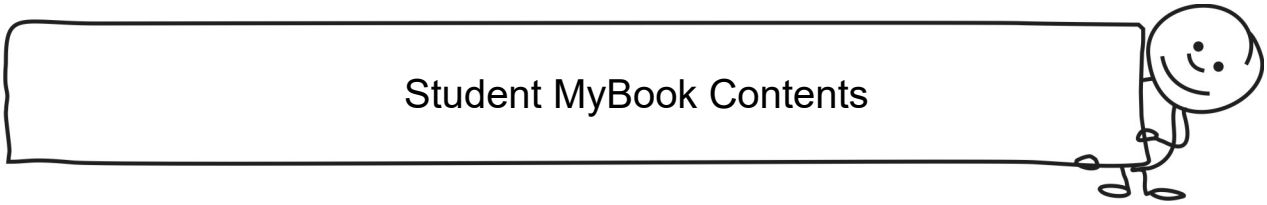
ASSET

STUDENT

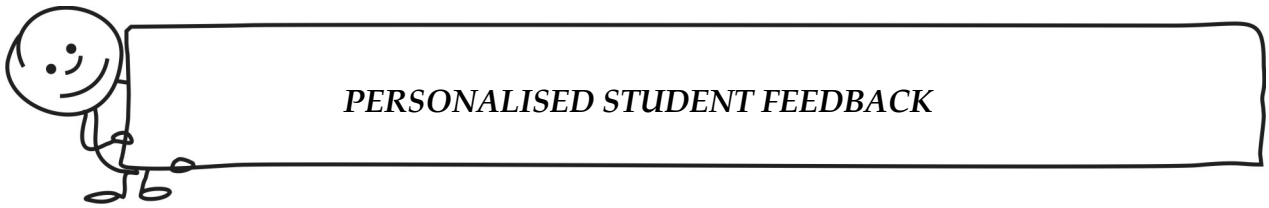
MyBook 2022

ABC (7C)
XYZ School
(Aurangabad) ASSET
PAN: 123456789
Summer 2022

123 / 0298 / K92



Student MyBook Contents



PERSONALISED STUDENT FEEDBACK

Dear ABC,

Congratulations on taking the ASSET test!

ASSET is a diagnostic test that tells you which skills you are strong at and which skills you should work on to develop further. The analysis given here is for all the subjects for which you have taken the ASSET test.

Subject	Highest-performing Skills	Lowest-performing Skills
English	*Identifies the main idea and purpose of the passage*	*Understands organisation and context of the passage*
	Understands idioms, proverbs and figures of speech	*Registers moods, tones and emotions*
Maths	*Integers: concepts and applications*	*Fractions, decimals and ratios: concepts and applications*
	Mensuration: area and perimeter; concepts, computation	*Measurement and data interpretation*
Science	*Integrating different concepts or information for decision making*	*Advanced or complex data representation or interpretation*
	Definition or description of scientific terms, organisms or materials	*Extraction, translation and application of knowledge or information*

Practice questions compiled especially for you!

This MyBook will guide you to improve those areas where your performance was low! In each subject, we have chosen two skills which includes at least one skill in which you have not performed well, and provided practice questions for the same. Answers to all these questions with explanations are provided at the end of this booklet.

Remember, this is YOUR practice book - no other student taking ASSET would get exactly the same set of questions! So do them carefully. Also write to us and tell us if you found the questions helpful. Email us at info@ei.study to share your comments and suggestions.

As you know, ASSET is offered in English, Maths and Science in classes 3-10, and in Hindi in classes 4-8, and Social Studies in classes 5-10. Practice questions are provided in all the subjects in which you took ASSET.

Read through your analysis carefully to know how you did on each skill and question. By working on areas that need attention, you can easily improve and do better!

Best of luck!

