ASSET

TEACHER

MyBook 2022

Science Teacher, 7C

XYZ School, Aurangabad

Subject: Science

147/S7C/0051

The ASSET Teacher MyBook you have received will help you understand your students' strengths and weaknesses and also their performance compared to students across the country. It contains performance reports and practice questions on weak skills, along with explanations.

Described below are the different parts of Teacher MyBook and the information they contain.

Personalized Teacher Feedback: This letter is a report of your students' specific strengths and weaknesses.

Student Performance Table: This report provides individual students' question-wise performance.

Bird's Eye View: The Bird's Eye View shows a comparison of the performance of your students with the average national performance.

Skill-based Summary: This report shows your students' performance in the different skills in a tabular form, highlighting the two strongest skills. It also shows how your students' performance in each skill compares to the national average (all other schools in India) in that skill.

Analysis of Easy/Difficult Questions: This part of the report shows questions that your students found easy and difficult compared to the national average. This information can be used by you to focus your attention on specific questions and skills.

Questions with Common Wrong Answer: We have chosen a few questions for which data highlights potential misconceptions that students might have. It also shows how your students have performed on these questions compared to all other schools in India.

Practice Questions and Explanation: If your school has registered for Student MyBook, each of your students would have received practice questions in their weak skills in the Student MyBook. Practice questions with two of your students' low-performing skills have been provided in this Teacher MyBook. Answers and explanations have also been provided.*

We recommend that you see the analysis with reference to the ASSET question paper provided with this report.

* In English, if any reading comprehension skill is weak, practice with an entire passage has been provided. In Hindi, only for non-reading comprehension skills practice has been provided.

Dear Science Teacher,

Congratulations on receiving the ASSET test results!

ASSET is a diagnostic test that tells you which skills your students are strong in and which skills you need to help them develop further.

The main strengths of your students in Science are:

Integrating different concepts or information for decision making
Classification/comparison of organisms/processes; giving examples

The main weaknesses of your students in Science are:

Knowledge of use of scientific instruments, tools and procedures
Advanced or complex data representation or interpretation

This booklet has been designed to help you work on your students' weak skills. It provides student-wise data and also highlights questions that your students have found easy or difficult.

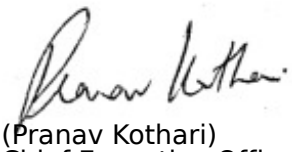
Read through the analysis carefully to know how your students did on each skill. You can use different sections of the booklet (described on the front inside cover) to identify weak areas and also discuss specific questions in class to address misconceptions.

If your students have registered for MyBook, they too would have received personalised booklets that will help them practise their weak skills. You can go through individual students' MyBooks to understand what each one's weak skills are.

Do use these in class and let us know if they helped and share any other comments or suggestions. You can email us at info@ei.study.

By helping your students work on their weak areas, you can easily help them improve and do better!

Best of luck!



