CLASS 5

SCIENCE

Olympiad

Prepguide & PYQs

+

Workbook

After School Practice

- Concept Maps
- Beginner's MCQs
- Everyday Curiosity Qns
- Olympiad Exam PYQs
- Achievers MCQs

NSO, ISO, iOS, Hindustan Olympiad, NSTSE and others

Overview of Major Olympiad Exams

National Science Olympiad (NSO)

Exam Details

Feature	Information
Frequency of conduct	Once a year
Exam Mode	Offline
Medium	English
Exam Duration	60 Minutes
Type of Questions	Multiple Choice Questions (Objective Type)

Syllabus

Section–1: Patterns, Analogy and Classification, Geometrical Shapes, Mirror and Water Images, Direction Sense Test, Ranking Test, Alphabet Test, Logical Sequence of Words, Puzzle Test, Coding-Decoding, Clock and Calendar.

Section–2: Animals, Human Body and Health, Plants, Natural Resources and Indian Heritage, Pollution and Calamities, Earth and Universe, Matter and Materials, Force and Energy.

Section–3: Higher Order Thinking Questions - Syllabus as per Section–2.

Exam Structure

Levels	Details
Level 1	All students are eligible
Level 2	Top 5% of the participating students in Level 1 exam

Note:

- **Level 1 Questions:** 60% from class 5 syllabus + 40% from class 4 syllabus.
- **Level 2 Questions:** From class 5 syllabus only.
- **Achievers Section Questions:** From class 5 syllabus only.

Exam Pattern

Levels	Sections	Questions	Marks/ Question	Total Marks
Level 1	1: Logical Reasoning	10	1	10
	2: Science	35	1	35
	3: Achievers Section	5	3	15
	Total	**50**		**60**
Level 2	1: Science	45	1	45
	2: Achievers Section	5	3	15
	Total	**50**		**60**

Note: There is no negative marking for wrong answers.

Silverzone Olympiad (iOS)

Exam Details

Feature	Information
Exam Frequency	Conducted annually, two dates to choose from
Exam Mode	Offline, conducted in schools during school hours
Medium	English
Exam Duration	40 minutes
Type of Questions	Multiple Choice Questions (Objective Type)

Syllabus

Section 1:

- **Matter:** Matter
- **Environment and Natural Calamities:** Our Environment, Natural Calamities, Housing
- **Plants and Animals:** Plants, Animals
- **Light and Sound:** Light and Sound
- **Our Body and Nutrition:** Our Body and Nutrition
- **Work and Energy:** Work, Force, and Simple Machines

Exam Structure

Levels	Details
Level 1	All students are eligible
Level 2	Top 1000 rank holders (Minimum 50%+ marks & Above)
Level 3	1st rank holders at Level 2

Exam Pattern

Sections	Questions	Marks/ Question	Total Marks
Section 1: Science	20	3	60
Section 2: Reasoning and Aptitude	5	3.5	17.5
Section 3: Scholar's Zone	5	4.5	22.5
Total	**30**		**100**

Note: There is no negative marking for wrong answers.

International Science Olympiad (ISO)

Exam Details

Feature	Information
Exam Frequency	Twice a year (December & February)
Exam Mode	Online & Offline (pen-paper in schools)
Duration	65 minutes (offline), 45 minutes [online except Drawing (60 min) and Essay (40 min)]
Medium	English
Type of Questions	Multiple Choice Questions (Objective Type)

Syllabus

Section 1: Natural resources, Crops and agriculture, Environment and Us, Busy at work - our internal organs, Sense and emotion, Disease and its prevention, Fuels and energy, Force, work, and energy, Community and health hygiene, States of Matter, Solar system, Light, sound and Force

Exam Pattern

Sections	Ques-tions	Marks/ Ques-tion	Total Marks
Section 1: Subjective	35	1	35
Section 2: Logical Reasoning	10	1	10
Section 3: High Order Thinking Section (HOTs)	5	1	5
Total	**50**		**50**

Note: There is no negative marking for wrong answers.

Hindustan Olympiad

Exam Details

Detail	Information
Exam Frequency	Once a year
Exam Mode	Online
Duration	120 minutes
Medium	English or Hindi
Type of Questions	Multiple Choice Questions (Objective Type)

Note: An additional 10 minutes is provided for reading the instructions and filling the OMR sheet.

Exam Structure

Levels	Details
Level 1	All students are eligible (open-book exam)
Level 2	Top 10% of participants (proctored exam)

Exam Pattern

Sections	Questions	Marks/ Question	Total Marks
Section A: Mathematics	30	1	30
Section B: English	30	1	30
Section C: Science	20	1	20
Section D: General Knowledge	10	1	10
Section E: Logical Reasoning	10	1	10
Total	100		100

Note: There is no negative marking for wrong answers.

