1. Stem cells are rapidly growing cells
   1. They grow through mitosis of blood stem cells
      1. In mitosis two cells are produced, but one becomes a stem cell and the other becomes another blood cell because of gene expression.
         1. The cell produced is not always a blood cell, it depends on what is needed
      2. Gene Expression
         1. This is the “turning on and off” of genes within a cell for different functions.
2. Embryonic Stem Cells
   1. They are totipotent
      1. Totipotent means that these cells can become anything in the body without any genetic variation.
      2. They come from embryos
         1. Mostly from eggs that have been fertilized
3. Other types of stem cells
   1. Pluripotent cells
      1. These cells that have a more specialized job, unlike the totipotent cells.
      2. They are a step down from totipotent cells
      3. Rare in adult stem cells
         1. If they are found they are small in number
   2. Multipotent
      1. These are only for certain organs.
         1. For example a brain stem cell cannot become a liver stem cell
      2. Multipotent stem cells can become pluripotent stem cells but only if induced.