(Pranav Kothari)
Chief Executive Officer - Educational Initiatives

Student Performance Table — Class 7C

No.	Student	Question No: →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Score	Percentile	Performance
		Correct Answers →	C	A	A	B	B	D	C	A	D	B	B	D	A	C	D	B	A	A	D	C	A	D	A	D	A	A	B	C	D	D	C	B	C	C	D	D	B	B	A	C	C	B	B	C	D			
1	ABC		✓	✓	✓	✓	✓	✓	✓	C	A	✓	D	B	D	✓	B	✓	D	✓	✓	✓	✓	B	✓	✓	✓	✓	C	✓	✓	✓	✓	C	A	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	✓	A	32	95	
2	ABC		A	D	D	D	✓	✓	B	D	✓	A	✓	✓	C	D	✓	C	✓	B	B	D	C	C	C	B	B	B	D	A	C	A	D	C	B	A	B	C	D	C	B	A	A	A	D	✓	B	8	2	
3	ABC		A	B	D	✓	C	✓	D	D	B	✓	A	✓	C	D	✓	C	✓	C	C	D	D	C	B	✓	D	D	C	B	A	B	✓		D	B	B	C	D	✓	B	B	A	✓	C	B	A	10	5	
4	ABC		B	C	✓	✓	✓	✓	✓	D	✓	C	✓	C	C	A	B	✓	D	D	✓	A	C	B	B	✓	✓	✓	✓	✓	✓	✓	✓	A	A	B	A	A	✓	✓	C	✓	✓	D	✓	A	A	22	64	
5	ABC		✓	D	✓	✓	✓	✓	✓	B	✓	✓	D	✓	C	D	B	✓	✓	C	C	✓	✓	✓	D	✓	✓	✓	✓	✓	A	✓	✓	A	A	B	✓	✓	A	C	B	✓	B	D	D	✓	A	25	78	
6	ABC		B	✓	B	✓	D	C	D	D	C		✓	C	C	A	B	✓	D	D	✓	A	C	B	B	✓	✓	✓	✓	✓	✓	✓	D	✓	B	✓	B	A	✓	✓	C	✓	✓	D	✓	A	A	19	48	
7	ABC		✓	C	C	✓	✓	✓	A	✓	B	✓	A	✓	C	A	B	✓	✓	✓	✓	B	C	A	D		D	✓	✓	B	A	B	✓	✓	A	B	✓	C	C	✓	✓	✓	A	✓	D	✓	B	21	59	
8	ABC		✓	B	✓	C	✓	✓	B	B	✓	✓	A	✓	B	✓	B	A	✓	✓	✓	✓	✓	B	B	✓	✓	D	✓	✓	A	✓	✓	A	✓	✓	A	A	A	✓	C	✓	✓	✓	✓	B		26	81	
9	ABC		✓	B	✓	✓	✓	A	✓	D	✓	✓	✓	✓	C	✓	B	C	✓	D	C	✓	✓	C	✓	✓	✓	B	C	B	✓	A	A	✓	✓	D	C	B	C	D	✓	B	✓	✓	A	D	C	22	64	
10	ABC		D	D	✓	✓	✓	A	✓	D	A	✓	A	B	D	B	B	C	✓	D	A	✓	✓	✓	C	✓	✓	B	✓	D	B	A	✓	C	A	B	✓	A	✓	C	D	✓	A	D	✓	✓	A	18	43	
11	ABC		✓	D	D	C	✓	✓	✓	D	A	A	A	A	C	✓	C	✓	C	D	✓	D	✓	A	✓	✓	D	D	C	✓	B	B	A	A	A	B	C	A	D	✓	B	B	✓	✓	C	B	A	14	21	
12	ABC		✓	B	✓	✓	✓	B	✓	D	✓	✓	✓	✓	C	✓	A	✓	C	C	✓	✓	✓	✓	B	✓	✓	D	✓	✓	✓	✓	✓	C	A	B	C	B	D	D	B	✓	✓	✓	✓	A	B	26	81	
13	ABC		✓	✓	✓	✓	D	✓	✓	C	✓	✓	✓	✓	C	D	A	✓	✓	C	C	B	D	✓	C	A	✓	C	A	✓	A	✓	B	C	A	B	C	C	C	✓	C	B	✓	✓	✓	✓	A	21	59	
14	ABC		A	B	✓	✓	✓	✓	D	D	A	✓	D	✓	B	✓	B	A	✓	C	C	✓	✓	A	B	✓	✓	✓	✓	D	✓	✓	✓	C	A	D	C	B	C	✓	C	✓	✓	✓	C	D	A	21	59	
15	ABC		✓	B	✓	D	✓	✓	✓	✓	B	✓	D	✓	✓	D	✓	A	✓	B	C	✓	D	B	✓	✓	✓	✓	C	✓	✓	✓	✓	C	A	B	C	A	D	✓	C	✓	D	C	A	A	A	22	64	
16	ABC		✓	D	D	A	A	A	D	B	✓	✓	✓	B	C	✓	B	C	✓	C	✓	A	D	B	✓	A	D	C	✓	✓	C	B	D	A	B	✓	A	A	D	✓	✓	✓	A	✓	C	D	A	15	26	
17	ABC		✓	C	✓	✓	✓	✓	✓	C	✓	✓	✓	C	C	✓	C	✓	B	C	C	D	D	C	D	B	D	B	C	A	A	✓	D	C	D	✓	A	A	C	✓	C	✓	✓	✓	C	A	B	17	37	
18	ABC		✓	D	D	✓	✓	✓	✓	✓	B	✓	✓	✓	C	✓	✓	✓	✓	✓	A	✓	✓	C	✓	✓	✓	✓	✓	D	✓	✓	✓	A	✓	B	C	B	✓	✓	D	✓	B	D	✓	✓	B	30	92	
19	ABC		✓	✓	D	✓	D	C	✓	D	C	✓	C	✓	C	✓	A	✓	D	✓	B	✓	C	B	C	C	✓	✓	C	B	A	✓	✓	C	A	B	A	B	D	✓	✓	✓	✓	✓	D	D	A	19	48	

% answered correct (section)	68	21	58	74	74	68	63	16	47	79	47	63	5	53	21	58	63	26	42	53	47	21	32	68	68	47	53	53	42	63	63	16	16	26	21	11	21	74	26	74	58	63	42	37	0	20.4/45		
% answered correct (school students)	67	25	66	67	69	49	65	13	49	52	48	49	18	54	14	46	46	45	41	53	56	24	33	66	65	48	41	49	27	59	58	16	16	28	12	19	33	68	22	73	60	62	39	40	21	19.7/45		
% answered correct (all students)	64	41	60	64	62	49	72	22	47	48	41	47	24	50	17	51	43	39	41	58	58	26	31	68	66	47	38	54	29	51	43	16	22	28	18	15	35	58	34	55	53	58	35	42	18	19.4/45		

Notes:
Score: Actual score obtained by the student. **Percentile:** Percentage of students who have scored less than that particular student. **Performance:**'O' indicates outstanding performance in subject.
✓ Indicates correct answer. **A,B,C,D:** Indicates student's incorrect answer. **(Blank)** indicates student omitted answer. * Indicates student chose more than one option.

The Bird's Eye View shows a comparison of the performance of your students with the national average performance.

Your class 7 C, has performed better than the national average in the Science ASSET paper this year.

Class 7	Science	No. of students
7A	100%	11
7B	93%	21
7C (Your Class)	105%	19
7D	106%	15
7E	106%	19
All sections combined	102%	85

