Scarcity
1. A good is scarce if you cannot freely have all you want of that good. Goods may be scarce because
   a. There is little available: rare metals with industrial use
   b. Because it highly value: Land in New York City
2. Is water scarce? Under what circumstances
3. Scarce resources must be rationed. Who gets how much?
   a. Markets
   b. Governments
   c. Coercion or Power
   d. How do we choice
4. Economics: The allocation of scarce resources
5. Economics studies the allocation of resources or choices by
   a. Governments
   b. Businesses
   c. Individuals
6. These are usually but not always studied within the context of a market economy or at least an economy that markets allocate some resources
7. At the individual level, the choices an individual makes are constrained by time, money, and other constraints.
8. Desires section: Forces rationing
9. Production Possibilities Curve or Budget Constraint
10. Assume that you have $50. You really like bowling and movies. Movies cost $5 and bowling $2 a game. What combinations of movies and bowling can you purchase? Graph the choice set. Note
    a. Can choose any place along the line or below the line
    b. Cannot choose above the line because movies are scarce: i.e. not free and you have a limited budget presuming that you desire more movies and bowling than allowed by your choice constraint
11. Side note: Money is not the only thing important in allocating scarce resources
12. Now let's impose a time constraint. You only have the weekend for movies and bowling or 12 hours. Bowling takes .4 hour and movies 2 hours. Graph this time budget
13. Now we must choose a combination that is on or below lines
14. The choice depends on your preferences for movies and bowling.
15. Notice because we face time and money constraints we must make choices on how to allocate those scarce resources.

Opportunity Cost
1. Assume for a moment that the only two alternatives for the use of money are again movies and bowling.
2. We will focus only on the situation in which you have a time constraint. Every movie requires you to give up 5 bowling games i.e. 2/.4=5
3. Therefore the opportunity cost of a movie is 5 bowling games.
4. So the value you gave up to watch one more movies is 5 bowling games
5. Opportunity Cost: The value of what was given up

6. Notice that value in this contest is not stated in terms of money but in the commodity i.e. bowling games
7. In the money budget constraint situation, an additional movie requires you to give up 2.5 bowling games i.e. 5/2=2.5 so the opportunity cost of the movie is 2.5. Therefore 2.5 bowling games must be given up to obtain 1 movie.
8. Now return to the graphs
    a. Note that the slope of the Money Budget is 2.5 which is the opportunity cost of a movie if the Money Budget is constraining
    b. Note that the slope of the time budget is 5 which is the opportunity cost of a movie if the time budget is constraining.
    c. Note that on the combined graph the opportunity cost changes depending on which constraint is binding. Illustrate.
9. The combination of movies and bowling depends not only on the opportunity cost of movies in terms of bowling (or visa versa) but also individual preferences for bowling and movies.
10. Exercise: Turn the problem around. Calculate the opportunity cost of bowling in terms of movies and redraw graphs.
11. Of course this is a simple example for illustration. In the real world there are a multitude of choices not just movies and bowling and there are more constraints.