National Level Science Talent Search Examination (NSTSE)

Exam Details

Feature	Details
Exam Frequency	Once a year
Exam Mode	Online & Offline
Duration	60 minutes
Medium	English
Type of Questions	Multiple Choice Questions

Syllabus

Sections:

- **Section A (Mathematics):** Large Numbers, Factors and Multiples, Fractions and Decimals, Measurement of Length, Weight, Capacity, Volume, Time, Temperature, Conversions, Percentages, Ratios, Speed Distance and Time, Geometry, Perimeter and Area.
- **Section B (General Science):** Plant life, Animal life, Human body, Soil Rocks & Minerals, Air Water and Weather, Our Universe, Matter and Materials, Force Work and Energy.
- **Critical Thinking:** This section includes a combination of skills like conscious application in real life, Logical & Inductive Reasoning, Tactics & Strategies in decision making, higher order thinking

Exam Pattern

Sections	Questions	Marks/ Question	Total Marks
Section A: Mathematics	25	1	25
Section B: General Science	30	1	30
Section C: Critical Thinking	5	1	5
Total	60		60

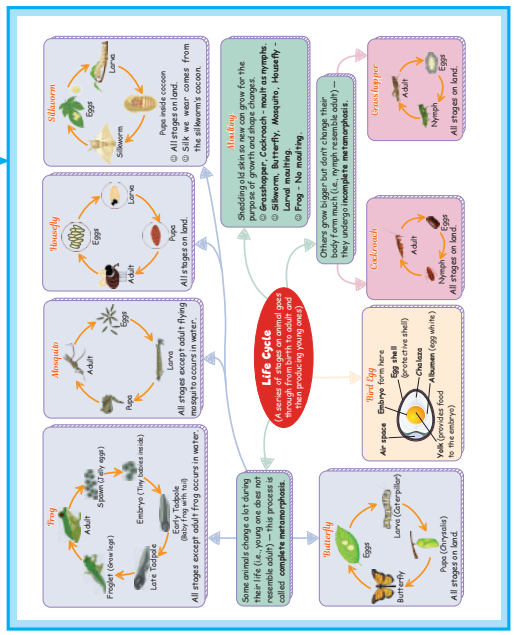
Note: There is no negative marking for wrong answers.

How to Use this Book

This book is structured to support your learning journey of preparing for your olympiad exams through a variety of engaging and informative elements. Here's how to make the most of it:

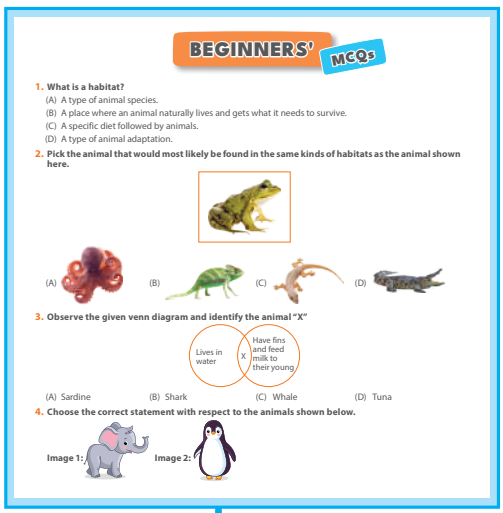
The concept map appears to be a comprehensive study aid that outlines key concepts in a structured format. Use it to understand the chapter's concepts and as a quick reference to recall important highlights.

Concept Map



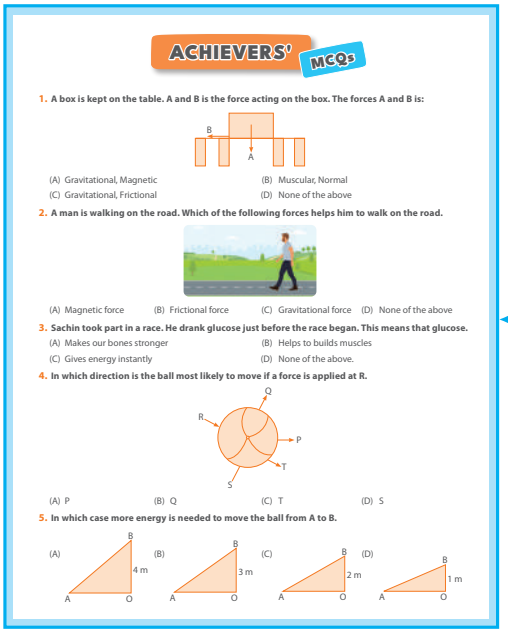
CuriousJr brings real-life questions that make you think and wonder. These questions help you see how what you learn connects to the world around you.

CuriousJr



Beginner's MCQs

Beginner's MCQs has simple questions to help you remember and understand basic concepts. This will help to practice what you've learned and make your concepts strong.