Performance as a percentage of National Average

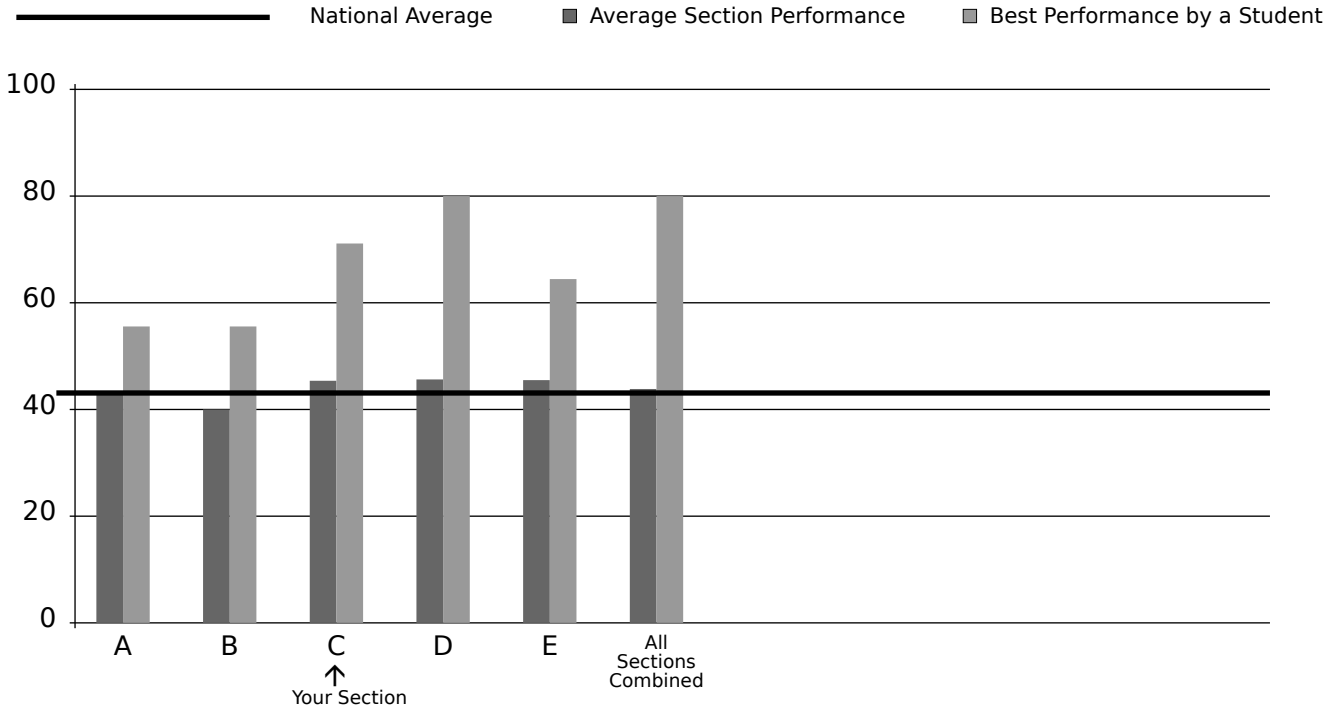
Above Average(>105%) Below Average(<95%) Within Average(95% to 105%)

National average is taken as 100%. The value in the table indicate performance as compared to the national average.

E.g. If the section average in Science is 40% and the national average is 60%, then the table will show (40/60)*100=67%. 95% to 105% is treated as similar to national average performance. Performance greater than 105% and below 95% is considered as performance above and below the national average range respectively.

Raw Performance Data

Comparison of section average and best performance with all schools in the country.



This table shows how your students' performance compares to the overall school performance and the national average (all other schools in India). The skills with a '*' in the first column, if any, are those in which your students have performed better than the national average.

Class: 7 C Subject: Science Number of Students: 19

S.No.	Skill	Questions	Class 7 C Performance	Class 7 Performance (School)	Class 7 Performance (National)
			Average	Average	Average
1	Recollection or recognition of science facts and concepts	7,32,41,42,45	40.0%	44.9%	43.3%
2	Definition or description of scientific terms, organisms or materials	3,4,39,44	48.7%	48.8%	49.8%
3	Knowledge of use of scientific instruments, tools and procedures	2,17,34	36.8%	32.9%	37.2%
4*	Classification/comparison of organisms/ processes; giving examples	22,30,31	49.1%	46.7%	39.9%
5	Representing, relating or explaining scientific processes or observed phenomena	9,16,21,23,28	47.4%	46.8%	48.3%
6*	Extraction, translation and application of knowledge or information	1,5,12,15,19,37	48.2%	45.7%	44.5%
7*	Analysis of information to identify trends or properties	6,10,18,26,33,36	41.2%	38.2%	36.6%
8*	Advanced or complex data representation or interpretation	11,13,14,27	39.5%	40.3%	38.4%
9*	Integrating different concepts or information for decision making	25,29,35,38,40	55.8%	48.9%	45.4%
10	Hypothesis formulation; design of apparatus or experiment	8,20,24,43	44.7%	42.6%	46.0%

Note - The average performance is calculated from the number of correct responses given by students to the questions constituting specific skills.

Strong skills		Weak skills	
1.	Integrating different concepts or information for decision making	1.	Knowledge of use of scientific instruments, tools and procedures
2.	Classification/comparison of organisms/ processes; giving examples	2.	Advanced or complex data representation or interpretation

This part of the report shows questions that the children of your class found easy and difficult. This information can be used by you to focus your attention to specific questions and skills. You can also use the student performance table to focus on individual students. (Please refer to the ASSET paper for the complete text of these questions.)

Questions which students of your school found the MOST DIFFICULT compared to the rest of the country:

Q 2 How can you separate a mixture of sawdust and powdered salt?

A mix properly with water, filter and then evaporate
B mix properly with water, evaporate and then filter
C filter, mix properly with water and then evaporate
D (It is not possible to separate a mixture of sawdust and powdered salt.)

Skill: Knowledge of use of scientific instruments, tools and procedures

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph
2	37122	A	21%	41%	Your School / All Schools

Q 13 To make a saturated salt solution at 20 °C, 36.0 g of salt is required in 100 g of water.

Razia has the following mixtures of sand, salt and water. From which of these mixtures (all at 20 °C) can salt and sand be COMPLETELY separated using a filter paper?

