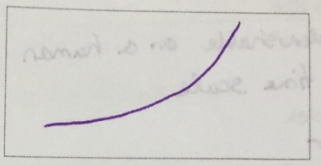
Name: Key

Chapter 1 Review

1. Draw and label an exponential growth curve.



2. Explain environmental science:

human affect on nature & natures affect on us.

3. What is the rule of 70? Pop. doubling time = 70/growth rate

If a school has 1000 students and is growing at a rate of 3.5% every year, how long will it take for their population to reach 4000 students?

Show work: $\frac{70}{3.5}$ = 20 years to double

1000 → 2000 = 20 years
2000 → 4000 = 20 years
40 years

4000 is 2 doubling

Answer: 40 years

4. Describe the tragedy of the commons. Give 2 examples. Provide 3 solutions to the TotC.

Describe TotC:	Examples:
knowledge of overusing a shared common resource for personal gain.	1. Oceans - over fishing 2. National Parks - over use/pollut

Solutions.
1. mutual coersion mutually agreed upon
2. Laws - Legislate
3. Social Norms

5. Describe sustainability. What 3 things do we need to address in order for something to be sustainable?

Describe sustainability.	
Meet the economic needs of our people in an equitable manner without degrading the environment	1. Environment 2. Economy 3. Equity

Stop: Go and get your answers checked!

Renewable	Nonrenewable
Replenishable on a human time scale Examples: 1. air 2. sunlight	Not replenishable on a human timescale - limited / finite Examples: 1. oil 2. gold

7. Compare developed and developing countries. Include 2 examples of each.

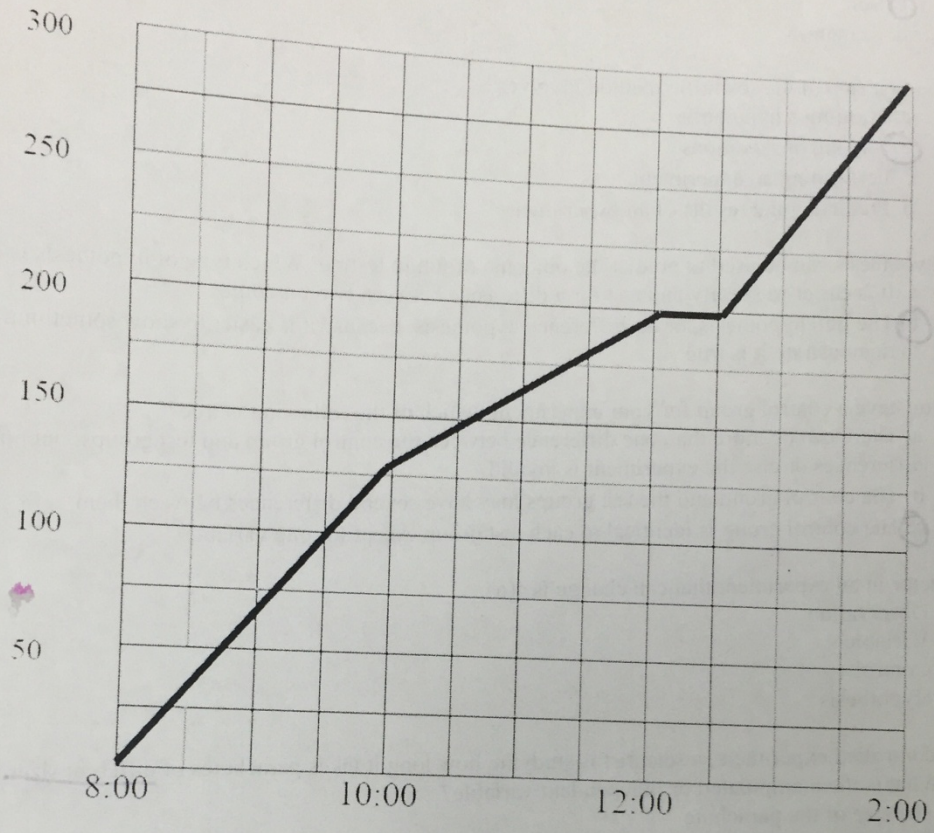
Developed	Developing
Industrialized w/high standard of living and high per capita GDP. Examples: 1. USA 2. France	Lower standard of living & lower per capita GDP Examples: 1. India 2. Nigeria

8. List 3 environmental problems associated with population growth.
   1. air pollution
   2. mass extinction
   3. over consumption of resources
9. What statistic is used to measure economy? GDP
10. How does the economy play a role in environmental policy? Provide an example to illustrate your point.

We subsidize oil, coal, and natural gas to provide them at a lower cost to people and then pay to clean up the pollution and health problems they cause.

Stop: Go and get your answers checked!

A Drive to Virginia Beach



11. During which 2 hour time interval did the family travel the fastest to Virginia Beach? 8-10

12. During which 2 hour time interval did the family travel the slowest to Virginia Beach? 10-12

13. Calculate the average rate or speed of the vehicle during the fastest 2 hour time interval and during the slowest 2 hour time interval.

stest work $\frac{130-0}{2}$ =	Answer 65 miles/hour
west work $\frac{200-130}{2} = \frac{70}{2}$	Answer 35 miles/hour

Stop: Go and get your answers checked!

14. A student wanted to look at plant growth in five different soil samples. He planted the same type of seeds in identical containers and left them together in full sunlight. He gave each plant the same amount of water and charted the growth of each plant stem. What is the independent variable in this experiment?

a. Light
b. Seeds
c. Soil
d. Container

15. The first step of the scientific method involves:

a. Forming a hypothesis
b. Making observations
c. Performing an experiment
d. Predicting the results of an experiment

16. A hypothesis can be used to predict the outcome of future testing. Which type of hypothesis is easier to test?

a. It is easier to specify and test for a difference between two outcomes
b. The null hypothesis, or no-difference hypothesis, because it is easier to show something to be false than to demonstrate it is true

17. If you have a control group for your experiment, which of the following is true?

a. There can be more than one difference between the control group and test groups, but not several differences or else the experiment is invalid
b. The control group and the test groups may have several differences between them
c. The control group is identical to each test group except for one variable

18. A factor in an experiment that can change is a(n)____.

a. Observation
b. Variable
c. Control
d. Hypothesis

19. In a controlled experiment, a scientist is studying how long it takes parachutes of different sizes to fall to the ground. What is the manipulated or independent variable?

a. The size of the parachute
b. The height from which the parachute is dropped
c. The size of the object carried by the parachute
d. The time it takes for the parachute to drop

20. Patrick loves bubble gum and would like to be able to blow bigger bubbles than anyone else. To prepare for the Big Bubble Contest, he bought five different brands of bubble gum and needs your help to find the brand that creates the biggest bubbles.

Write a procedure to correctly test the bubble power of the bubble gum brands and help Patrick win the contest. (Hint: diagrams can be helpful in procedures, but do not over do it)

Identify the following:

Independent variable: type of gum
Dependent variable: size of bubble
Control: standard

Stop: Go and get your answers checked!