ACHIEVERS' MCQs

1. A box is kept on the table. A and B is the force acting on the box. The forces A and B is:

(A) Gravitational, Magnetic (B) Muscular, Normal
(C) Gravitational, Frictional (D) None of the above

2. A man is walking on the road. Which of the following forces helps him to walk on the road.

(A) Magnetic force (B) Frictional force (C) Gravitational force (D) None of the above

3. Sachin took part in a race. He drank glucose just before the race began. This means that glucose.
(A) Makes our bones stronger (B) Helps to builds muscles
(C) Gives energy instantly (D) None of the above.

4. In which direction is the ball most likely to move if a force is applied at R.

(A) P (B) Q (C) T (D) S

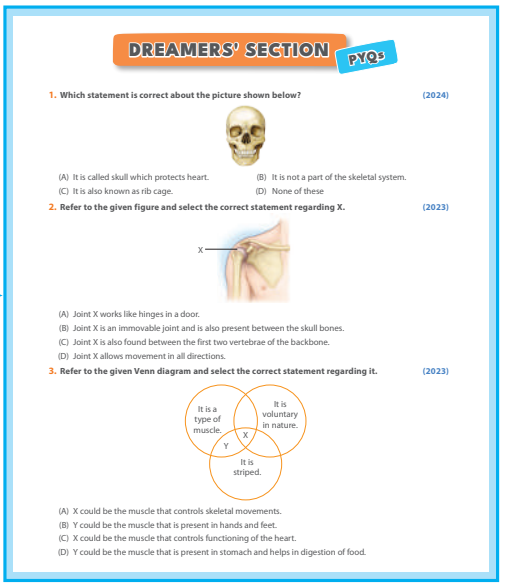
5. In which case more energy is needed to move the ball from A to B.

Achievers' Multiple Choice Questions

In this section, you'll get multiple-choice questions (MCQs) to strengthen your preparation. These questions help you practice in a way that is useful for exams.

This section includes questions that were asked in past exams. Solving these helps you understand questions pattern, difficulty level, & most important topics. It's a great way to prepare for the actual exam with full confidence.

Dreamers' Section PYQs



DREAMERS' SECTION PYQs

1. Which statement is correct about the picture shown below? (2024)

(A) It is called skull which protects heart. (B) It is not a part of the skeletal system.
(C) It is also known as rib cage. (D) None of these

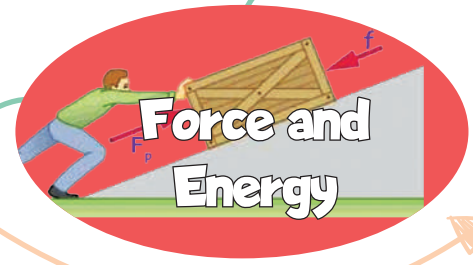
2. Refer to the given figure and select the correct statement regarding X. (2023)

(A) Joint X works like hinges in a door.
(B) Joint X is an immovable joint and is also present between the skull bones.
(C) Joint X is also found between the first two vertebrae of the backbone.
(D) Joint X allows movement in all directions.

3. Refer to the given Venn diagram and select the correct statement regarding it. (2023)

(A) X could be the muscle that controls skeletal movements.
(B) Y could be the muscle that is present in hands and feet.
(C) X could be the muscle that controls functioning of the heart.
(D) Y could be the muscle that is present in stomach and helps in digestion of food.

CONTENTS



Types of Force

Muscular Force

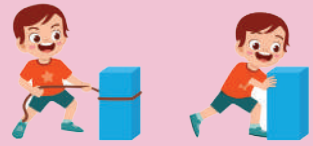
When you push or pull an object you use your muscles to apply force. This force is called muscular force.

Mechanical Force

This is a kind of force that causes the object on which it acts to change its motion it can bend or break things.

Force

A force is a push or pull upon an object which results from the object interaction with another object Force can change the shape and size of an object Force can stop an moving object



Gravitational Force

Every object in the universe attracts the objects near it. This force of attraction is called gravitational force.

Elastic Force

Elastic force is the force which resist the change in shape in on elastic material.

Frictional force

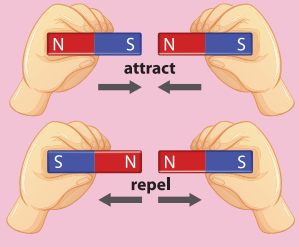
The frictional force is the force exerted by a surface on an object.

Friction and Surface Texture

- ☺ **Rough Surfaces:** Surfaces with greater roughness offer higher resistance to the motion of the object. Consequently, more force is required to move an object.
- ☺ **Smooth Surfaces:** Conversely, smoother surfaces leads to less interlocking and thus less friction. So less force is needed to move an object

Magnetic Force

Magnetic force is the attraction or repulsion between magnets



Magnetism is a fundamental force of nature, and every magnet, regardless of its size or shape, possesses two distinct poles: a North pole and a South pole.