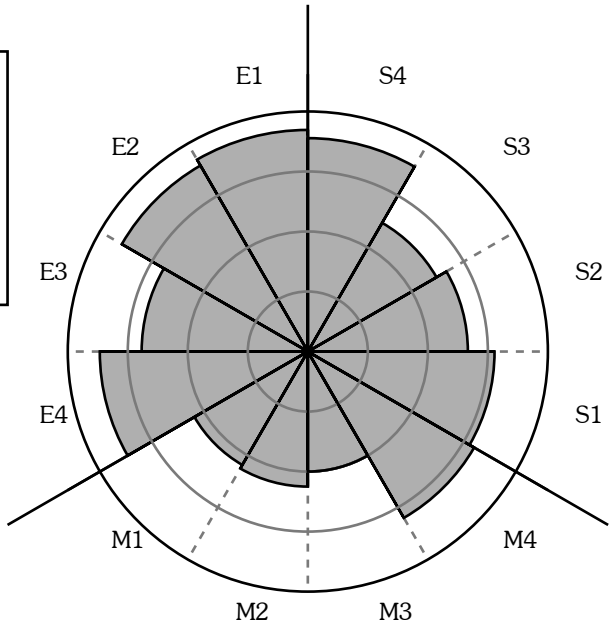
Pranav Kothari
Chief Executive Officer, Educational Initiatives

CIRCULAR SKILL PROFILE

ABC (7C)

English

E1) Vocabulary in Context
E2) Grammar Usage
E3) Literal Comprehension
E4) Extended Reasoning



Science

S1) Knowledge of Basic Science Facts
S2) Conceptual Understanding and Comprehension
S3) Reasoning and Analysis Skills
S4) Original Thinking

Maths

M1) Number sense, Computations and Basic Arithmetic
M2) Intermediate Concepts, Geometry and Algebra
M3) Word and Application Problems
M4) Problem Solving, Advanced Problems

The Circular Skill Profile represents your performance on each core skill in each subject test of ASSET you have taken. The outer circle represents 100%. The section between two axes represents a core skill in a subject, and the shaded region plots your performance on the skill. The greater the height of the shaded section, the better the performance.

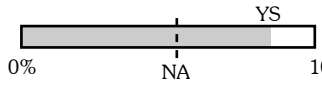
Understanding Skills

The main difference between the ASSET(Assessment of Scholastic Skills through Educational Testing) tests and the regular school tests lies in the fact that ASSET tests are SKILL-BASED. Skills or competencies refer to specific abilities that a student develops. A skill-based test can be contrasted with a fact- or memory-based test. In the latter type of tests, the student is asked to recall or reproduce facts more often than to apply the concepts taught to them. However, most competitive exams, entrance tests as well as international admission tests (like the GRE) tend to be skill-based. This is because it is being widely appreciated that a student's understanding can be tested better with a skill-based test rather than a fact-based one. Facts and their recall are important; however, they should not be overemphasized and ASSET believes in this.

ENGLISH PERFORMANCE

ABC (7C)

Your Score: 51/60



YS - Your Score (%)
NA - National Average (%)

