

Syllabus

Grades 3 - 4 (Primary 3 - 4)

- Diversity of living and non-living things
- Diversity of Materials
- Cycles in plants and animals
- Cycles in matter and water
- Plant system
- Human system
- Solar system
- Interaction of forces
- Energy forms and uses

Grades 5 - 6 (Primary 5 - 6)

- Diversity of living and non-living things
- Diversity of Materials
- Cycles in plants and animals
- Cycles in matter and water Plant system
- Human system
- Cell system
- Electrical system
- Solar System
- Interaction of forces
- Interaction within the environment
- Energy forms and uses
- Energy conversion

Syllabus

Grades 7 - 8 (Secondary 1 - 2)

- Exploring Diversity of Matter by their Physical Properties
- Exploring Diversity of Matter by its Chemical Composition
- Exploring Diversity of Matter Using Separation Techniques
- Understanding Diversity of Living Things
- Model of Cells – the Basic Units of Life
- Model of Matter – The Particulate Nature of Matter
- Model of Matter - Atoms and Molecules
- Ray Model of Light
- Transport System in Living Things
- Human Digestive System
- Human Sexual Reproductive System
- Electrical Systems
- Interactions through the application of forces Energy and Work Done
- Transfer of Sound Energy through Vibrations
- Effects of Heat & its Transmission
- Chemical Changes
- Interactions within Ecosystems

Grades 9 (Secondary 3)

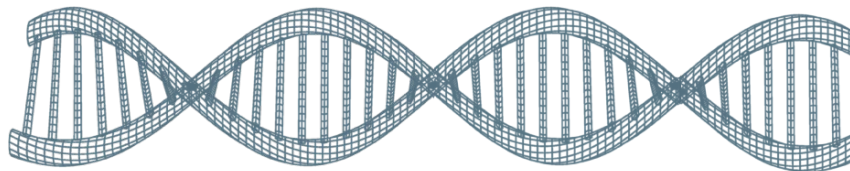
- Experimental Chemistry
- The Particulate Nature of Matter
- Formulae, Stoichiometry and the Mole
- Electrolysis
- Energy from Chemicals
- Chemical Reactions
- Cells Structure and Organisation
- Movement of Substances
- Biological Molecules
- Nutrition in Humans
- Nutrition in Plants
- Transport in Flowering Plants
- Transport in Humans

Syllabus

Grades 10/11 (Secondary 4)

- Acids, Bases and Salts
- The Periodic Table
- Metals
- Air
- Organic Chemistry
- Excretion in Humans
- Homeostasis
- Co-ordination and Response in Humans
- Reproduction
- Cell Division
- Molecular Genetics
- Inheritance
- Organisms and their Environment

Sample Questions



Grades 3 - 4 (Primary 3 - 4)

For more sample questions, visit <https://form.simcc.org/lms-home/>

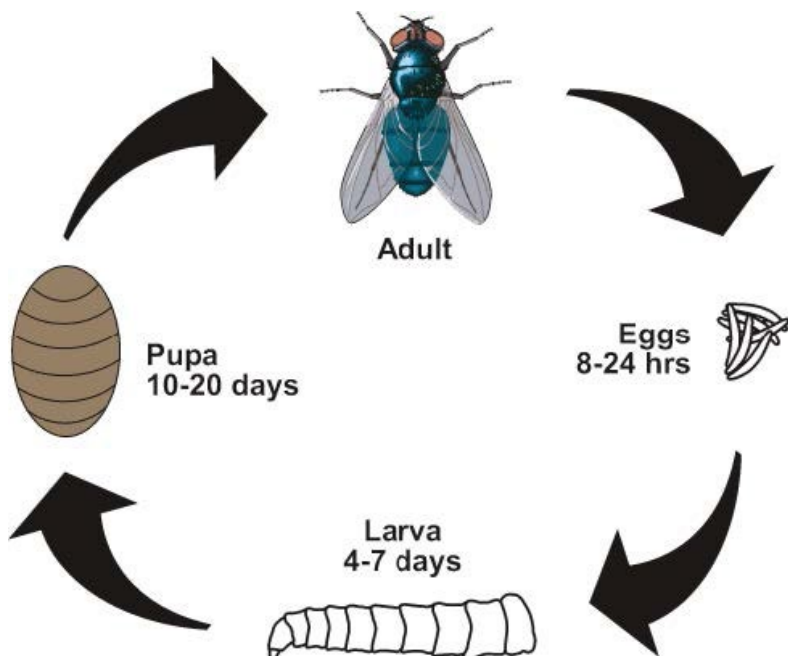
Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

Grade 3/Primary 3: Four cars, A, B, C and D are painted black, silver, red and green respectively. They are all identical except for their colour. An experiment is carried out to find out which car absorbs the most radiant heat. Suggest a suitable hypothesis for this experiment.

