

INTERNATIONAL KANGAROO SCIENCE CONTEST

1. What are the functions of the leaves?

- A) photosynthesis and transpiration
B) food storage and anchoring the plant
C) transpiration and attracting pollinators
D) photosynthesis and supporting flowers
E) food storage and producing nectar

2. On a toothpaste tube is written: 50 ml/ 65 g. What can we say about the paste in the tube?

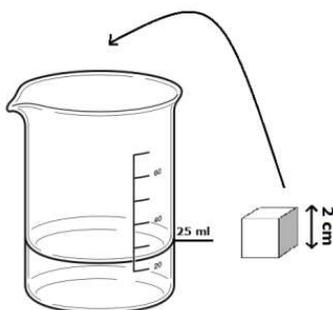
- A) It has a mass of 0.065 kg.
B) It has a weight of 0.65 N.
C) It has a volume of 0.050 dl.
D) It is white.
E) It has the density of 1.3 g/cm³.

3. John goes by bike from his home town Ellensburg to visit his friend who lives in Roslyn, located 60 km away. The road consists only of ups and downs. He travelled with average speeds of 15km / h and 40km / h, respectively. How long is the round-trip of John?

- A) 5.5h
B) 8h
C) 3h
D) 4h
E) 6.5h

4. What is the mass of an iron cube with a side length of 2 cm, knowing that the density of the iron is 7800kg/m³?

The cube is inserted into a *Berzelius* beaker that contains 25 ml of water. What is the water level after the cube lowered into the water?



- A) 62.4g; 33ml;
B) 31.5g; 33ml;
C) 50g; 15ml;
D) 6.25g; 3,3ml;
E) 25g; 10ml.

5. Jim wants to separate a mixture of sand, chalk powder and kitchen salt. What is the logical sequence of methods to be used?

- A) Sublimation - Decantation - Filtration;
B) Distillation - Filtration - Decantation;
C) Filtration - Decantation - Crystallization;
D) Decantation - Filtration - Crystallization;
E) Crystallization - Filtration - Decantation.

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6. Which sequence contains only chemical phenomena?
- A) wood rotting, snow melting, burning candle;
 - B) alcohol burning, cutting glass with diamond blade, boiling water;
 - C) iron rusting, milk souring, gasoline burning;
 - D) coffee beans grinding, wood breaking, fermenting of juice;
 - E) melting sugar, copper wire bending, paper breaking.
7. Hydrogen can be obtained in the laboratory by the chemical reaction of:
- A) zinc oxide with hydrochloric acid;
 - B) hydrochloric acid zinc dioxide;
 - C) zinc with hydrochloric acid;
 - D) copper with hydrochloric acid;
 - E) sulphuric acid with sodium chloride.
8. When Mary placed an iron nail in a copper sulphate solution, she could observe the following:
- A) SO_2 is realised;
 - B) solution turns red;
 - C) reaction does not take place;
 - D) metallic copper is deposited;
 - E) solution remains clear.
9. In Physics, what is defined as the product of an object's mass and velocity?
- A) kinetic energy
 - B) acceleration
 - C) momentum
 - D) force
 - E) inertia
10. Marlin observed that in her coin collection some of the metal in the coins had begun to change color. This process is **most** similar to which of the following changes?
- A) shredding a piece of paper into hundreds of tiny strips
 - B) dropping a dinner plate on the floor
 - C) melting ice cubes in a glass of juice
 - D) dissolving sugar in tea
 - E) burning a piece of paper to ashes in a fireplace