Relation between force and work

A work is said to be done when force applied on an object causes is to move a certain distance in the direction of force.

Example: Examples of work done

- ☺ Pulling or pushing an object through some distance
- ☺ Carrying a load upstairs and pushing a box on a ramp.

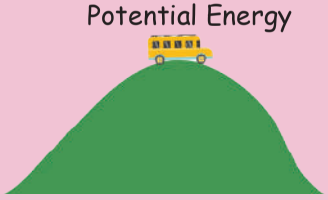
Buoyant force

Buoyant force is an upward force exerted by a fluid that opposes the weight of an immersed object. This force is responsible for making objects float or appear lighter in a fluid.

Types of Energy

Potential energy

Potential energy is the energy stored in an object or system of object The bus having potential energy due to its height from the ground.



Kinetic Energy

Kinetic energy is the energy associated with the objects motion. The bus having kinetic energy due to its speed.

Electrical energy

Electrical energy is the power that helps us do so many things in our homes and schools, from turning on lights to watching TV

Types of Potential Energy

- Gravitational potential energy increases with increase in height of the object from the ground.
- Elastic potential energy eg., bring) that is coiled, Rubber band that is stretched.

Sound Energy

Sound energy is a form of energy that travels in waves and can be heard by humans and animals.

Hydro energy

Hydro energy, or hydropower, is energy that comes from the movement of water.

Solar Energy

Solar energy is radiant energy from the sun that can be converted into thermal or electrical energy.

Muscular energy

Muscles get their energy from the chemical energy stored in food, primarily through the breakdown of glucose and fatty acids.

Geothermal energy

Geothermal energy is energy that comes from inside the Earth.

Chemical energy

Chemical energy is a form of potential energy that is stored in the bonds between atoms and molecules.

Batteries: Batteries have chemicals inside that react with each other.

Heat energy

Heat energy is the flow of energy from a warmer object to a cooler object due to a temperature difference.

Light energy

Light energy is a form of energy that makes things visible. Light is essential for life as it allows us to see, helps plants grow through photosynthesis, and plays a role in various natural processes.

CHAPTER-1

Force and Energy

BEGINNERS' MCQs

1. Which of the following is an example of a contact force?

(A) Gravitational force (B) Magnetic force (C) Frictional force (D) Electrostatic force

2. Which of these forces helps a parachute slow down when it is falling?

(A) Magnetic force (B) Gravitational force (C) Air resistance (D) Muscular force

3. The force that pulls objects toward the Earth is called _____.

(A) Gravity (B) Friction (C) Magnetism (D) Electricity

4. What is the main source of light energy for all living things?

(A) Wind (B) Sun (C) Water (D) Electricity

5. Which of the following is an example of elastic energy?

(A) A moving car (B) A stretched rubber band

(C) A flowing river (D) A burning candle

6. What type of energy is used by plants to make food?

(A) Electrical energy (B) Chemical energy (C) Solar energy (D) Wind energy

7. Which of the following appliances converts electrical energy into heat energy?

(A) Fan (B) Bulb (C) Iron (D) Radio

8. Energy can neither be created nor destroyed; it can only be _____ from one form to another.

(A) Transferred (B) Converted (C) Transmitted (D) Transformed

9. Moving water and wind are examples of _____ energy.

(A) Kinetic (B) Potential (C) Thermal (D) Chemical

10. A battery stores _____ energy, which is used to power devices.

(A) Chemical (B) Kinetic (C) Electrical (D) Thermal

11. Statement 1: Friction always helps objects move faster.
Statement 2: Energy is needed to do any kind of work.
Choose the correct option on the basis of true or false statement.

(A) true, true (B) false, false (C) false, true (D) true, false

12. **Match the following.**

Column-I		Column-II	
1.	Solar energy	a.	Stored energy in food
2.	Kinetic energy	b.	Energy from the Sun
3.	Chemical energy	c.	Energy of moving objects
4.	Wind energy	d.	Energy from moving air

(A) 1-b, 2-c, 3-a, 4-d (B) 1-a, 2-b, 3-a, 4-d (C) 1-b, 2-a, 3-d, 4-c (D) 1-d, 2-c, 3-a, 4-b

13. **Match the following.**

Column-I		Column-II	
1.	Muscular Force	a.	Energy stored in a battery
2.	Gravitational Force	b.	Force used to push or pull objects using muscles
3.	Chemical Energy	c.	Pulls objects towards the Earth
4.	Light Energy	d.	Helps us to see things

(A) 1-b, 2-c, 3-a, 4-d (B) 1-c, 2-b, 3-d, 4-a (C) 1-b, 2-a, 3-c, 4-d (D) 1-d, 2-a, 3-c, 4-b