- a) Dark colours will absorb more radiated heat from the sunlight while lighter colours reflect it.
- b) Light colours will absorb more radiated heat from the sunlight while darker colours reflect it.
- c) Colours do not have any effect with the radiant heat.
- d) None of the above.

Answer: a

Grade 4/Primary 4: The diagram below shows the life cycle of an insect.

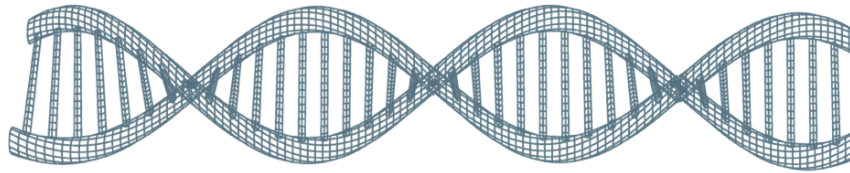


What is your observation about the insect's life cycle stages ?

- a) The eggs hatch after 7 hours.
- b) The insect's number of days at each stage decreases as it progresses from one stage to another.
- c) The insect is still a larva on the 9th day.
- d) It would take about 28 days maximum for a housefly to develop from an egg.

Answer: d

Sample Questions

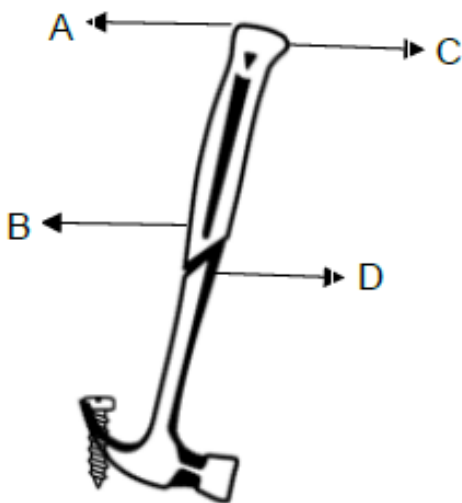


Grades 5 - 6 (Primary 5 - 6)

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Grade 5/Primary 5: Daniel wants to pull a screw out of a plank using a hammer. At which position and direction should he apply the force to make it as easy as possible ?



- a) A
- b) B
- c) C
- d) D

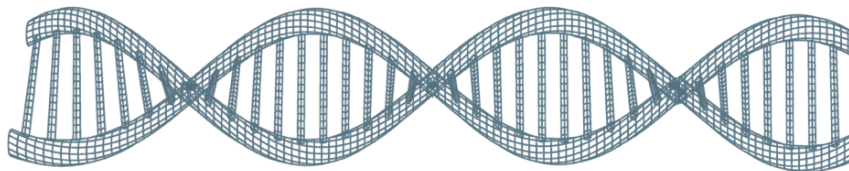
Answer: c

Grade 6/Primary 6: Samuel bought takeaway fries from a western shop in a hawker centre and he noticed that the hawker poked a few holes in the styrofoam box before passing it to him. Why did the hawker poke a few holes in the styrofoam box ?

- a) To allow the fries to stay hotter for a longer time.
- b) To prevent water vapour from condensing.
- c) To cool the fries by introducing air into the box.
- d) To allow the heat to escape from the box.

Answer: b

Sample Questions



Grades 7 - 8 (Secondary 1 - 2)

For more sample questions, visit <https://form.simcc.org/lms-home/>

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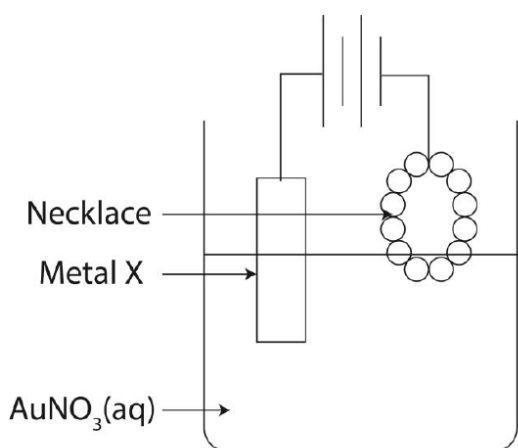
Grade 7/Primary 7: Pandas consume mainly bamboo shoots. Bamboos grow in cooler environments. Due to recent climate changes, bamboos are slowly becoming a scarcity in the native forest habitats of pandas. Taking into consideration that adult pandas do not actually have natural predators and neglecting effects of human poaching, what is the most logical explanation that the adult panda population is still stable ?