Percentile*: 95

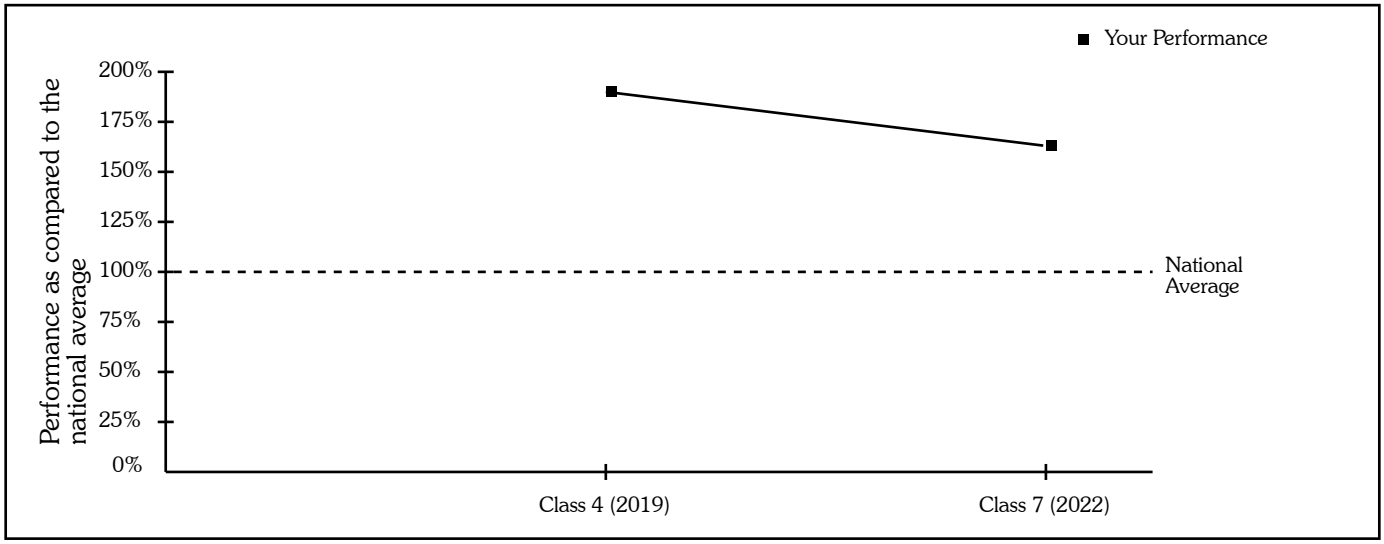
SKILL-BASED SUMMARY AND STRENGTH / WEAKNESS ANALYSIS

No.	Core Skill	Sub Skill	Answered Right	Answered Wrong	Graph	S/W
1	Vocabulary in Context	Deduces word meanings from contextual clues	4,18,25,32,35,38			S
2		Identifies synonyms, antonyms and other words	6,10,12,36,37,40	16		S
3	Grammar Usage	Knows punctuation and sentence formation	42,43,53,54,55,5-6,57	51		S
4		Understands the usage of grammar concepts	41,44,45,46,47,4-8,49,52,58,59	50		S
5	Literal Comprehension	Identifies and recalls direct facts in the passage	1,19,22,26	2,8		
6		Understands idioms, proverbs and figures of speech	3,30,39,60			
7		Understands organisation and context of the passage	31	29,33		
8	Extended Reasoning	Analyses characters and situations	14,20,24,27			
9		Identifies the main idea and purpose of the passage	7,17,23			
10		Infers using contextual clues and prior knowledge	9,11,28,34	15		S
11		Registers moods, tones and emotions	5,21	13		

The graphs represent the percentage of questions answered correctly. Skills where the performance is <25% are marked as W and >75% are marked as S. Only skills having at least 5 questions are considered.

*Percentile refers to the percentage of students that scored lower than you in the test. E.g. If your percentile score is 72, this means that 72% of all other participating students have scored less than you have. Alternately, this means that you are in the top 28% of all participating students for this subject.

Performance History:



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ENGLISH SCORE CARD

ABC (7C)

