: How much can Fred afford to buy and of what animal?

-Fred has $15000 to spend on livestock

-Fred can only spend $3000 a month on food

3. Price of fencing: How much will it cost to separate the animals in different sections of the land?

-Provide a total cost for fencing

-Animals must be separated by type (ex: horses cannot go with cows)

-Include square footage of entire plot , individual animal sections

4. Price of food (per month) for related livestock: How much will it cost to feed the horses? The cows? All the livestock?

-Cite sources for: what the animals eat, how much the food costs, etc.

-Include calculations for individual animals and the entire livestock (ex: a horse eats Xlbs. of feed a day and the feed costs $X, the horses will eat $X per month)

5. Layout: How should the plot of land be organized to accompany the animals?

-Include an accurate and neat visual (can be done by hand or on SketchUp)

-You cannot have more than 2 gates to a section

- A walkway that leads all animals back to the barn must exist (animals cannot travel through other animals plots to reach the barn)

-Square footage of animal sections and their relation to the total plot of land

Additional Parameters:

- You must select at least 3 different types of animal, but no more than 6
- The plot of land is 1 ¼ miles by ¾ mile and must be completely fenced
- Livestock must have enough room in their divided spaces to move around (it can't be cramped)

1.2. PROJECT WRITE-UP:

This project must be written out in a neat and organized fashion and include rationale for decisions. Your write-up must include the following: a statement of the problem, livestock choices, livestock price, fence cost, food cost, and layout.

	Components/Parts	Points Earned	Comments
Calculations/ Math Work (with units appropriately)	- Price of livestock - Fencing dimensions -Price of fencing for each section and all sections total - Food cost calculations - Layout: describing fraction of plot taken up by sections	/20	
Project Write-Up	- All components listed are included and explained with visuals, math work, and research (sections are broken down appropriately)	/20	
Gallery Walk	- Audience visits other stations, ask questions, behaves appropriately -Presenter answers questions and has knowledge of work as well as rationale; presenter is prepared	/10	
Assumptions	- Any assumptions or self-made criteria are listed	/5	
Grammar and Mechanics	- Correct grammar and mechanics - Units are used appropriately - Layout is simple and easy to follow	/10	
Works Cited Page	- All research used in project is found under Works Cited page and is consistent in format	/5	
Total		/70	