Mixture	Amount of salt (g)	Amount of sand (g)	Amount of water (g)
A	15	15	50
B	20	20	50
C	40	40	100
D	60	60	100

Skill: Advanced or complex data representation or interpretation

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph
13	37122	A	5%	24%	Your School / All Schools

Q 45 Which of the following can exist in all the three states of matter - solid, liquid, gas?

wax, water, coconut oil

A only water
B only wax and water
C only water and coconut oil
D all - wax, water and coconut oil

Skill: Recollection or recognition of science facts and concepts

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph
45	37122	D	0%	18%	Your School / All Schools

Questions which students of your school found the EASIEST compared to the rest of the country:

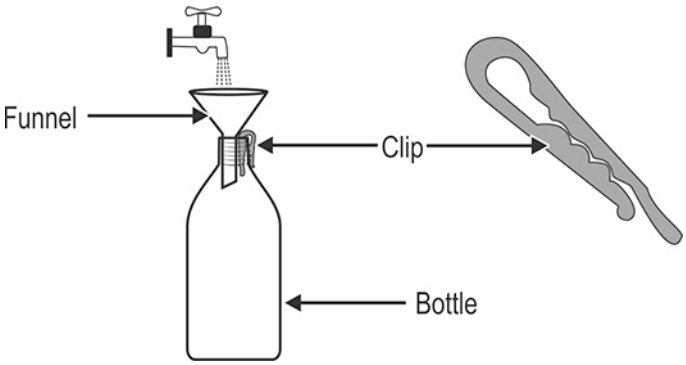
Q 10 The daily requirement of which nutrient has Alice obtained from her breakfast?

A carbohydrates **B** vitamin C **C** proteins **D** sodium

Skill: Analysis of information to identify trends or properties

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph	
10	37122	B	79%	48%	Your School	
					All Schools	

Q 17 Salim uses a funnel to fill bottles with water from a tap as shown below.



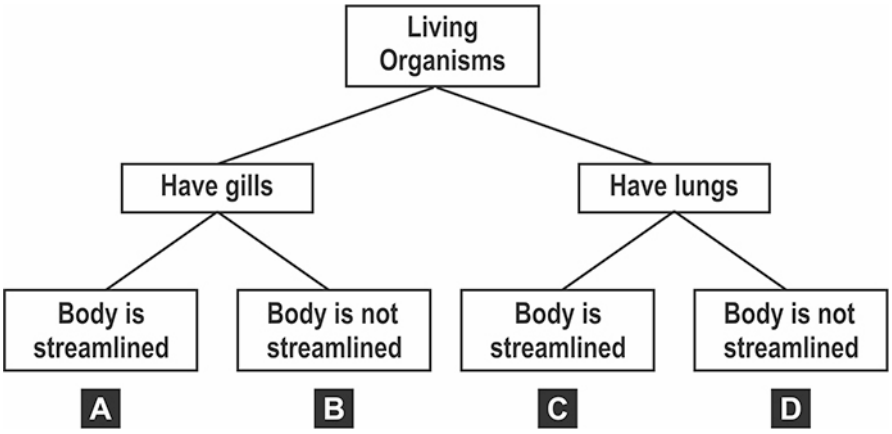
What could be the function of the clip between the funnel and the bottle?

A to keep a gap for air to exit as water fills the bottle
B to prevent the neck of the bottle from getting wet
C to let air enter the bottle and mix with the water
D to prevent water from flowing out of the bottle

Skill: Knowledge of use of scientific instruments, tools and procedures

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph	
17	37122	A	63%	43%	Your School	
					All Schools	

Q 31 In the classification chart shown below, in which box can a whale be placed?



Skill: Classification/comparison of organisms/processes; giving examples

QNo.	Paper Code	Correct Answer	% answered correct (your students)	% answered correct (all students)	Graph	
31	37122	C	63%	43%	Your School	
					All Schools	

From the questions that students across the country have found the most difficult, we have chosen a few to highlight potential misconceptions that students might have. For each question, we have given a break-up (in percentage form) of the number of students choosing a particular option. This has been done both for the section of your school and all the students nationally. Compare these to find out how your students have performed.

We have highlighted in light grey the correct option and in dark grey the most common wrong answer, and provided an explanation of why students are choosing the most common wrong option. It is recommended that you discuss these questions with the students to uncover students' rationale in choosing the most common wrong option. (Please refer to the ASSET paper for the complete text of these questions.)

Q 8 David placed 15 g each of honey, sugar and jaggery in three small plates. He kept these plates in three different places far away from each other in his garden. He returned after an hour and found the most number of ants on the plate with honey.

Can he conclude from his experiment that ants like honey the most among the three substances?

A No, because there might have been more ants living closer to the plate with honey.
B Yes, because the maximum number of ants had come to the plate with honey.
C No, because there were ants found on the plates with sugar and jaggery too.
D Yes, because he had put the plates far away from each other.

The question tests the students' understanding of experimental design and if they can evaluate the validity of a science experiment with ants. Students choosing the correct option A understand that the number of ants around a plate would also depend on their population around the plates. Students choosing option B may not have realised how the effect of variability of ant populations around the plates would affect the experiment. Students choosing option C may not understand that plates with sugar and jaggery were kept for comparison. Students choosing option D may not have realised that keeping the plates in different places also affects the incidence of ant populations around the plates.

Papercode: 37122, Question no: 8					
Performance	Option A	Option B	Option C	Option D	No. of Students
Section	16%	16%	16%	53%	19
National	22%	36%	19%	22%	7235

Q 15 Atul rides his cycle 50 metres uphill in 10 minutes. He then rides it 50 metres downhill in 5 minutes.

