



Stranded: Allocation Strategies Edition

Identifying and applying allocation strategies.

Authors

**Chris Cannon
Mike Raymer**



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LESSON DESCRIPTION

After being stranded on a Pacific Island, students must select a limited number of items to save off a sinking ship. Inevitably, the students will want more items than they have time to get. The teacher will help the students decide by identifying and modeling several different allocation strategies. After discussing advantages and disadvantages of the strategies, students then apply the allocation strategies to a more real-life scenario involving allocating limited vaccines in a clinic.

At the end of the lesson students should be able to identify nine allocation strategies, provide a real-life example of each one, describe advantages and disadvantages of using each strategy, and explain why certain strategies are more or less desirable for certain types of goods and services than others.

ESSENTIAL QUESTION

- What strategies can be used to allocated resources, goods, and services?
- Why are some allocation strategies more appropriate for certain good and services over others?

CONCEPTS

- Scarcity
- Allocation Strategies

GEORGIA PERFORMANCE STANDARDS

SSEF1 The student will explain why limited productive resources and unlimited wants result in scarcity, opportunity costs, and tradeoffs for individuals, businesses, and governments.

- a. Define scarcity as a basic condition that exists when unlimited wants exceed limited productive resources.

SSEF4 Compare and contrast different economic systems and explain how they answer the three basic economic questions of what to produce, how to produce, and for whom to produce.

c. Compare and contrast strategies for allocating scarce resources, such as by price, majority rule, contests, force, sharing, lottery, authority, first-come-first-served, and personal characteristics.

LESSON OBJECTIVES

The student will:

- Define scarcity.
- Identify nine allocation strategies.
- Describe advantages and disadvantages of various allocation strategies.
- Apply allocation strategies to various goods and services.

TIME REQUIRED

50-55 minutes total for lesson.

OPTIONAL: Stop after procedure 13 and assign the advantages/disadvantages for homework before proceeding. This breaks the lesson into two 20 – 25 minute segments.

MATERIALS

- Stranded: Allocation Strategies Google Slides ([Link](#))
- Handout 1- Allocation Strategies Chart (one per student)
- Teacher Guide 1 – Simulation suggestions and answer key (one for teacher if desired)
- White erase board or chart paper for record keeping

PROCEDURES

1. Tell the students the following story using **Slides 1-8** to embellish the story as you go:
 - a. “I have taken you on a field trip to a remote island in the middle of the pacific for a day of relaxation and learning economics. All expenses paid! You’re welcome. We boarded a – somewhat sketchy – boat and set sail not bringing any kind of nautical map or printed guidance. After several hours of sailing, and with our island in sight, the boat tragically snapped in the middle! ALL of the power, satellites, GPS, etc on the boat were completely useless. Furthermore, no one – NO ONE – had any kind of cell service. Nothing. This freaked everyone out to the point where even those of you who knew how to swim were unable to do so. I swam all of you to the safety of the island – you’re welcome again – and now I have time to back to the boat and save EXACTLY five items. No more. Only five. All you have is the clothes you are currently wearing, and they are soaking wet. I am about to show the list of things I know I can get to on the boat.”
2. Divide the students into groups of three to five. The groups do not need to be equal in size. Tell the students on the next slide you will display the items that are available to get off the boat. Each group is to make a list of the five items they wish to save on a sheet of paper.
3. Display **Slide 9** and give the students approximately three minutes to discuss and make their lists. One list per group.
4. When the three minutes have expired, have each group write their list on the board or chart paper (or hand it to you and you do the same). Eliminate duplicates. For example, if three groups write “machete” it should only show up on the board one time.
5. Ask the class if anyone needs an explanation for why something is on the board. Let the group that suggested the item explain briefly and move on. DO NOT get bogged down in debating the merits of the items.
6. Most likely, even eliminating duplicates, there will be more than five items on the board. IF not, state that you forgot to add your items and add five more things of your choice.

7. Point out that the class wants more than you have time to get. Explain that this problem is the core concept of the entire discipline of economics called scarcity (**Slide 10**).
8. Explain that since the class wants more than five items, choices have to be made about how to allocate the five available spots. Explain that allocation means to divide or distribute a resource, good, or service. In this case, the class will help allocate the five available spots for items to be saved.
9. Explain that there are at least nine ways in which the class could decide which items to save from the list on the board. Ask the students to call out some ways the spots could be allocated. Write down the first one you hear that shows up on **Handout 1: Allocation Strategies Chart**. (Do NOT actually distribute the handout yet.)
10. Using **Teacher Guide 1: Simulation Guide** actually allocate the first spot using the method suggested by the students.
 - a. For example, if the students say something like “we could vote” actually take a vote for what you should swim back to get first. Each student can only vote one time. Take a vote on every item on the board, even if it is zero. The item that gets a majority of the students (50% plus 1) gets the first spot. If there is no majority, then the top two vote getters have to have a runoff.
 - b. Ask the students “What was good or what did you like about using this strategy?” ***(Answers will vary but usually include things like everyone had a say, it seemed fair, the most people were made happy etc.)***
 - c. Ask the students “what did you NOT like about voting?” ***(Answers will vary but someone should point out that it was time consuming, some people voted a certain way because of being convinced by someone else (campaigning), it automatically created a group of “losers” etc.)***
11. Point out that now you only have four spaces remaining. Repeat procedure 10 up to four more times to fill the remaining slots (or as many times as you have time for) using **Teacher Guide 1** for assistance as needed.

