

Name: _____

Date: _____

Canal

4th Grade- Design Task Assessment

Directions: For each of the questions below, choose the BEST answer.

1) Sand and soil are broken down and moved by water in a process called _____.

- A. resistance
- B. erosion
- C. replacement
- D. irrigation

2) A canal's **main** purpose is to _____.

- A. carry water
- B. stop sedimentation
- C. control flooding
- D. prevent erosion

3) The **main** variables for controlling erosion are _____.

- A. slope and distance
- B. weight and water speed
- C. distance and weight
- D. water speed and slope

4) Sand particles are similar to what shape?

A.



Circle

B.



Triangle

C.



Rectangle

D.



Trapezoid

5) The angle and steepness of a hill is called the _____ of the hill.

- A. ridge
- B. slope
- C. peak
- D. level



6) An object that does not break apart under pressure is _____.

- A. cracked
- B. porous
- C. stable
- D. heavy

7) Which material is **more** stable when it is wet than when it is dry?

- A. paper
- B. sand
- C. rocks
- D. wood

8) What can happen to the materials that make up the bottom and sides of a canal?

- A. they turn to clay
- B. they evaporate
- C. they melt
- D. they erode

9) Joe has been hired to build a canal to transport water to local farms. This water will allow farmers to water their crops. What should Joe do after building his prototype?

- A. Write his problem statement.
- B. Brainstorm for other designs.
- C. Test his prototype.
- D. Present his design and prototype.

10) What units would you use to measure the amount of milk in a glass?

- A. milliliters
- B. grams
- C. centimeters
- D. kilometers



11) Mary owns Earth Building Company. Her company has been asked by the Indianapolis City Park to design a canal that will allow the park to carry water to their pond for visitors to go boating. Who is the end user?

- A. Mary
- B. Earth Building Company
- C. Indianapolis City Park
- D. park visitors



12) City officials require the Earth Building Company to design the canal out of the clay and rock materials found locally. This design requirement is also called a _____.

- A. goal
- B. prototype
- C. constraint
- D. problem statement

13) The **best** explanation why engineers use the engineering design process is to _____.

- A. draw plans for other engineers to use
- B. create new technology that solves a need
- C. perform experiments to test a hypothesis
- D. build a prototype for other engineers to use