

NATIONAL LEVEL SCIENCE X OLYMPIADS (NLSO) 2023

Science | Level 1

Question: 13- Science (Environmental Studies)

Which of the following experiments demonstrates the evaporation of water?

- (A) Placing a glass of water in the sun and observing the water level decrease over time
- (B) Pouring water into a bowl of salt and observing the salt dissolve
- (C) Mixing red food coloring with water and observing the color spread throughout the liquid
- (D) Placing a piece of ice in a glass of water and observing the ice melt and the water level increase

NATIONAL LEVEL SCIENCE X OLYMPIADS (NLSO) 2023**Science | Level 1****Answer: 13- Science (Environmental Studies)**

The correct answer is

(A) Placing a glass of water in the sun and observing the water level decrease over time.

Explanation:

Option (A) is the correct answer. Evaporation is the process by which liquid water changes into a gas. When a glass of water is placed in the sun, the heat from the sun causes the water molecules to move faster and eventually escape into the air as vapor. This is why the water level in the glass decreases over time.

Option (B) is incorrect because dissolution is the process by which a solid substance mixes with a liquid to form a solution. When salt is dissolved in water, the salt molecules break apart and become dispersed throughout the water. This does not involve any change in the state of the water.

Option (C) is incorrect because diffusion is the process by which molecules of a substance spread out evenly throughout a space. When red food coloring is added to water, the food coloring molecules move randomly through the water until they are evenly distributed. This does not involve any change in the state of the water.

Option (D) is incorrect because melting is the process by which a solid substance changes into a liquid. When ice is placed in water, the heat from the water causes the ice molecules to move faster and eventually break apart into individual water molecules. This is why the ice melts and the water level in the glass increases.

Therefore, the only experiment that demonstrates the evaporation of water is placing a glass of water in the sun and observing the water level decrease over time.

Therefore, the answer is (A).

NATIONAL LEVEL SCIENCE X OLYMPIADS (NLSO) 2023

SCIENCE X OLYMPIADS (SO)

LAST DATE: 07 DECEMBER 2023

<https://sciencex.org.in>

EXAM DATE: Sunday, 14 January 2024

EXAM TIME: Level 1 – 10:00am, Level 2 – 12:30pm, Level 3 – 02:30pm

Science | Level 1

Question: 12- Science (Environmental Studies)

Which of the following organs is responsible for breaking down food into smaller pieces and mixing it with digestive juices?

- (A) Stomach
- (B) Small intestine
- (C) Large intestine
- (D) Esophagus



NATIONAL LEVEL SCIENCE X OLYMPIADS (NLSO) 2023**Science | Level 1****Answer: 12- Science (Environmental Studies)****Explanation:****The correct answer is (A) Stomach.**

The stomach is a muscular sac-like organ located in the upper left part of the abdomen. It is responsible for breaking down food into smaller pieces and mixing it with digestive juices. The stomach's strong muscles churn the food, breaking it down into a thick liquid called chyme. The stomach also produces gastric acid, which helps to break down food and kill bacteria.

The small intestine is where most of the digestion and absorption of nutrients takes place. The chyme from the stomach is slowly released into the small intestine, where it is mixed with digestive juices from the pancreas, liver, and gallbladder. The small intestine has a long, narrow structure that allows for efficient absorption of nutrients.

The large intestine is responsible for absorbing water from the remaining chyme and forming solid waste. The large intestine also houses bacteria that help to break down some of the remaining food and produce vitamins.

The esophagus is a tube that connects the mouth to the stomach. It does not play a role in the breakdown of food.

Therefore, the stomach is the organ responsible for breaking down food into smaller pieces and mixing it with digestive juices.

Therefore, the answer is (A) Stomach