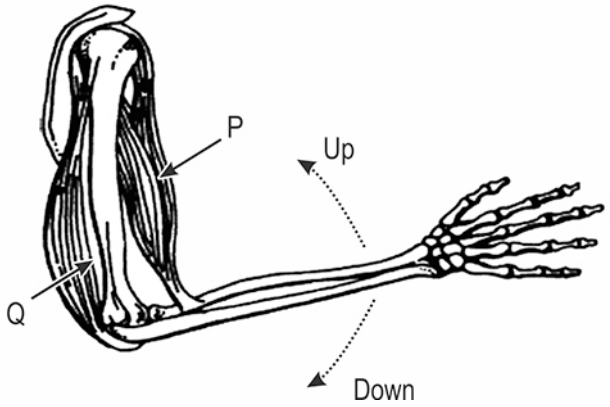
Which of the following is MOST likely to be true about the number of rotations the cycle wheels make and why?

Option	Number of rotations of the cycle wheels	Reason
A	Less while going downhill	Less time taken
B	More while going downhill	Cycle is moving faster
C	Less while going downhill	Less energy is used
D	Same number uphill and downhill	Same distance is covered

The question tests the students' understanding of the relationship between the number of rotations of a wheel and the distance travelled. Students choosing the correct option D understand that the number of rotations of a wheel is related to the distance travelled. Students choosing option A might be thinking that the number of rotations of the wheel depends on the time it takes to cover the distance. Students choosing option B might be thinking that a wheel makes more rotations if it is turning faster. They might have missed that the time taken will also be less. Students choosing option C might be thinking that the number of rotations depends on the energy that is used.

Papercode: 37122, Question no: 15					
Performance	Option A	Option B	Option C	Option D	No. of Students
Section	16%	53%	11%	21%	19
National	13%	47%	22%	17%	7235

Q 32 The arm is moved up and down by the actions of the muscles P and Q.



Which of the following shows the actions these muscles perform to move the arm?

Option	Muscle P	Muscle Q
A	Pushing	Pulling
B	Pulling	Pulling
C	Pulling	Pushing
D	Pushing	Pushing

The question tests the students' understanding that muscles move bones by exerting only a pulling force. Students choosing option B understand that muscles move bones by contracting, which exerts a pulling force and then relaxing while another muscle contracts and exerts a pulling force. Students choosing options A and C might be thinking that one muscle pulls while the other pushes a bone to move it. Students choosing option D might be thinking that both the muscles exert a pushing force.

Papercode: 37122, Question no: 32					
Performance	Option A	Option B	Option C	Option D	No. of Students
Section	32%	16%	47%	0%	19
National	30%	16%	47%	6%	7235

This section has been specially designed for you to help students practise their low-performing skills. Try these out - discuss them in class, use them to learn what most students know and do not know and then plan your lessons accordingly. Answers and explanations have also been provided. Ask a blend of high-level, low-level, open-ended and close-ended questions to activate students' thinking.

Skill: Knowledge of use of scientific instruments, tools and procedures (37%)

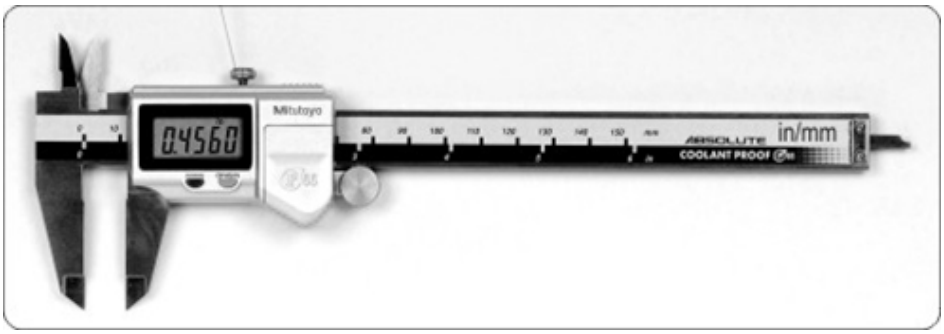
Q 1 Which of the following would be the approximate length of a berth in a railway coach?

A 1 m **B** 2 m **C** 3.5 m **D** 6 m

Explanation:

B: A berth in a railway coach would have to be the same length as that of an average person, because they have to lie down in it! It can't be 1 m long, because that would be too short. It can't be 3.5 m or 6 m either, because that would be too long. Try measuring 3.5 m and see how long it is.

Q 2



What can this instrument directly measure?

1. length
2. speed
3. thickness
4. temperature

A only 1 **B** only2 **C** both 1 and 3 **D** both 3 and 4

Explanation:

C: The instrument shown is used to measure small units of length. It can be used to measure the length and thickness of some objects. It cannot be used to measure either speed or temperature. Hence, options A, B and D are incorrect.

Q 3 Vishal found two almost identical jugs. He wanted the one that would hold more water.

Jug 1

Jug 2

Which jug will hold more water?

A Jug 1
B Jug 2
C (It depends on the material of the jug.)
D (Both jugs will hold the same amount of water.)

Explanation:

B: The opening of the spouts in both the jugs are at different heights. The opening of the spout in Jug 1 is lower than the top of the jug. Hence, when you pour water into the jug, it will start overflowing once it rises above the level of the opening of the spout. You can try this with a simple U-tube. This will not happen in Jug 2, as the spout is much higher. Hence, water will not overflow even when you fill the jug completely. So, option B is correct.

Q 4

Priyanka has a mosquito coil as shown above. She has to make a similar looking coil in her craft class using a wire. She needs to call her father on the phone and ask him to buy a certain length of wire.She has a ruler, a pencil and a thread with her.

Which of these does she need to use, to measure thelength of the coil?

A only a ruler
B only a thread
C a ruler and a thread
D a pencil and a thread

Explanation:

C: When you want to measure the length of something curved, then it would be best to use something which can be bent in the same way. If we twist a thread along the mosquito coil from the tip to the end, we can then straighten it out and measure the exact length using a ruler. If we use only a ruler or only a thread or a pencil and a thread, we will not be able to measure the exact length of the coil.