1-Your Answer 2-Correct Answer 3-Result 4-National Performance

Q	Skill Tested	1	2	3	4	Error Indicated
1	Identifies and recalls direct facts in the passage	D	D	✓	84%	-
2	Identifies and recalls direct facts in the passage	D	B	✗	59%	Unable to recall direct facts in the passage
3	Understands idioms, proverbs and figures of speech	C	C	✓	60%	-
4	Deduces word meanings from contextual clues	A	A	✓	52%	-
5	Registers moods, tones and emotions	A	A	✓	47%	-
6	Identifies synonyms, antonyms and other words	C	C	✓	42%	-
7	Identifies the main idea and purpose of the passage	D	D	✓	49%	-
8	Identifies and recalls direct facts in the passage	C	D	✗	44%	Unable to recall direct facts in the passage
9	Infers using contextual clues and prior knowledge	C	C	✓	71%	-
10	Identifies synonyms, antonyms and other words	A	A	✓	54%	-
11	Infers using contextual clues and prior knowledge	C	C	✓	58%	-
12	Identifies synonyms, antonyms and other words	B	B	✓	44%	-
13	Registers moods, tones and emotions	C	B	✗	58%	Unable to register tone
14	Analyses characters and situations	A	A	✓	55%	-
15	Infers using contextual clues and prior knowledge	A	C	✗	35%	Unable to make inference using contextual clues
16	Identifies synonyms, antonyms and other words	A	B	✗	34%	Unable to identify synonym of a word
17	Identifies the main idea and purpose of the passage	A	A	✓	32%	-
18	Deduces word meanings from contextual clues	C	C	✓	38%	-
19	Identifies and recalls direct facts in the passage	C	C	✓	43%	-
20	Analyses characters and situations	A	A	✓	57%	-
21	Registers moods, tones and emotions	B	B	✓	64%	-
22	Identifies and recalls direct facts in the passage	D	D	✓	67%	-
23	Identifies the main idea and purpose of the passage	C	C	✓	69%	-
24	Analyses characters and situations	D	D	✓	65%	-
25	Deduces word meanings from contextual clues	A	A	✓	69%	-
26	Identifies and recalls direct facts in the passage	D	D	✓	36%	-
27	Analyses characters and situations	B	B	✓	47%	-
28	Infers using contextual clues and prior knowledge	B	B	✓	49%	-
29	Understands organisation and context of the passage	A	C	✗	28%	Unable to understand context of the passage
30	Understands idioms, proverbs and figures of speech	B	B	✓	62%	-
31	Understands organisation and context of the passage	D	D	✓	70%	-
32	Deduces word meanings from contextual clues	C	C	✓	76%	-
33	Understands organisation and context of the passage	B	D	✗	23%	Unable to understand organisation of the passage
34	Infers using contextual clues and prior knowledge	C	C	✓	71%	-
35	Deduces word meanings from contextual clues	B	B	✓	76%	-
36	Identifies synonyms, antonyms and other words	A	A	✓	44%	-
37	Identifies synonyms, antonyms and other words	B	B	✓	36%	-
38	Deduces word meanings from contextual clues	D	D	✓	41%	-
39	Understands idioms, proverbs and figures of speech	A	A	✓	42%	-
40	Identifies synonyms, antonyms and other words	D	D	✓	77%	-

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ENGLISH SCORE CARD

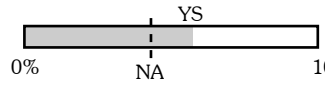
ABC (7C)

Q	Skill Tested	1	2	3	4	Error Indicated
41	Understands the usage of grammar concepts	B	B	✓	41%	-
42	Knows punctuation and sentence formation	C	C	✓	45%	-
43	Knows punctuation and sentence formation	C	C	✓	41%	-
44	Understands the usage of grammar concepts	B	B	✓	68%	-
45	Understands the usage of grammar concepts	B	B	✓	68%	-
46	Understands the usage of grammar concepts	A	A	✓	58%	-
47	Understands the usage of grammar concepts	D	D	✓	33%	-
48	Understands the usage of grammar concepts	A	A	✓	50%	-
49	Understands the usage of grammar concepts	C	C	✓	48%	-
50	Understands the usage of grammar concepts	A	C	✗	65%	Unable to understand usage of relative pronouns
51	Knows punctuation and sentence formation	A	B	✗	21%	Unable to correctly use indirect speech
52	Understands the usage of grammar concepts	A	A	✓	76%	-
53	Knows punctuation and sentence formation	A	A	✓	74%	-
54	Knows punctuation and sentence formation	D	D	✓	48%	-
55	Knows punctuation and sentence formation	A	A	✓	24%	-
56	Knows punctuation and sentence formation	C	C	✓	42%	-
57	Knows punctuation and sentence formation	D	D	✓	69%	-
58	Understands the usage of grammar concepts	A	A	✓	64%	-
59	Understands the usage of grammar concepts	A	A	✓	59%	-
60	Understands idioms, proverbs and figures of speech	C	C	✓	56%	-

MATHEMATICS PERFORMANCE

ABC (7C)

Your Score: 23/40



YS - Your Score (%)
NA - National Average (%)