14. **The device shown in the given figure changes**

Solar Cooker

(A) Solar energy to heat energy (B) Light energy to electrical energy

(C) Heat energy to light energy (D) Heat energy to mechanical energy

15. **The instrument shown in the given figure converts**

Cassette Player

(A) Light energy → Sound energy (B) Mechanical energy → Electrical energy

(C) Light energy → Heat energy (D) Electrical energy → Sound energy

FILL THE CORRECT OPTION BY HB PENCIL

1.	A	B	C	D	**5.**	A	B	C	D	**9.**	A	B	C	D	**13.**	A	B	C	D
2.	A	B	C	D	**6.**	A	B	C	D	**10.**	A	B	C	D	**14.**	A	B	C	D
3.	A	B	C	D	**7.**	A	B	C	D	**11.**	A	B	C	D	**15.**	A	B	C	D
4.	A	B	C	D	**8.**	A	B	C	D	**12.**	A	B	C	D					

DREAMERS' SECTION

PYQs

1. What is buoyant force? **(2024)**

(A) The force that pulls objects downward
(B) The force that pushes objects upward in a liquid
(C) The force that makes objects heavier
(D) The force that stops objects from moving

2. Which of the following increases the potential energy of an object? **(2024)**

(A) Decreasing height of the object from the ground
(B) Increasing height of the object from the ground
(C) Decreasing mass of the object
(D) Increasing speed of the object

3. Which among the following is a type of energy possessed by a moving car? **(2024)**

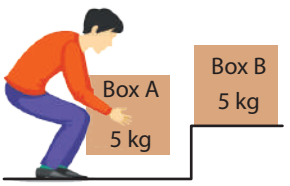
(A) Potential energy (B) Hydro energy (C) Kinetic energy (D) Geothermal energy

4. Identify the simple machine shown in the given figure and select the correct statement(s) regarding it. **(2024)**

(i) In it effort lies between load and fulcrum.
(ii) It belongs to the second class of lever.
(iii) In it load lies between fulcrum and effort.
(iv) It consists of two inclined planes that meet to form a sharp edge.

(A) (i) only (B) (i) and (iii) only
(C) (ii) and (iii) only (D) (ii), (iii) and (iv) only

5. Refer to the given picture. **(2024)**



Which of the following statements about the forces invovled is/are correct?

(i) Box B is stationary so there is not force acting on it.
(ii) Box A is lifted due to a higher upward force applied on it than gravity acting on it.
(iii) The potential energy of box A is more than box B since it is at a lower position.

(A) (ii) only (B) (ii) and (iii) only
(C) (i) and (ii) only (D) (i), (ii) and (iii).

6. Which force applied by the boy on the toy enables the toy to move? **(2023)**

(A) Gravitational force
(B) Muscular force
(C) Magnetic force
(D) Frictional force

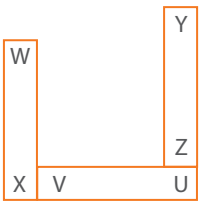
7. **Work is said to be done when.** **(2023)**

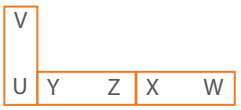
(A) A boy rides a bicycle
(B) A child hits a football in the playground
(C) A girl is swimming in the pool
(D) All of these

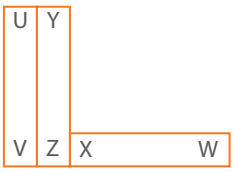
8. **Javed arranged three bar magnets as shown in the given figure.** **(2023)**

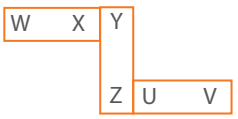
U	V
W	X
Y	Z

Which one of the following is another possible arrangement of these bar magnets?

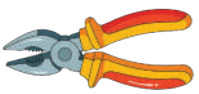
(A) 

(B) 

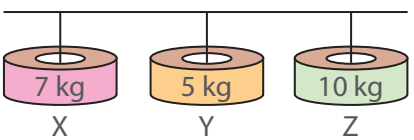
(C) 

(D) 

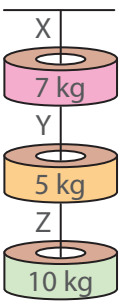
9. **Which among the following belongs to the same class as a crowbar?** **(2022)**

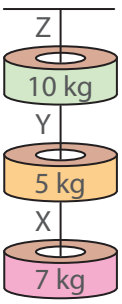
(A) 
(B) 
(C) 
(D) 

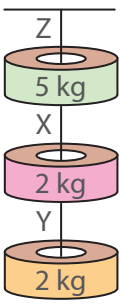
10. **Pranav had three types of strings X, Y and Z. He tested the strength of the strings by hanging weights on them. He increased the weights until the string broke. The maximum weight that each string can hold before breaking is shown in the given figure.** **(2022)**

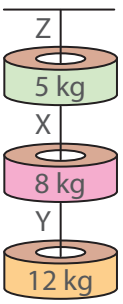


He then tried using the strings to hang different weights. Based on the test results, which of the following arrangements is possible?