- a) Adult pandas are moving into an omnivorous diet.
- b) Pandas are adverse towards traveling further to find food.
- c) Pandas are sleeping more often so as to not feel hungry.
- d) Pandas started depending on other consumers in the ecosystem for survival.

Answer: a

Grade 8/Primary 8: The diagram below shows the electroplating of a necklace. The purpose of electroplating is to coat the necklace with a layer of metal to ensure its durability.

The necklace is half submerged in the solution.

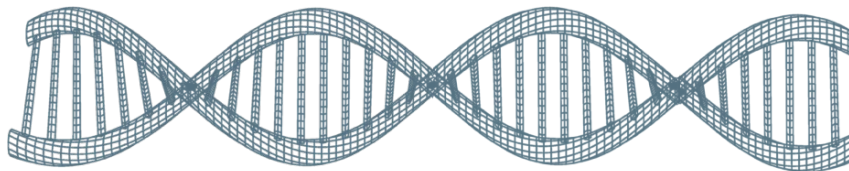


Which of the following statements is false ?

- a) Metal X is can be the element, Gold.
- b) Metal X will become smaller.
- c) The whole necklace will be electroplated.
- d) Electrons are flowing towards the necklace.

Answer: c

Sample Questions



Grades 9 (Secondary 3)

For more sample questions, visit <https://form.simcc.org/lms-home/>

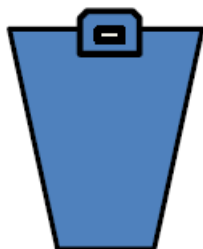
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The complete combustion of propane, C_3H_8 in the presence of an excess amount of oxygen gas, results in the formation of carbon dioxide gas and water. If 220g of propane fully reacted, how many grams of water were produced ?

- a) 200g
- b) 250g
- c) 320g
- d) 360g

Answer: c

The diagram below shows a cup of water filled to the brim and an ice cube with a large air bubble inside is floating on top.

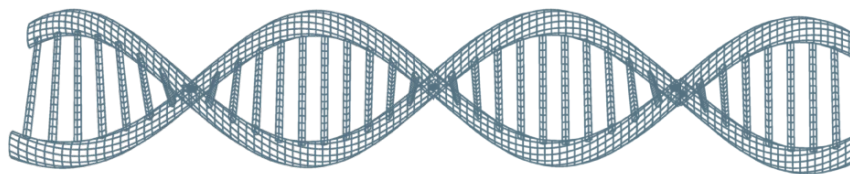


After the ice has melted, water in the cup will

- a) overflow.
- b) stay at the same level.
- c) decrease in water level.
- d) freeze.

Answer: b

Sample Questions



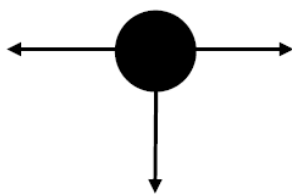
Grades 10/11 (Secondary 4)

For more sample questions, visit <https://form.simcc.org/lms-home/>

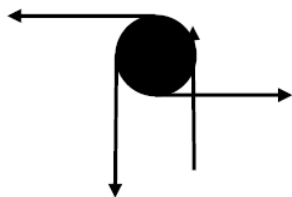
Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

The following options shows a system of forces acting on an object. Which of the following shows the correct vector diagram of an object in equilibrium ?

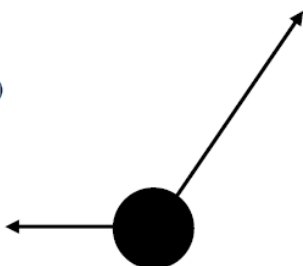
a)



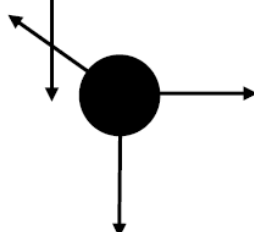
c)



b)



d)



a) A

b) B

c) C

d) D

Answer: b

A converging lens is used to magnify a real image. Given that the distance of the image to that of the optical centre is 1.5 times that the distance of the object to the optical centre, and the focal length of the lens is 20 cm, what is the object's distance to the optical centre ?

a) 0.08 m

b) 0.17 m

c) 0.30 m

d) 0.33 m

Answer: d