Percentile*: 77

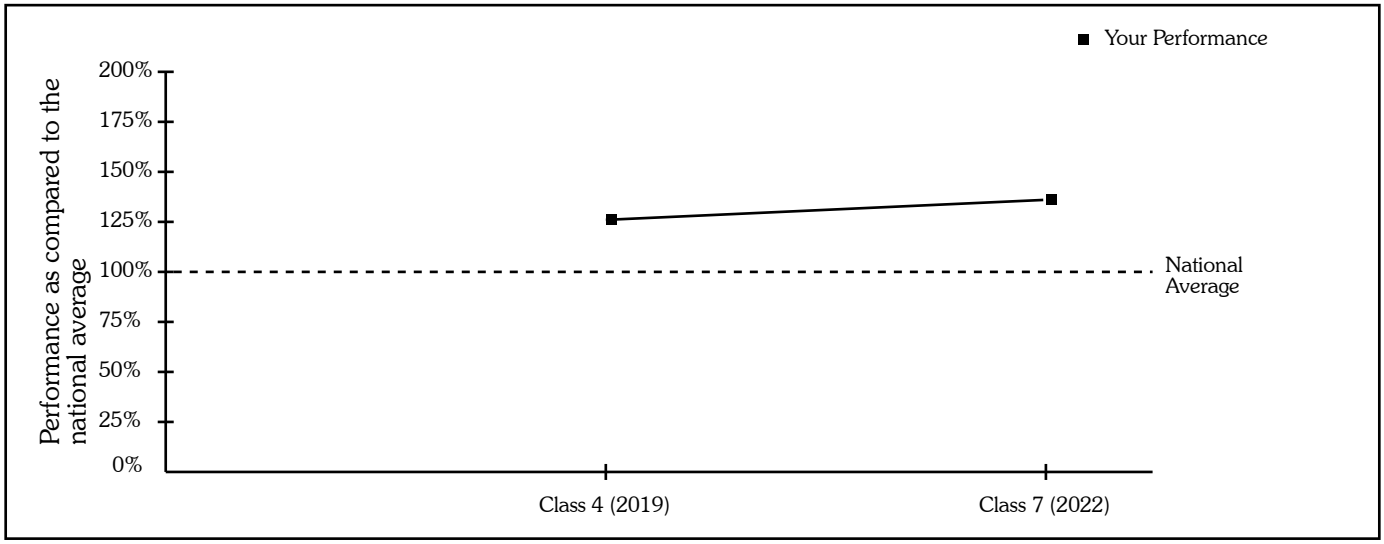
SKILL-BASED SUMMARY AND STRENGTH / WEAKNESS ANALYSIS

No.	Core Skill	Sub Skill	Answered Right	Answered Wrong	Graph	S/W
1	Number sense, Computations and Basic Arithmetic	Factors and multiples	2	14,32		
2		Integers: concepts and applications	5,17,29			
3		Number sense, related competency and computation skills	12,22	1,25,39		
4	Intermediate Concepts, Geometry and Algebra	Algebra: concepts and applications	4,36	10		
5		Fractions, decimals and ratios: concepts and applications	19	3,9,27,34		W
6		Geometry: concepts and applications	16,21	28		
7		Mensuration: area and perimeter; concepts, computation	8,30,33,40	13		S
8	Word and Application Problems	Applications in daily life: word/ visual problems	7,11,35	23,26		
9		Measurement and data interpretation	6	37,38		
10	Problem Solving, Advanced Problems	Problem solving: advanced or challenging problems	15,20,24,31	18		S

The graphs represent the percentage of questions answered correctly. Skills where the performance is <25% are marked as W and >75% are marked as S. Only skills having at least 5 questions are considered.

*Percentile refers to the percentage of students that scored lower than you in the test. E.g. If your percentile score is 72, this means that 72% of all other participating students have scored less than you have. Alternately, this means that you are in the top 28% of all participating students for this subject.