(A) 

(B) 

(C) 

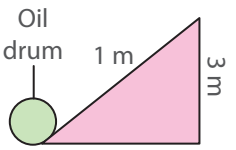
(D) 

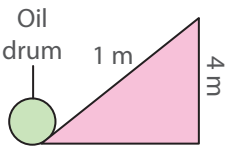
11. **Match the columns and select the correct option.** **(2022)**

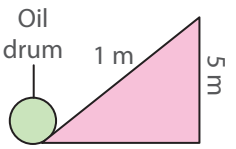
Column-I		Column-II	
(a)	Electric fan	(i)	Electrical energy into light and sound energy
(b)	Battery	(ii)	Light energy into chemical energy
(c)	Television	(iii)	Electrical energy into mechanical energy
(d)	Photosynthesis	(iv)	Chemical energy into electrical energy

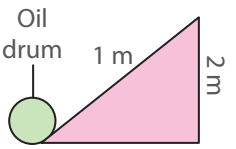
(A) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
(B) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
(C) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(D) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

12. **In which of the following options, the effort required to move the oil drum along the inclined plane will be least?** **(2021)**

(A) 

(B) 

(C) 

(D) 

13. **Which of the following is a correct match of the everyday object and the simple machine involved in its functioning?** **(2020)**

(A) Steering of a car - Pulley
(B) Escalator - Wedge
(C) Staircase - Inclined plane
(D) Hospital ramp - Wheel and axle

14. **Which of the following statements are correct?** **(2017)**

i. A force can change the direction of a moving ball.
ii. An iron object is repelled by a magnet when it is brought near it.
iii. A smooth surface produces more friction as compared to rough surface.
iv. Friction between our feet and the ground makes it possible for us to walk.

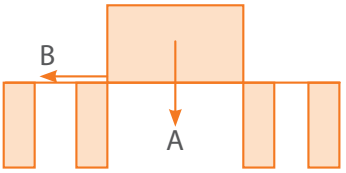
(A) i and ii
(B) i and iv
(C) ii and iv
(D) Only iv

FILL THE CORRECT OPTION BY HB PENCIL

1.	A B C D	5.	A B C D	9.	A B C D	13.	A B C D
2.	A B C D	6.	A B C D	10.	A B C D	14.	A B C D
3.	A B C D	7.	A B C D	11.	A B C D		
4.	A B C D	8.	A B C D	12.	A B C D		

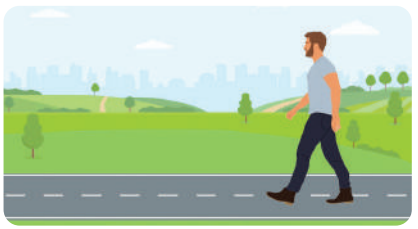
ACHIEVERS' MCQs

1. A box is kept on the table. A and B is the force acting on the box. The forces A and B is:



(A) Gravitational, Magnetic
(B) Muscular, Normal
(C) Gravitational, Frictional
(D) None of the above

2. A man is walking on the road. Which of the following forces helps him to walk on the road.

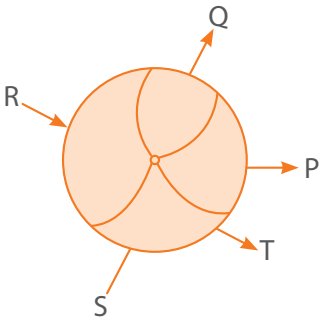


(A) Magnetic force
(B) Frictional force
(C) Gravitational force
(D) None of the above

3. Sachin took part in a race. He drank glucose just before the race began. This means that glucose.

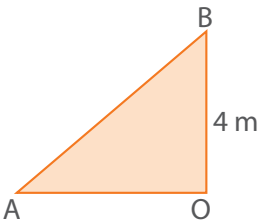
(A) Makes our bones stronger
(B) Helps to builds muscles
(C) Gives energy instantly
(D) None of the above.

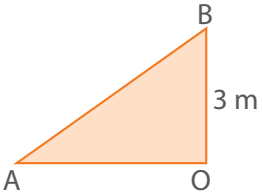
4. In which direction is the ball most likely to move if a force is applied at R.

