**The Way Science Works** (p. 14 – 21)

**I. Science Skills**

 **1. Define the term critical thinking.**

 Critical Thinking –

 **2. What are three things that you have put critical thought into lately?**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **3. Define the term scientific method.**

 Scientific Method –

 **4. Identify the steps of the scientific method.**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **5. The scientific method is a very strict, rigid process.**

 Circle One : True False

 **6. Define the term variables.**

 Variables –

 **7. What is the difference between an independent and dependent variable?** (Not in the book.)

 Independent (*manipulated*) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Dependent (*responding*) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **8. Scientists must make sure to avoid researcher bias when performing experiments.**

 Circle One : True False

**II. Units Of Measurement**

 **1. What are the SI units of measurement?**

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. SI units are used universally.**

 Circle One : True False

 **3. Match the SI unit with the correct quantity measured.**

 1. \_\_\_\_\_\_\_\_ Temperature A. Kilogram (kg)

 2. \_\_\_\_\_\_\_\_ Mass B. Mole (mol)

 3. \_\_\_\_\_\_\_\_ Light Intensity C. Ampere (A)

 4. \_\_\_\_\_\_\_\_ Length D. Meter (m)

 5. \_\_\_\_\_\_\_\_ Amount of substance E. Kelvin (K)

 6. \_\_\_\_\_\_\_\_ Time F. Second (s)

 7. \_\_\_\_\_\_\_\_ Electric Current G. Candela (cd)

 **4. Give an example of a derived unit of measurement.**

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **5. The metric measurement system is based on multiples of 10.**

 Circle One : True False

 **6. Complete the following table.**

|  |
| --- |
|  **SI Unit Prefixes** |
|  **Prefix** |  **Symbol** |  **Meaning** |  **Multiple Unit Of** |
|  |  k |  Thousand (103) |  |
|  Deci - |  |  Tenth (10-1) |  0.1 |
|  |  c |  Hundredth (10-2)  |  |
|  Milli - |  |  Thousandth (10-3) |  0.001 |
|  |  μ |  Millionth (10-6) |  |
|  Nano - |  |  Billionth (10-9) |  0.000000001 |

 **7. What is the difference between mass and weight?**

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 **8. What is one cubic centimeter (cm3) equal to in liquid measurement?**

 \_\_\_\_\_\_\_\_\_\_\_ mL