

Unit 1 – Science Literacy Twitter Review Questions

U1-1: When performing an experiment, how can one improve the validity of the results of an experiment? (Think scientific method)

- Answer: Repeat experiment several times & compare results

U1-2: Often times, an experiment begins with a _____.

- Answer: Question/Problem/Purpose

U1-3: When determining exact position of a location, it is appropriate to use a coordinate system that begins with its ____ followed by ____.

- Answer: Latitude ; Longitude

U1-4: How can two points exactly at 60°E of the prime meridian be distinguished using map coordinates?

- Answer: By its latitude coordinates

U1-5: Identify the TWO sources of energy that allow all of Earth's systems to function.

- Answer: Nuclear fusion from Sun & radioactive decay in Earth's core

U1-6: The geosphere, atmosphere, hydrosphere, and biosphere all function as a system. What is meant by an "OPEN" Earth system?

- Answer: Transfer and exchange of BOTH matter and energy with the system's surroundings. All of the systems on Earth are classified as open systems. However, Earth system as a whole is considered a closed system because there is a limit to how much matter is exchanged.

U1-7: The geosphere, atmosphere, hydrosphere, and biosphere all function as a system. What is meant by a "CLOSED" Earth system?

- Answer: Only energy is transferred or exchanged with its surroundings. Matter is NOT part of this exchange.

U1-8: Which of the following is considered to exhibit an "open" system? Human circulatory system, sealed gas tank, Earth (planet)

- Answer: Human circulatory system

U1-9: Which of the following is considered to exhibit a "closed" system? Panther Creek High School, unopened bottle of Pepsi, Lake

- Answer: Unopened bottle of Pepsi

U1-10: If each beam of a triple beam balance reads 300 g, 50 g, and 9.5 g, respectively, what is the total mass of this object?

- Answer: 359.5 g

U1-11: Identify a natural phenomenon that occurs on Earth that is powered by energy from Earth's interior.

- Answer: Volcanoes, Earth Quakes, Tsunamis, etc...

U1-12: Identify a natural phenomenon that occurs on Earth that is powered by energy from the Sun.

- Answer: Weather, Climate, Water Cycle, Ocean/Tidal Patterns etc...

U1-13: 2017 cm = ___?___ km

- Answer: 0.02017 km

U1-14: 10.5 hL = ___?___ mL

- Answer: 1,050,000 mL = 1.05×10^6 mL

U1-15: 5250 ms = ___?___ s

- Answer: 5.25 s

U1-16: 15.5 g = ___?___ cg

- Answer: 1550 cg

U1-17: Define hypothesis.

- Answer: Preliminary untested explanation that predicts what will happen in an experiment

U1-18: In order for a hypothesis to be considered an acceptable hypothesis, it must be _____ or _____ by experimental results.

- Answer: Supported ; Disproved

U1-19: How is a scientific hypothesis able to become a scientific theory?

- Answer: Hypothesis is tested extensively and competing hypothesis is eliminated

U1-20: Define inference. (To infer = verb)

- Answer: Idea or conclusion that's drawn from evidence and reasoning.

U1-21: What is the most practical use of topographic maps?

- Answer: Shows similarities and differences of ELEVATION

U1-22: If two objects have the exact same mass, how is it possible to increase the density of one of the objects?

- Answer: Decrease its volume

U1-23: Sun's energy drives which processes?

- A) Volcanic eruptions
- B) Earthquakes/Tsunamis
- C) Weather & ocean circulation
- D) Mountain building

- Answer: C) Weather & ocean circulation

U1-24: Differentiate between an independent and dependent variable in an experiment.

- Answer: IV – Variable changed/manipulated ; DV – Variable measured/in response to IV

U1-25: A scientist studies the impact of a medical drug on the treatment of cancer. Identify the independent variable (IV).

- Answer: Type/Dosage/Timing of drug given

U1-26: A scientist studies the impact of a medical drug on the treatment of cancer. Identify the dependent variable (DV).

- Answer: Impact of medical drug on cancer

U1-27: Difference in elevation between two adjacent, parallel contour lines is referred to as ____.

- Answer: Contour Interval (CI)

U1-28: An object was placed in a graduated cylinder measuring 50.0mL. Once placed, volume rises to 65.0mL. What is volume of the object?

- Answer: Water Displacement = 15.0mL

U1-29: What is a scientific observation?

- Answer: Acquisition of information from a primary source or qualitative/quantitative data collected during experiment

U1-30: Contour lines close to one another on a topographic map indicate a ____ gradient/slope.

- Answer: Steep

U1-31: Contour lines that are further apart on a topographic map indicate a ____ gradient/slope.

- Answer: Gentle

U1-32: Identify Earth's four (4) major spheres.

- Answer: Geosphere, atmosphere, hydrosphere, biosphere

U1-33: When all Earth's spheres interact as one to support complex life, it is referred as Earth ____.

- Answer: System

U1-34: Plate tectonics, earthquakes, rocks, and mountain formation would fit within the ____ sphere.

- Answer: Geosphere

U1-35: The air we breathe, global warming, and protective ozone layer are all part of ____sphere.

- Answer: Atmosphere

U1-36: The water cycle, oceans, lakes, and groundwater are all part of the ____sphere.

- Answer: Hydrosphere

U1-37: Plants, humans, bacteria, and animals are all part of the ____sphere.

- Answer: Biosphere

U1-38: Which field of science studies stars, planets, galaxies, etc?

- Answer: Astronomy

U1-39: Which field of science studies the Earth's crust, mantle, core, rocks, etc?

- Answer: Geology

U1-40: Which field of science studies weather, climate, atmospheric disturbances, etc?

- Answer: Meteorology

U1-41: Which field of science studies oceans, waves, tidal patterns, etc?

- Answer: Oceanography

U1-42: Latitude lines run parallel to equator & measures distance in degrees ____ and ____ of equator.

- Answer: North ; South

U1-43: Longitude lines extend vertically from either poles and measures distance in degrees ____ and ____ of prime meridian.

- Answer: East ; West

U1-44: Density is a ratio of ____ to ____ and reflects a ____ (direct/inverse) relationship.

- Answer: Mass ; Volume ; Inverse

U1-45: Topography serves practical uses in the real world where it allows a surveyor to know the ____ and ____ of physical features on land.

- Answer: Shape ; Elevation

U1-46: Depressions within physical land feature always indicates a(n) ____ (increase/decrease) in elevation than its immediate surroundings.

- Answer: Decrease

U1-47: Very close contour lines suggest a steep slope. What is most likely land feature where contour lines are right on top of each other?

- Answer: Cliff