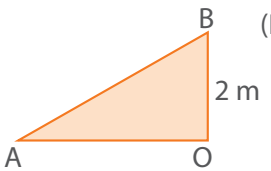


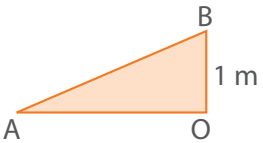
(A) P
(B) Q
(C) T
(D) S

5. In which case more energy is needed to move the ball from A to B.

(A)


(B)


(C)


(D)


6. See the images below and identify the types of energy.




(a) Moving Car (b) Melting Icecream (c) Lightning (d) Battery

(A) Kinetic, thermal, electrical, chemical
(B) Thermal, kinetic, chemical, electrical
(C) Kinetic, electrical, thermal, chemical
(D) None of the above

7. A ball rolling down a hill possesses _____ energy and converts it to _____ energy as it stops at the bottom.

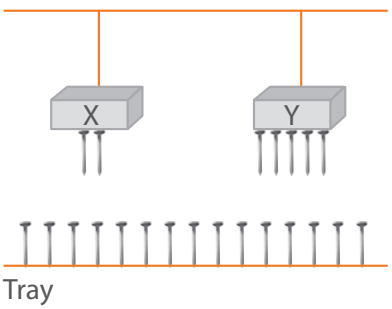
(A) Kinetic, potential (B) Chemical, thermal (C) Electrical, potential (D) All of the above

8. Match the following.

Column-I		Column-II	
(a)	First class lever	(i)	Human forearm
(b)	Second class lever	(ii)	Nail clippers
(c)	Third class lever	(iii)	Scissors

(A) (a-iii) (b-ii) (c-i) (B) (a-i) (b-ii) (c-iii) (C) (a-ii) (b-i) (c-iii) (d) None

9. Two magnets X and Y are hanging with help of strings of same length. A tray of pins is placed below the magnets and different number of pins are attached to the magnets. Which is the weakest magnet?



(A) Y (B) X (C) Both (D) None

10. Which has more kinetic energy A moving bus or A moving bike having equal speed?

(a) A moving bus
(B) A moving bike
(C) Both have kinetic energy
(D) None of the above

FILL THE CORRECT OPTION BY HB PENCIL

1.	A	B	C	D	4.	A	B	C	D	7.	A	B	C	D	10.	A	B	C	D
2.	A	B	C	D	5.	A	B	C	D	8.	A	B	C	D					
3.	A	B	C	D	6.	A	B	C	D	9.	A	B	C	D					

1 You're a park designer, and your goal is to create a new slide for children. You want to make it as fun and thrilling as possible, but also safe. Based on your understanding of inclined planes , which of the following design choices would likely result in the fastest and most exhilarating ride down the slide, while still being a reasonable design for a public park?

(A) A very long, very gently sloping slide, almost flat

(B) A short, extremely steep slide, nearly vertical.

(C) A moderately long slide with a relatively steep slope.

(D) A slide made with a very rough, high-friction surface.

2 You're a gardener and need to move several very heavy bags of compost from your delivery truck (at ground level) into a raised garden bed (approximately 1 meter high). You have two primary tools at your disposal:

(a) A strong wheelbarrow.

(b) A long, sturdy plank that you can use as a ramp.

Considering the principles of simple machines you've learned, which method would generally be the most efficient and safest for a single person to move all the bags of compost, and why?

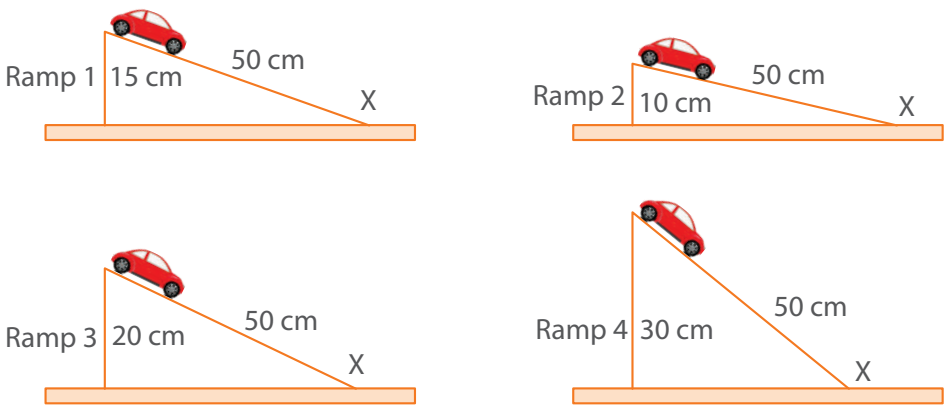
(A) Carry each bag individually up a short, steep step ladder, relying on your strength.

(B) Use the wheelbarrow to load multiple bags at once and push it up the long, gentle ramp.

(C) Empty each bag onto the ground and then shovel the compost up into the raised bed directly.

(D) None of the above

3 Study the four set-ups given below.



From the set-ups shown, which ramp do you think would make the toy car, when released, travel the farthest along the table top from point X?