Q 5

AMBULANCE

If the word given above is seen in a mirror, it will look like,

A AMBULANCE **B** ECNALUBMA

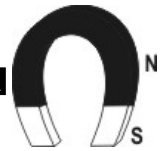
C AMBULANCE **D** ECNALUBMA

Explanation:

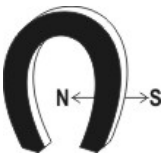
C: Have you ever tried this in front of a mirror? Try writing the word on a piece of paper and then hold it up in front of a mirror. The word in the reflection will look like option C. None of the other options are correct.

Q 6 Which of these options correctly shows the north and south poles of a horseshoe magnet?

A



B



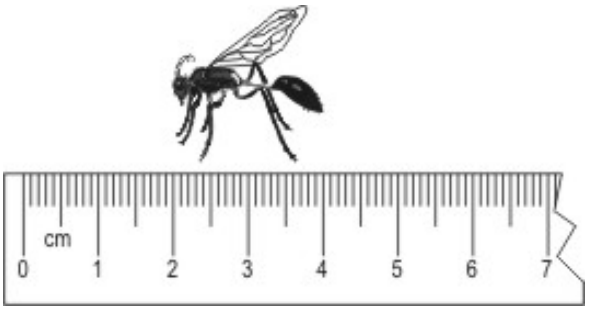
C

D Horseshoe magnets do not have North and South Poles unlike bar magnets

Explanation:

C: A horseshoe magnet can be made by bending a bar magnet into the horseshoe shape. Even after you bend a bar magnet, its poles do not change. Hence, the poles of a horseshoe magnet will be as shown in option C. Option D is absolutely incorrect because all magnets have poles. Imagine straightening out the horseshoe magnet in option A. The poles would, then, not be represented properly, and hence, option A is incorrect.

Q 7 Shown below is a wasp.



What is the approximate length of the WASP'S WING?

A 1.5 cm **B** 2cm **C** 2.5 cm **D** 4 cm

Explanation:

A: Imagine turning the wasp or the ruler in such a way that the wing is parallel to the ruler. You will see that the closest length of the wasp's wing is 1.5 cm. The ENTIRE wasp measures about 2 cm. Hence, only option A is correct.

Q 8 A sieve has holes of size 1 sq mm.

Which of the following can be separated using this sieve?

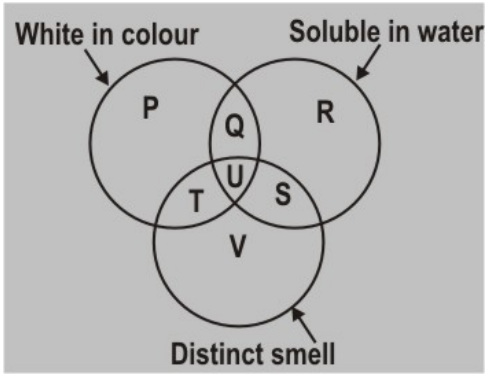
A rice powder and dal
B lemon juice and water
C sugar from sugar solution
D wheat flour and turmeric powder

Explanation:

A: Imagine a hole that measures 1 sq mm in area. It will stop things like dal and big grains, but it will let powders pass through it. Thus option A is correct and option D is incorrect. If we mix lemon juice or sugar in water, and pass this through the sieve, the entire solution will pass through it and hence, options B and C are also incorrect.

Skill: Advanced or complex data representation or interpretation (39%)

Q 1 The three circles represent three types of substance as indicated.



In which region of this figure should common salt be placed?

A p
B Q
C R
D S

Explanation:

B: The area P shows substances that are only white in colour, and not soluble in water or have a distinct smell. Area R shows substances that are only soluble in water, but are not white or smelly. Area S shows substances that are both smelly and are soluble in water. Salt cannot be put in any of these areas. It will only fit into area Q - which includes substances that are white and soluble in water.

Q 2 Like the sun, the moon rises in the east and sets in the west. However, the time of its rising and setting varies depending on the phase of the moon and the place. Shown here are the rising and setting times of the moon as observed from a place in India. Answer the following based on the information given in the table.

Phase of the moon	Rising time	Setting time
New moon	6:15 AM	7:06 PM
First crescent	10:12 AM	10:04 PM
First quarter	12:40 PM	12:11 AM
First gibbous	3:23 PM	2:53 AM
Full moon	5:52 PM	5:45 AM
Last gibbous	9:31 PM	9:35 AM
Last quarter	11:17 PM	12:42 PM
Last crescent	2:16 AM	3:34 PM

Only one of the phases of the moon shown below will be visible near the western horizon at 5:30 AM. Which one?

A

First crescent

B

Last crescent

C

Full moon

D

Last quarter

Explanation:

C: If the moon is near the western horizon, it means that it is setting. Check the setting time in the given table. The only setting time close to 5:30 AM is 5:45 AM, which occurs in the case of a full moon. Hence, option C is the only correct answer.

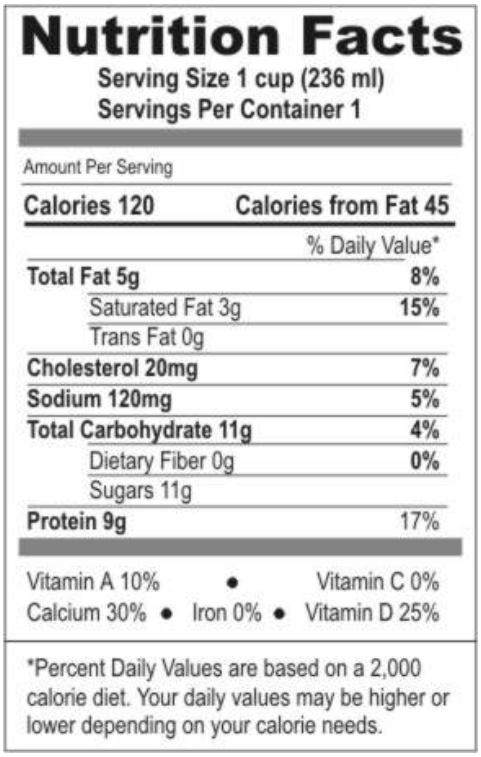
Q 3 The maximum and minimum temperature during a 24 hour period in four cities A, B, C and D are shown below. Which of the following is likely to be in or nearest to a desert?