12. Explain that no allocation strategy is 100% efficient all the time for every resource, good, or service. They all have advantages and disadvantages.
13. Distribute **Handout 1: Allocation Strategies Chart** to each students. Explain any strategies that weren't simulated and answer any student questions about the strategies.

***PROCEDURAL OPTION: Option one is to break the students into small groups and have them complete at least one advantage, at least one disadvantage, and a real life example of each strategy in class, then proceed with procedure 14. Option two would be to pause the lesson here and assign the handout for homework and pick up with procedure 14 the next day. Option three is to proceed with the remainder of the lesson and THEN have students complete the handout. All are viable and equally effective but allow for different schedules.

14. Explain that now students are going to use these allocation strategies on a much more real-world style problem: a shortage of vaccines.
15. Using **Slides 13-15**, explain the story of the H1N1vaccine shortage from 2009.
16. Display **Slide 16** and explain the task. Students are taking the role of manager of a health clinic. They will be introduced to nine people that are currently in their lobby who have come for a vaccine. Unfortunately, they only have three vaccines. Have student discuss with their neighbors which allocation strategies they might want to use from **Handout 1** for a minute or two. Have them write down which allocation strategies they will use to decide. They may choose between one and three strategies.
 - a. Call on several students and ask: "Which strategies do you think will be most helpful?" ***(Answers will vary, but common answers are characteristics based on the FDA list, first-come-first-served, and authority. Lottery and price also come up fairly often.)***
 - b. Ask if there are any strategies the students feel like will not be effective. ***(Answers will vary, but typically force is frowned upon as is majority rules since voting seems impractical here as everyone would vote for themselves. Some students may point out that allocating by price would only favor those who could afford to pay which may strike some students as unfair.)***

17. Display **Slide 17** and state that the order of the people is the order they arrived. Jake is first in line and Arthur is last in line (this matters for students who want to use first-come-first-served).
18. Have the students work alone or with a partner for about five minutes creating two lists: a list of who would get the vaccine based on the allocation strategy they selected in procedure 16; and a different list of who they “feel” should get the vaccine. If the students selected “random/lottery” as one of their options, encourage them to use a random number generator on their phone or random.org and actually randomly give out the vaccine to see who gets it.
19. At the end of five minutes, discuss the following with the class
 - a. Have several students call out their lists of who got the vaccine based on their allocation strategies. ***(Answers will vary but point out how even using some strategies like characteristics might yield different results).***
 - b. Which people on the list do you *feel* should get the vaccine and why? ***(Answers will vary and will likely be slightly different than the allocation strategy answers.)***
 - c. Point out commonalities and differences in the lists of people for follow up questions and comments allowing students to express their opinions on the merits of the people in the lobby, but also the various allocation strategies as well.
 - d. If no one chooses Jake, ask why that is. He is first in line and willing to pay triple the price. ***(Answers will vary, but commonly students feel like he is “rich” or privileged in some way and, therefore, less deserving.)***
 - e. Here we were allocating a vaccine for a serious disease. How might this discussion be different if we were allocating something else, like who should get the last slice of cake in a group? ***(Answers will vary, but students are likely to point out that in that situation, since you’re not dealing with a “need” the characteristics considered are likely to be different, first-come-first-served is likely to be more accepted, etc. If your example is changed to something like***

how a piece of land should be allocated, majority rule might come into play if it is something a city/county commission would vote on, etc.)

CLOSURE

20. Finish by reminding students that these allocation strategies are not singularly used.

Many times the strategies are combined. Black Friday sales, for example, are partially based on price and partially based on first-come-first-served or even partially based on lotteries in some cases.

21. Depending on which option was chosen after procedure 13, assign the remainder of **Handout 1: Allocation Strategies** for homework especially focusing on the real life examples for each allocation strategy.

Handout 1: Allocation Strategies Chart

Strategy	Description	Advantage	Disadvantage	Real Life Example
price	resource goes to those who use market mechanisms such as trade, barter, or price			
majority rule	resource goes to those who win an election or consensus			
contests (merit)	resource goes to “winner” of some sort of competition, physical or otherwise; survival of the fittest			
force	resource goes to the one who is strongest (physical, mental, political); most forceful			
sharing	resource goes to multiple parties by dividing the resource			
lottery/random	resource goes someone based purely on luck or random drawing			
authority	resource goes where directed, ordered, told by another person			
first-come, first-served	resource goes to the early bird; first in line			
arbitrary characteristic	resource goes to the one with the longest tenure, the shortest hair, the oldest, the youngest, the bluest eyes, etc.			