Performance History:



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MATHS SCORE CARD

ABC (7C)

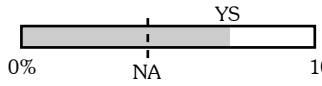
1-Your Answer 2-Correct Answer 3-Result 4-National Performance

Q	Skill Tested	1	2	3	4	Error Indicated
1	Number sense, related competency and computation skills	A	B	✗	15%	lack of number sense
2	Factors and multiples	B	B	✓	49%	-
3	Fractions, decimals and ratios: concepts and applications	B	D	✗	26%	lack of understanding of fractions
4	Algebra: concepts and applications	A	A	✓	77%	-
5	Integers: concepts and applications	D	D	✓	58%	-
6	Measurement and data interpretation	C	C	✓	33%	-
7	Applications in daily life: word/visual problems	B	B	✓	61%	-
8	Mensuration: area and perimeter; concepts, computation	B	B	✓	50%	-
9	Fractions, decimals and ratios: concepts and applications	B	A	✗	44%	lack of understanding of ratios
10	Algebra: concepts and applications	A	C	✗	18%	inability to apply concepts of algebra
11	Applications in daily life: word/visual problems	D	D	✓	36%	-
12	Number sense, related competency and computation skills	D	D	✓	64%	-
13	Mensuration: area and perimeter; concepts, computation	A	C	✗	33%	lack of understanding of perimeter
14	Factors and multiples	B	C	✗	20%	lack of understanding of factors and multiples
15	Problem solving: advanced or challenging problems	A	A	✓	78%	-
16	Geometry: concepts and applications	B	B	✓	51%	-
17	Integers: concepts and applications	D	D	✓	35%	-
18	Problem solving: advanced or challenging problems	C	B	✗	23%	lack of problem solving skills
19	Fractions, decimals and ratios: concepts and applications	B	B	✓	32%	-
20	Problem solving: advanced or challenging problems	A	A	✓	49%	-
21	Geometry: concepts and applications	A	A	✓	68%	-
22	Number sense, related competency and computation skills	B	B	✓	43%	-
23	Applications in daily life: word/visual problems	B	C	✗	28%	inability to solve real life word/visual problem
24	Problem solving: advanced or challenging problems	B	B	✓	36%	-
25	Number sense, related competency and computation skills	C	D	✗	41%	lack of number sense
26	Applications in daily life: word/visual problems	D	A	✗	48%	lack of visual reasoning skills
27	Fractions, decimals and ratios: concepts and applications	B	D	✗	26%	lack of understanding of fractions
28	Geometry: concepts and applications	A	C	✗	32%	lack of understanding of geometry concepts
29	Integers: concepts and applications	B	B	✓	75%	-
30	Mensuration: area and perimeter; concepts, computation	D	D	✓	27%	-
31	Problem solving: advanced or challenging problems	C	C	✓	48%	-
32	Factors and multiples	D	A	✗	39%	lack of understanding of factors and multiples
33	Mensuration: area and perimeter; concepts, computation	C	C	✓	57%	-
34	Fractions, decimals and ratios: concepts and applications	D	C	✗	14%	lack of understanding of decimals
35	Applications in daily life: word/visual problems	D	D	✓	40%	-
36	Algebra: concepts and applications	C	C	✓	56%	-
37	Measurement and data interpretation	D	B	✗	50%	inability to interpret bar graphs
38	Measurement and data interpretation	A	C	✗	53%	inability to interpret bar graphs
39	Number sense, related competency and computation skills	A	C	✗	43%	lack of number sense
40	Mensuration: area and perimeter; concepts, computation	A	A	✓	50%	-

SCIENCE PERFORMANCE

ABC (7C)

Your Score: 32/45



YS - Your Score (%)
NA - National Average (%)