City	Maximum	Minimum
A	42^0C	35^0C
B	39^0C	18^0C
C	25^0C	18^0C
D	20^0C	18^0C

Explanation:

B: Deserts have extreme temperatures and the difference between the maximum and minimum temperatures is usually quite large. The maximum temperature in a desert is not likely to be as low as options C and D. However, the difference is greatest in option B. Hence, that is most likely to be a desert, and not option A. These extreme temperature ranges are seen due to the low levels of moisture in the air.

Q 4 Given below is a label found on a food item.
Study it and answer the following question.



Nutrition Facts

Serving Size 1 cup (236 ml)
Servings Per Container 1

Amount Per Serving

Calories 120	Calories from Fat 45
	% Daily Value*
Total Fat 5g	**8%**
Saturated Fat 3g	**15%**
Trans Fat 0g	
Cholesterol 20mg	**7%**
Sodium 120mg	**5%**
Total Carbohydrate 11g	**4%**
Dietary Fiber 0g	**0%**
Sugars 11g	
Protein 9g	17%

Vitamin A 10% • Vitamin C 0%
Calcium 30% • Iron 0% • Vitamin D 25%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

On which of the following food items may this food label be found?

A oil bottle **B** milk container **C** salt packet **D** bottle of cola

Explanation:

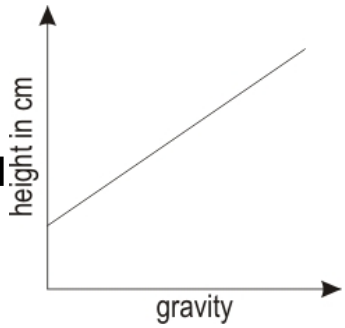
B: In the given food label, fats, proteins and carbohydrates are all present. This means that it cannot be salt or a bottle of cola, as fats are not present in either. Carbohydrates are not found in oil, and hence, option A cannot be correct either. Hence, the only correct option is option B.

Q 5 The table alongside shows the gravity on different planets relative to Earth (Earth gravity = 1). It also shows the height to which a person who can jump 1 metre on Earth would be able to jump on the planet.

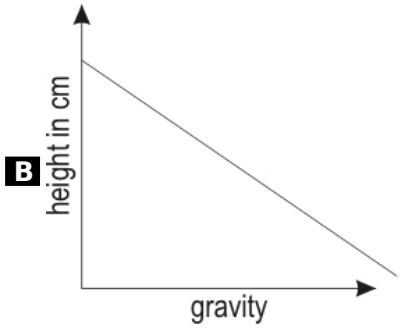
Planet	Gravity	Height Jumped
Mercury	0.38	263 cm
Venus	0.88	114 cm
Earth	1.00	100 cm
Jupiter	2.64	38 cm
Saturn	1.15	87 cm
Uranus	1.17	85 cm
Neptune	1.2	83 cm

Which of the following graphs represents this data most suitably?

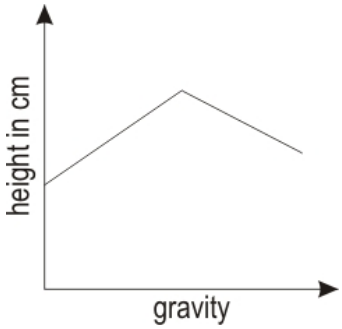
A



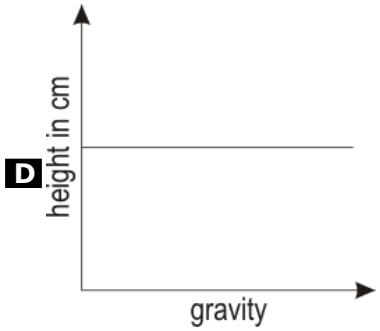
B



C



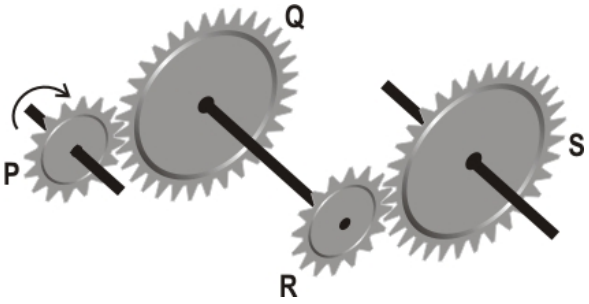
D



Explanation:

B: If we look at the columns in the table, we see that as the gravity increases, the height a person can jump to decreases. If gravity is on the X axis and height is on the Y-axis, then as gravity increases, the height should decrease. This is only represented by option B. Option C represents a case wherein the height increases as the gravity increases upto a point and then starts decreasing. Hence, option C is incorrect.

Q 6 In the arrangement shown the toothed wheel P is making 10 turns per minute in a clock wise direction. What can be said about wheel S?
(The connecting rods can only rotate.)

