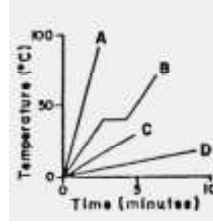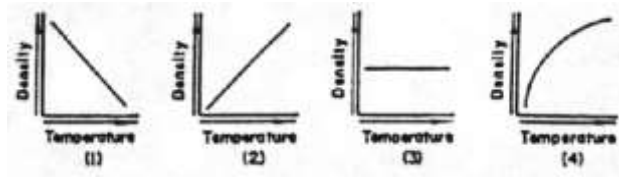# Graphing Relationships and Cyclic & Non-Cyclic Changes,

1. The graph to the right represents the relationships between temperature and time as heat is added at a constant rate to equal masses of four substances labeled A, B, C, and D. The temperature of which substance increased most rapidly?
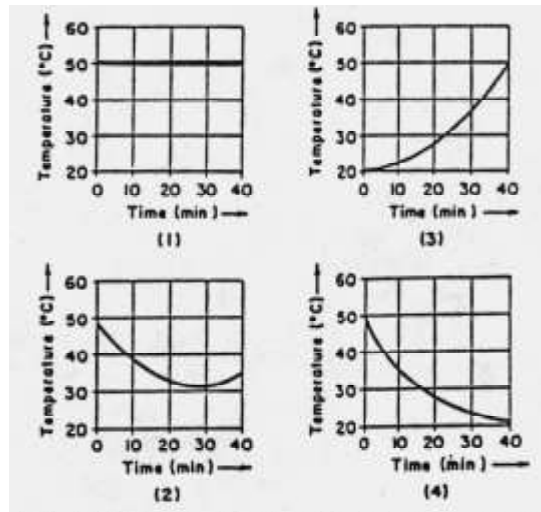   (1) A   (3) C
   (2) B   (4) D

2. Which graph best represents the effect that heating has on air density in the atmosphere?
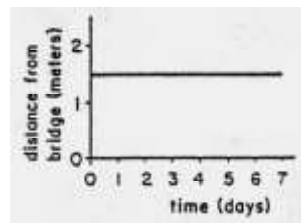
3. A beaker of water at 50°C is placed in a room where the air temperature is 20°C. Which graph best represents the change in the water temperature?
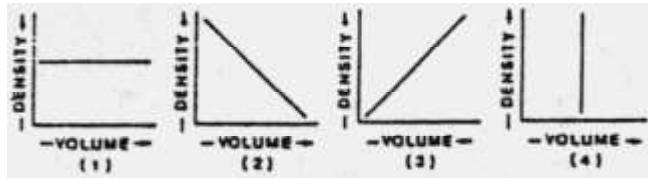
4. A student measures the distance from a bridge to a rock every day for a week. What is indicated by the graph of these measurements as shown below?
   (1) No change in time or distance took place.
   (2) As distance decreased, time increased.
   (3) As distance increased, time decreased.
   (4) As time increased, distance remained the same.

5. A student calculates the densities of five different pieces of aluminum, each having a different volume. Which graph best represents this relationship?

6. As viewed from the Earth, the Moon's phases have shown which type of changes over the past 50 years?
   (1) noncyclic and predictable
   (2) noncyclic and unpredictable
   (3) cyclic and predictable
   (4) cyclic and unpredictable

7. Future changes in the environment can best be predicted from data that is
   (1) highly variable and collected over short periods of time
   (2) highly variable and collected over long periods of time
   (3) cyclic and collected over short periods of time
   (4) cyclic and collected over long periods of time

8. During a ten-year period, which is a noncyclic change?
   (1) the Moon's phases as seen from Earth
   (2) the Earth's orbital velocity around the Sun
   (3) the apparent path of the Sun as seen from the Earth
   (4) the impact of a meteorite on the Earth

9. Which event would be the most predictable one year in advance of the event?
   (1) a hurricane in Florida
   (2) an earthquake in California
   (3) a volcanic eruption in Japan
   (4) an eclipse of the Sun

10. Ocean tides are examples of
    (1) noncyclic events
    (2) predictable changes
    (3) unrelated events
    (4) random events

11. Which factor can be predicted most accurately from day to day?
    (1) chance of precipitation
    (2) direction of wind
    (3) time of an earthquake occurring
    (4) time of sunrise

12. Which statement best explains why some cyclic Earth changes may *not* appear to be cyclic?
    (1) Most Earth changes are caused by human activities.
    (2) Most Earth changes are caused by the occurrence of a major catastrophe.
    (3) Many Earth changes occur over such a long period of time that they are difficult to measure.
    (4) No Earth changes can be observed because the Earth is always in equilibrium.