(A) Ramp 1 (B) Ramp 2 (C) Ramp 3 (D) Ramp 4

ANSWER KEY

VIDEO SOLUTIONS

Beginners' MCQs

1. (C) **2.** (C) **3.** (A) **4.** (B) **5.** (B) **6.** (C) **7.** (C) **8.** (B) **9.** (A) **10.** (A)
11. (C) **12.** (A) **13.** (A) **14.** (A) **15.** (D)

Dreamers' Section PYQs

1. (B) **2.** (B) **3.** (C) **4.** (C) **5.** (A) **6.** (B) **7.** (D) **8.** (A) **9.** (D) **10.** (C)
11. (C) **12.** (D) **13.** (C) **14.** (B)

Achievers' MCQs

1. (C) **2.** (B) **3.** (C) **4.** (C) **5.** (A) **6.** (A) **7.** (A) **8.** (A) **9.** (B) **10.** (A)

CuriousJr

1. (C) This offers the best balance. A "relatively steep" slope provides a significant component of gravitational force to accelerate the child, making it fast and exhilarating. The "moderately long" length allows for some build-up of speed while still being manageable and safe for a typical park slide. This design maximizes the "fun" factor within reasonable safety limits.

2. (B) Wheelbarrow (Second-Class Lever): By placing the load (compost bags) between the fulcrum (the wheel) and the effort (your hands on the handles), the wheelbarrow amplifies your force. This allows you to lift a heavy load with less effort than carrying it directly.

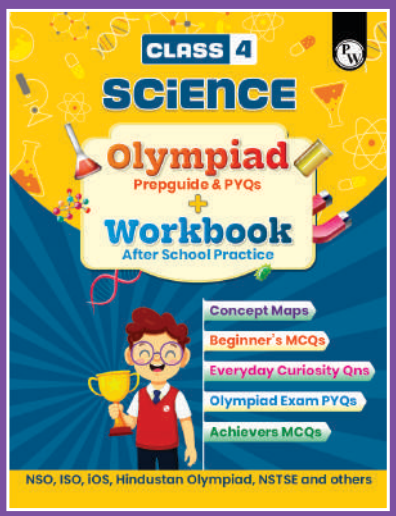
Ramp (Inclined Plane): The ramp reduces the force required to move the load vertically by distributing the effort over a longer distance.

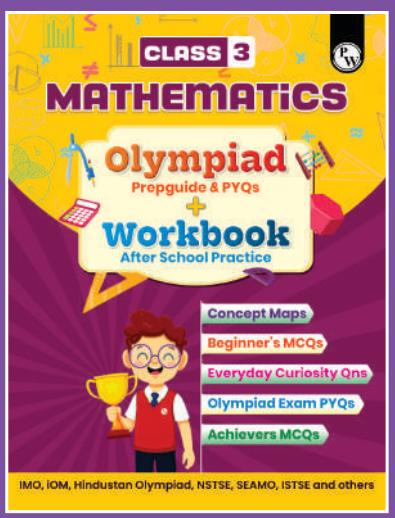
3. (D) Distance travelled by the toycar depends on the height of the ramp. More the height of the ramp, more will be the gravitational potential energy of the toy car. Therefore, more energy will be converted to the kinetic energy which increases the distance travelled by the toycar. Among the given options, ramp 4 has the maximum height, therefore the toy car travels the farthest distance from point X.

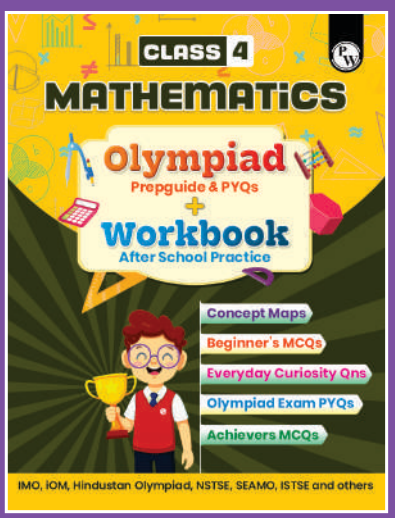
4. (D) Drawn up catapult, pushed down spring and vase put on the table, all have potential energy. On the other hand, a bouncing ball has kinetic energy.

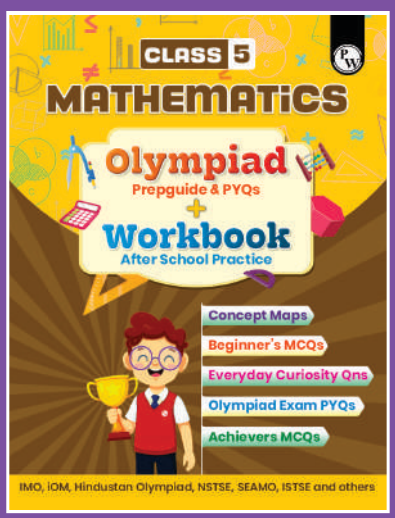
5. (B) In the given figure, X and Y denote friction and gravity respectively. Friction acts in the direction opposite to motion and gravity pulls everything in the downward direction.

Books in The Series









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