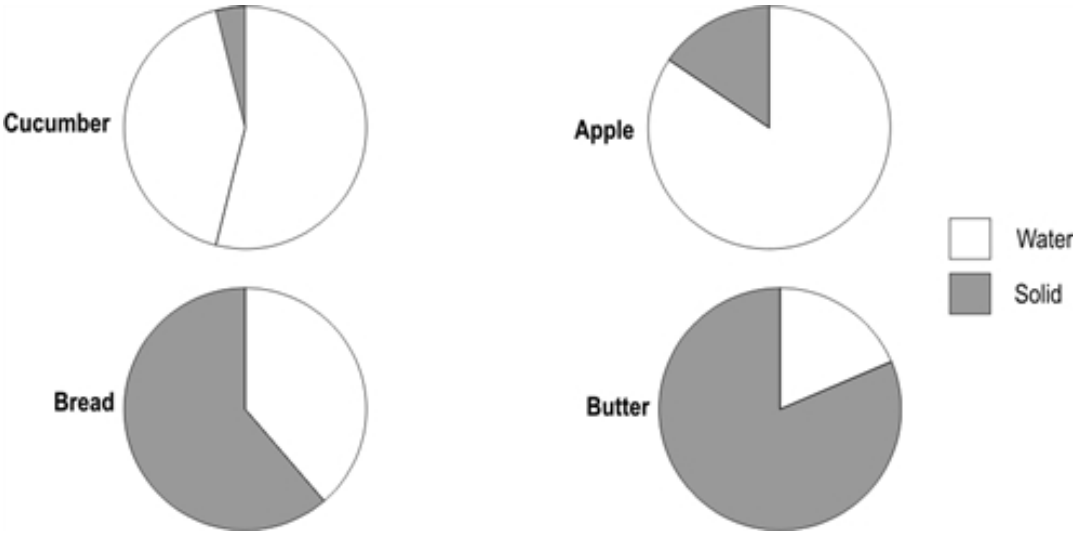


A It will turn at the same speed in clockwise direction.
B It will turn at a lower speed in clockwise direction.
C It will turn at a faster speed in clockwise direction.
D It will not turn at all in any direction.

Explanation:

B: Try building such a system with pieces of cardboard and pencils. You will see that as the wheel P moves clockwise, wheels Q and R will move anti clockwise. The wheel Q will move slower than P as it is a bigger wheel. In the same way, when wheel R makes wheel S move, wheel S will move in the clockwise direction, and much slower than wheels P or R. Hence, options A and C are incorrect.

Q 7 Water is removed from foods because dried foods can be stored for longer periods without getting spoilt. The graphs given below show the water content originally in four different foods.



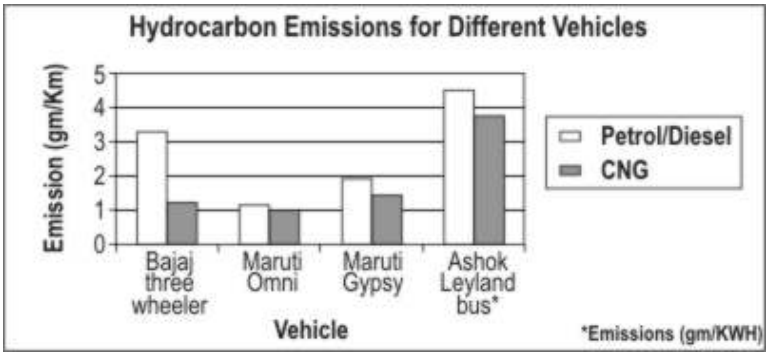
Water was almost completely removed by passing dry air through each of these four foods. If the weight of each of them after that was 50 grams, which one was the heaviest to start with?

A Cucumber **B** Apple **C** Bread **D** Butter

Explanation:

A: Look at the contents of water and solid substances present in each of the foods. Cucumber has the highest water content. Now, all the foods were dried completely and the weight of the remaining solid particles was 50 g. Hence, the grey part in each of the foods weighed 50 g. This means that in the cucumber, that tiny grey part weighed 50 g and in butter, the large grey part also weighed 50 g. Hence, the substance that had the most water at the beginning would have been the heaviest. Hence, option A is the correct answer, and not option D.

Q 8 Hydrocarbon emissions from vehicles are due to partial burning of fuel and contribute to the air pollution. To reduce the amount of hydrocarbon emissions (and other pollutants), the use of CNG (Compressed Natural Gas) as an alternative to petrol and diesel is being tried in some Indian cities.
The hydrocarbon emissions for different vehicles using petrol/diesel and CNG as fuel are shown in the graph below.



For which of these vehicles is the percentage reduction in the amount of hydrocarbon emission the most?

A Bajaj three wheeler **B** Maruti Omni **C** Maruti Gypsy **D** Ashok Leyland bus

Explanation:

A: In order to find the differences between the percentage reduction in the amounts of hydrocarbon emission, you have to look at the differences between the heights of the white and grey bars for each vehicle. For which vehicle is the difference the greatest? It is greatest in option A. In option B, the difference is the least. Hence, option A is the correct answer.

Notes

Notes

Notes

Achieve great school results

with

Ei CARES

Comprehensive Assessment, Reports and Evaluation for Schools (Ei CARES) is a unique assessment package scientifically designed to replace conventional assessments, and free up crucial time for teachers, thus allowing to identify gaps and act on them with empirical data.

- Chapter-wise class, unit and end term assessments with high-quality questions
- Available for grades 3 to 10
- Covers English, Maths, Science, Social Science and Hindi
- Customisable assessment papers
- Online and offline options for conducting assessments
- Evaluation rubrics for standardised correction
- Digital evaluation of student responses
- Class-level and student-level report with remediation support on critical questions

Request for a demo by visit:
www.ei.study/demo

For any queries, do write to us at
info@ei.study

Educational Initiatives Pvt. Ltd. India | USA | UAE | Gulf | Singapore | Africa

080-471-87451 (Monday-Friday, 9AM - 6PM) info@ei.study | www.ei.study