**Objective:** In this game, students will take on the role of farm machinery manager. They will be given a budget and a list of equipment to purchase. Each student will be shopping for a different sized farm. They will need to evaluate costs, prioritize needs and make decisions that balance efficiency and financial constraints.

Students will then use an online tool to determine if the choices that they made are sustainable for their farm or not.

**Disclaimer:** This is a game designed to simulate the decision-making process of farm machinery management. While this activity provides insight into the challenges faced by farm managers in today’s agricultural industry, it does not account for nearly all aspects of equipment ownership and operation planning, such as cost of maintenance, weather, insurance, fuel costs, horsepower requirements, and machine compatibility. The goal is to encourage strategic thinking and financial decision-making in a simplified but engaging format.

**Time Required:** 1-2 class periods

**Materials needed:**

* Budget and farmland allocation cards
* Machinery selection cards
* Calculators
* Dry erase marker
* Student reflection worksheets
* “Estimating the Number of Field Days Required” excel file

**Preparation instructions:**

* Use a dry erase marker to fill out the “budget and farmland allocation” cards. Each group will receive one “budget and farmland allocation” card.
  + You can give each group the same budget and amount of farmland or you can mix it up so each group has a different scenario. For fairness, those with more farmland to manage should have a larger budget.
    - For reference: if a student has to buy all of the cheapest equipment, it is physically impossible to manage more than about 400 acres. If a student has the money to buy all of the most expensive and biggest equipment options, they can manage about xxxx acres
    - The game should work smoothly with budgets ranging from 100,000 to $500,000 but they can be anywhere from $40,000 to $1,300,000
* Set up a table at the front of the classroom. This is where the sale will be hosted. Only one color of cards will be up for sale each day.
* Flip the blue draper head cards over. Shuffle the cards around, randomly number the back of the cards in numerical order with a dry erase marker.
  + Repeat for the rest of the groups of cards
    - Primary tillage (orange)
    - Secondary tillage (green)
    - Planter (purple)
    - Corn head (yellow)

**Background story:**

*“The sun rises over the rolling fields of your newly inherited farm, casting a golden glow on the land that has been in your family for generations. As you step onto the porch of the old farmhouse, you feel the weight of responsibility settle on your shoulders. This is no small task—you are now the steward of this farm, and its success depends on the choices you make.*

*You take a walk around the equipment yard, where relics of the past stand as silent witnesses to years of hard work. The tillage equipment has seen better days, its frame barely holding together. The planter, once the heart of the operation, now sits idle, missing crucial components. The combine heads, essential for harvest, are so outdated that no mechanic dares to bring them back to life.*

*With planting season fast approaching, you have no choice—you must replace these critical machines, and you must do it wisely. Fortunately, with the farm, you also inherited a lump sum of money, and there is a farm machinery auction house in town, offering both new and used equipment. However, there’s a catch—the auction house operates with an air of mystery. They sell different equipment each day, but the exact items up for auction are only revealed that morning. You won’t know what’s available until the sale begins, adding an element of urgency and strategic decision-making.*

*At least one major challenge is already handled—the local coop will be spraying your fields as needed, so you won’t have to worry about finding the right equipment for battling weeds throughout the season. With that task off your plate, your focus is solely on getting the right equipment in place before it’s too late.*

*Every decision will impact your farm’s bottom line. Will you make the right calls and turn this farm into a thriving enterprise, or will mismanagement lead to financial strain? The future of your farm is in your hands.”*

**Activity Instructions:**

Part 1: Scenario Assignment

1. Split the class into 2-5 groups. Assign each group a budget and farmland allocation card. The number on the cards decides the purchasing order for the first round.

Part 2: Machinery auction

1. Lay all of the orange primary tillage cards face up on the sale table.
2. Open the auction for the day. Give the class 10-15 minutes to examine all of the items for sale and talk amongst their group to decide together what item they want to purchase
   1. They can look at the cards but don’t let them touch the cards. Remember, there are numbers written on the back that should not be revealed until the item is purchased.
   2. Remind them that there is only 1 of each item so they should have at least 1 backup choice incase another group buys their item before they can.
3. Have the students return to their seats. Begin the sale.
4. The group with the number 1 on their budget and farmland allocation card goes first and the group with the number 5 goes last
5. Once a group buys an item, all sales are final, they cannot return it and they cannot trade it.
6. They can retrieve the card from the sale table and flip it over. The number written on the back dictates the buying order for the next day.
7. Gather any unpurchased items and end the sale for the “day”.
8. Have students calculate how much of their budget remains for the next four “days”.
9. Repeat steps 2-10 for the 4 remaining groups of equipment.
10. If at any point a group runs out of money, they can no longer participate in the sale and are out of the game.

Part 3: Analyzing decision viability

1. Now it is time to evaluate if the groups made good choices when selecting what equipment to buy. Ensure that each student or group has access to the “Estimating the Number of Field days Required” excel file.
2. Under “choose crop reporting district” students should select the crop reporting district that the school is located in.
3. Under “Acres of crops” students should fill in how many acres they were assigned on their budget and farmland allocation card.
4. Students can fill in the yellow shaded cells with the information on the cards for the machinery that they purchased. See below for an example of a completed sheet.
5. Since generally, new machinery does not need as much maintenance as used machinery, new machinery can operate for more hours a day. Under “fieldwork labor available (hours/day)” fill in 12 hours if they bought new machinery but only 10 hours if they bought used.
6. Since we have an arrangement with the local coop to spray our fields, we can leave the weed control section blank. It won’t take any of our working days to complete.
7. If the projected ending date is “0-Jan” that means that it is not possible to manage that much farmland with the machinery that they have chosen. There is two places on the excel sheet that you need to look for this, row 42 and row 52
8. The group that is projected to finish harvest the soonest wins!

**A close-up of a document

AI-generated content may be incorrect.**

For This example, we will be done with tillage, planting and weed control on July 2nd and we will be done with harvest on October 22nd. Different crop reporting districts will have different days available to do field work. This is based on historical weather data. To learn more, click on the “field days” tab in the excel file.

**Tips:**

* Encourage students not to strategize too loudly, another group may overhear them and learn what piece of machinery they are targeting to purchase.
* Play more than one round of the game. The first round may need to be a warm up to allow students time to understand all aspects of the game.
  + Or for the first round, don’t tell the students that they will be using the excel sheet to evaluate their choices. See if they play with a different strategy when they know that there are consequences to saving money by only buying the cheapest machinery
* Consider allowing groups to buy additional machinery if they have funds left over at the end of the game.
* Add more machinery options!
* Remove machinery options to give students less choices and make it more likely that two groups will want the same piece of machinery.
* Consider using an alternative method for determining purchasing order. For example, ask trivia questions and the group that gets it right first gets to go first.
* Give one team all acres of soybeans to manage or all acres of corn to manage and see how that affects their decision making.