Percentile*: 95

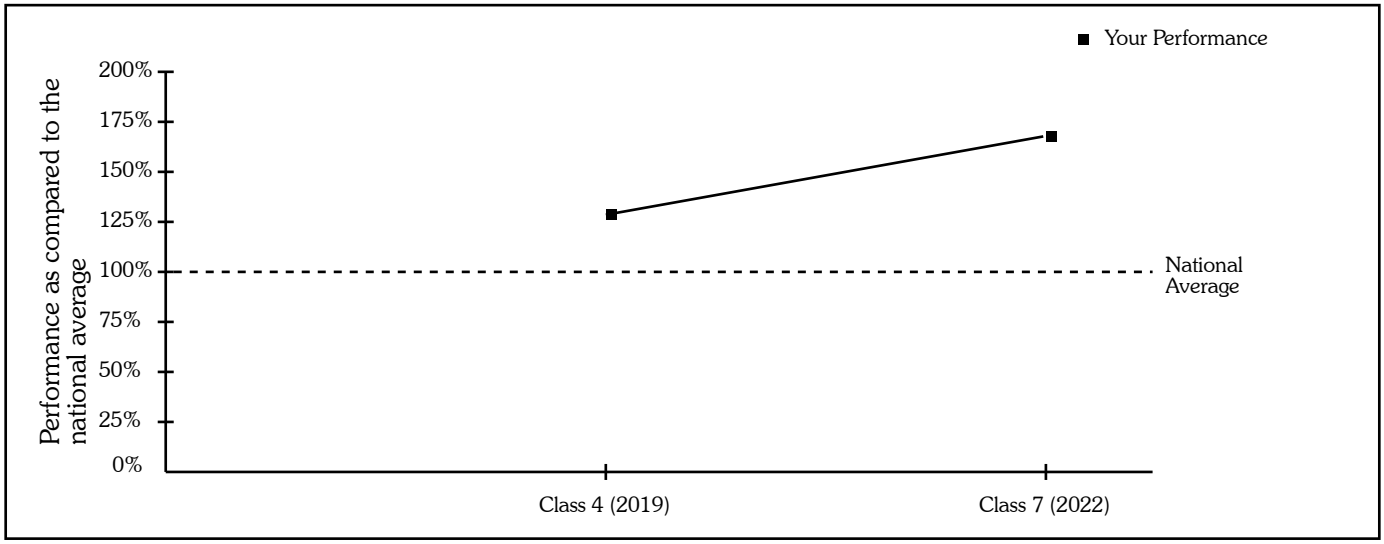
SKILL-BASED SUMMARY AND STRENGTH / WEAKNESS ANALYSIS

No.	Core Skill	Sub Skill	Answered Right	Answered Wrong	Graph	S/W
1	Knowledge of Basic Science Facts	Definition or description of scientific terms, organisms or materials	3,4,39,44			
2		Recollection or recognition of science facts and concepts	7,41,42	32,45		
3	Conceptual Understanding and Comprehension	Classification/comparison of organisms/processes; giving examples	30,31	22		
4		Knowledge of use of scientific instruments, tools and procedures	2,34	17		
5	Reasoning and Analysis Skills	Advanced or complex data representation or interpretation	14	11,13,27		
6		Analysis of information to identify trends or properties	6,10,18,26,36	33		S
7		Extraction, translation and application of knowledge or information	1,5,19	12,15,37		
8		Representing, relating or explaining scientific processes or observed phenomena	16,21,23,28	9		S
9	Original Thinking	Hypothesis formulation; design of apparatus or experiment	20,24,43	8		
10		Integrating different concepts or information for decision making	25,29,35,38,40			S

The graphs represent the percentage of questions answered correctly. Skills where the performance is <25% are marked as W and >75% are marked as S. Only skills having at least 5 questions are considered.

*Percentile refers to the percentage of students that scored lower than you in the test. E.g. If your percentile score is 72, this means that 72% of all other participating students have scored less than you have. Alternately, this means that you are in the top 28% of all participating students for this subject.