Teacher Handout 1: Simulation Suggestions

Strategy	Suggestions for Conducting Simulation
price	Remember, all the students have on them is all they have. Announce that if anyone is willing to pay you, you'll go to the boat and get whatever they want and auction off one of the five spots. If no one is willing to pay anything or no one has any money, simply point out that for this situation, price is not going to work. Students should see that this method is great if you have money, not so great if you do not. Explain, however, that this is how the vast majority of goods and services are allocated in a market economy.
majority rule	This one can get time consuming – which is part of the point. To simulate this, explain that each student gets one vote. Point to each of the remaining items on the board and have students raise their hand if they would like for you to go get that item. The item with the majority of the class (not just the most votes, it must be 50% plus 1) is the one you will get. If there is a tie, you must have a runoff between the top two vote getters. Typically, the students tire of this method fairly quickly which you can use to your advantage – this is why we rarely use majority rule in this country to allocate things.
contests	Any simple contest should work, but often the quickest is rock paper scissors. Everyone turns to their neighbor and plays rock, paper, scissors (best 2/3). The winners then face off against the other winners until only one is left. That person gets to choose the next item to save.
force	GCEE does not recommend having students simulate this in class. Explain that if this situation were real, someone could try to hold the group hostage or use a weapon to force you to get something off the boat or something like that.
sharing	Explain that this one is tough because the assumption is that everything that is saved will be shared here. It is tough to simulate this so if a student suggests it, acknowledge that it is indeed a strategy, but not one you can simulate here.
lottery	This can either be achieved through putting every student's name in a hat and drawing it OR assigning each desk a number and using a random number generator (like at random.org) to select someone to choose. OR, you can put the items randomly on a list and pick one. Make sure it is random!
authority	Similar to "command" economies, this is totally your call. You make the choice! To point out the flaw with this, you should pick the strangest item on the list.
first-come, first-served	Announce that the first student to the board gets to choose and watch the race ensue! Students in the back will likely point out that this is not "fair." This is a great teachable moment on the drawbacks to this allocation method.
arbitrary characteristic	This can be practically anything. The tallest/shortest. Someone with red shoes, closest birthday, etc. Remember, however, to only use this once! Students often get confused and think that giving land to the tallest person is one strategy and then giving it to the person with the shortest hair is a different strategy. That is the SAME strategy with two different characteristics.

Handout 1: Allocation Strategies Chart SUGGESTED ANSWERS

Strategy	Description	Advantage	Disadvantage	Example
price	resource goes to those who use market mechanisms such as trade, barter, or price	great for those who have money or a job with income	not good for those who don't have income or aren't entrepreneurs	most goods/services in US, fast food, cars, toys, hair cuts, etc. (may be combined with others)
majority rule	resource goes to those who win an election or consensus	great for those who are popular and those groups who have many members	not good for the unpopular; those who don't have the skills to form alliances	political positions, student council, prom king/queen
contests (merit)	resource goes to "winner" of some sort of competition, physical or otherwise; survival of the fittest	great for those who are talented and skillful; may be seen as most "deserving"	not good for those who aren't competitive or are unskilled, may encourage cheating	trophies, medals, prize money, scholarships,
force	resource goes to the one who is strongest (physical, mental, political); most forceful	great for those who are strong, powerful, bullish	not good for those who are weak, small, easily intimidated	physical land invasions, 5 th amendment "takings" clause
sharing	resource goes to multiple parties by dividing the resource	great in that everyone gets an equal part; no one is left out	not good in that some resources can't be divided; no party may get enough; not everyone wants some of every resource	charitable donations, communal school supplies
lottery/random	resource goes someone based purely on luck or random drawing	great for those who are lucky and win things; everyone has an equal chance; random winners	not good for those who are unlucky or who "never win anything", resource may go to someone very undeserving or not needed	state lotteries for money, Pre-K lotteries
authority	resource goes where directed, ordered, told by another person	great for those who are liked by the commander or if the planner is always fair	not good if the planner isn't fair or is inept at their job	Many things in command economies (college allotments in North Korea, Cuban housing, etc)
first-come, first-served	resource goes to the early bird; first in line	great for those who are quick, willing to get ahead of the crowd	not good for the procrastinator; those who are late in planning/ preparing, may discriminate accidentally	Black Friday deals (combined with price), lockers, parking spaces, seats in a movie theater
arbitrary characteristic	resource goes to the one with the longest tenure, the shortest hair, the oldest, the youngest, the bluest eyes, etc.	great for those who are able to set the personal characteristic to be awarded the resource	not good for those unable to influence the selection of the characteristic category	Social security (age), some scholarships, regional releases of food or toys