**Environmental Science Unit 1 Test: Study Guide Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

What is Environmental Science? A **multidisciplinary** field that integrates physical, biological and information sciences to the study of the environment, and the solution of environmental problems.

What fields make up environmental science? ecology, biology, physics, chemistry, zoology, mineralogy, oceanology, limnology, soil science, geology, atmospheric science, and geodesy

|  |  |  |
| --- | --- | --- |
| Basic Unit for Mass | Basic Unit for Length | Basic Unit for Volume |
| gram | meter | liter |

9 m = .009 km 8 cm = 80 mm 7.4 km = 7400 m

Would the gymnasium be measured in mm, cm, m, or km? meters *Review your metric measurements lab.*

Scientific Method

1. What is a control group?

The group that does not have the change and the experimental group data is compared to.

2. How many variables should you change in an experiment?

1

3. What is a Quantitative observation? Give one example?

Dealing with an amount 4 fish

4. What is a Qualitative observation? Give one example?

Uses 1 or more of the 5 senses Red fish

5. Provide an example of data that is both qualitative and quantities?

4 red fish

6. What is an independent variable?

The variable that is manipulated or changed

7. What is a dependent variable?

The variable that responds to the change

8. Why is it important to have repeated trials in an experiment?

To make sure the experiment data was accurate and not flawed

9. What is a hypothesis?

A testable explanation to a question

10. What is a theory?

A well tested explanation

Identify a-f in the scientific method scenario below:

Gloria wanted to find out if the color of food would affect whether kindergarten children would select it for lunch. She put food coloring into 5 identical bowls of mashed potatoes. The colors were plain, red, green, yellow, and blue. Each child chose a scoop of potatoes of the color of their choice. Gloria did this experiment using 100 students. She recorded the number of students that chose each color.

a. Question: Does the color of food affect what kindergarten children select for lunch?

b. Hypothesis: If the food is colored, then the children will select it.

c. Control group: The plain group

d. Experimental group: The group choosing colors

e. Independent variable: The color

f. Dependent variable: The chosen ones

Place the following steps of the scientific method in order 1-5.

5 record and analyze data 3 form a hypothesis 1 make an observation

4 set up a controlled experiment 2 identify a problem

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Kilo (k) | Hecto (h) | Deca (D) | Meter (m), Liter (l), Gram (g) | Deci (d) | Centi (c) | Milli (m) |
| 1000 | 100 | 10 | 1 | 0.1 | 0.01 | 0.001 |

**Metric Practice**

To convert to a smaller unit, move the

decimal point to the \_\_\_\_\_\_\_ or \_\_\_\_\_\_ by 10.

To convert to a larger unit, move the decimal point to the \_left\_ or \_\_divide by 10.

**Basic Unit**

**Kilo-**

 Hecto- right multiply

 Deka-

 Deci-

 Centi- Milli-

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. 39 m | 3900 cm |  | 2. 48 km | 4800 Dm |
| 3. 50 cm | 5 dm |  | 4. 38 km | 380 hm |

**Name 10 Famous Environmentalist and their major contributions:**

1. John Muir-
* Yosemite and Sequoia National Park
* Sierra Club
1. Rachel Carson-
* Author of *Silent Spring* (A book about the effects of DDT and pesticides)
1. Aldo Leopold-
* Godfather of Wilderness Conservation
* Author of *A Sand County Almanac*
1. Julia Hill
* Known as butterfly
* Tree-sitter
* Lived in a tree she named Luna for 2 years
1. Henry David Thoreau
* Author of *Walden* (A book about the relationship between humans and nature)
1. Theodore Roosevelt
* Champion of wilderness preservation
* Helped create over 200 national forests, parks and wildlife refuges
1. Chico Mendes
* Amazon Rainforest
* Killed at age 44 by cattle ranchers
1. Gaylord Nelson
* Founder of Earth day
* Helped develop the national trails system
1. Garrett Hardin
* Write The tragedy of the commons
1. David Suzuki
* Hosted a show called The Nature of Things

**What is an ecological footprint?**

The impact of a person or community on the environment, expressed as the amount of land required to sustain their use of natural resources.

**What does an ecological footprint measure?**

How many hectares of land a person uses

**What is earth overshoot day?**

The day in which humans use of their allowance of natural resources that the earth can replenish in 1 year

**How much bio-productive land and sea is available globally?**

**29 billion acres**

**On average, how much bio-productive land and sea do humans use?**

**5.8 acres**