

1. Approximately how many people in Country 1 are below the age of 10?
2. **Which country shows negative growth? Rapid growth, slow growth?**
3. **Give examples of countries at each location**
4. Uranium-235 has a half-life of 710 million years.  If it is determined that a certain amount of stored U-235 will be considered safe only when its radioactivity has dropped to 0.10% of the original level, approximately how much time must the U-235 be stored securely to be safe? Express in exponential form.
5. **Determine the half-life using the graph below?**
6. **List metallic and non-metallic minerals.**
7. **List benefits and drawbacks to hydropower, solar, wind, geothermal**
8. **Explain desalinization.**
9. **What are synfuels?**
10. **Doubling time** is the amount of time it takes for a given quantity to double in size or value at a constant growth rate. We can find the doubling time for a population undergoing [exponential growth](https://populationeducation.org/content/exponential-growth-and-doubling-time) by using the **Rule of 70**. To do this, we divide 70 by the growth rate (r).

**Note:** growth rate (r) must be entered as a whole number and not a decimal. For example 5% must be entered as 5 instead of 0.05. **dt = 70/r**

For example, a population with a 2% annual growth would have a doubling time of 35 years.

**70/2 Make some practice problems on your own!**

1. Be able to explain birth and death rates at each Stage . Zero Pop Growth is at Stages? Where does pop. Slow?
2. Calculate Crude Birth Rate

CBR=Total no. births/Total population x1000

Ex. In a village of 3829, there are twice as many male births than female births.

248 females were born. What is the CBR? Practice some more on your own.

1. Define these EPA, FEMA, CCC, NEPA, NPP, GPP, SMCRA
2. What are detritovores?
3. How have ecological footprints changed over time? Why? Do all countries look the same? Explain!
4. NPP = GPP – respiration Be sure you can calculate some problems
5. What are estuaries? What services do they provide?
6. Role of wetlands?
7. What are causes to ocean acidification?
8. What is ElNino? What happens during and El Nino period?
9. If fertility rates decline, but population increases, what might be some reasons for this?
10. Define: assimilation, nitrification, denitrification, ammonification, nitrogen fixation
11. Know this curve! What would be found at each type. What are characteristics at each Stage?



1. Can you interpret this graph? Which letter shows exponential growth? Carrying capacity?
2. What happens to ENERGY as you move up a pyramid? Where is the most and least energy?
3. What role do decomposers play?
4. Define Tragedy of the Commons.
5. Illustrate a confined and unconfined aquifer.
6. Why do urbanized areas often experience greater flooding than rural communities do?
7. How do our aquifers recharge?
8. Compare and contrast organic and synthetic fertilizers?
9. What is a spoil bank? Tailings? Acid mine drainage?
10. Differentiate between primary and secondary succession and give EX.!
11. What is biomass and biofuels? What are advantages and disadvantages?
12. If you have four 60 W bulbs in your house and you burn them for 3 hours per day, how many kWh are used in 1 year?
13. Which countries have the highest per capita energy consumption?
14. Which countries have the highest coal reserves?
15. 