Performance History:



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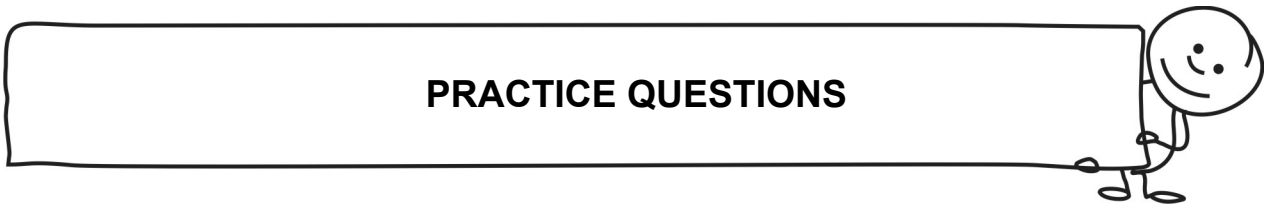
SCIENCE SCORE CARD

ABC (7C)

1-Your Answer 2-Correct Answer 3-Result 4-National Performance

Q	Skill Tested	1	2	3	4	Error Indicated
1	Extraction, translation and application of knowledge or information	C	C	✓	64%	-
2	Knowledge of use of scientific instruments, tools and procedures	A	A	✓	41%	-
3	Definition or description of scientific terms, organisms or materials	A	A	✓	60%	-
4	Definition or description of scientific terms, organisms or materials	B	B	✓	64%	-
5	Extraction, translation and application of knowledge or information	B	B	✓	62%	-
6	Analysis of information to identify trends or properties	D	D	✓	49%	-
7	Recollection or recognition of science facts and concepts	C	C	✓	72%	-
8	Hypothesis formulation; design of apparatus or experiment	C	A	✗	22%	Experimental process not understood
9	Representing, relating or explaining scientific processes or observed phenomena	A	D	✗	47%	Error relating observed phenomena
10	Analysis of information to identify trends or properties	B	B	✓	48%	-
11	Advanced or complex data representation or interpretation	D	B	✗	41%	Error in interpreting graphs
12	Extraction, translation and application of knowledge or information	B	D	✗	47%	Error in interpreting information
13	Advanced or complex data representation or interpretation	D	A	✗	24%	Error in interpreting tabular information
14	Advanced or complex data representation or interpretation	C	C	✓	50%	-
15	Extraction, translation and application of knowledge or information	B	D	✗	17%	Error in interpreting information
16	Representing, relating or explaining scientific processes or observed phenomena	B	B	✓	51%	-
17	Knowledge of use of scientific instruments, tools and procedures	D	A	✗	43%	Inadequate knowledge of instruments
18	Analysis of information to identify trends or properties	A	A	✓	39%	-
19	Extraction, translation and application of knowledge or information	D	D	✓	41%	-
20	Hypothesis formulation; design of apparatus or experiment	C	C	✓	58%	-
21	Representing, relating or explaining scientific processes or observed phenomena	A	A	✓	58%	-
22	Classification/comparison of organisms/processes; giving examples	B	D	✗	26%	Error in classification
23	Representing, relating or explaining scientific processes or observed phenomena	A	A	✓	31%	-
24	Hypothesis formulation; design of apparatus or experiment	D	D	✓	68%	-
25	Integrating different concepts or information for decision making	A	A	✓	66%	-
26	Analysis of information to identify trends or properties	A	A	✓	47%	-
27	Advanced or complex data representation or interpretation	C	B	✗	38%	Error in data interpretation
28	Representing, relating or explaining scientific processes or observed phenomena	C	C	✓	54%	-
29	Integrating different concepts or information for decision making	D	D	✓	29%	-
30	Classification/comparison of organisms/processes; giving examples	D	D	✓	51%	-
31	Classification/comparison of organisms/processes; giving examples	C	C	✓	43%	-
32	Recollection or recognition of science facts and concepts	C	B	✗	16%	Relevant knowledge not recalled
33	Analysis of information to identify trends or properties	A	C	✗	22%	Relevant knowledge not recalled and applied
34	Knowledge of use of scientific instruments, tools and procedures	C	C	✓	28%	-
35	Integrating different concepts or information for decision making	D	D	✓	18%	-
36	Analysis of information to identify trends or properties	D	D	✓	15%	-
37	Extraction, translation and application of knowledge or information	A	B	✗	35%	Inadequate knowledge of instruments
38	Integrating different concepts or information for decision making	B	B	✓	58%	-
39	Definition or description of scientific terms, organisms or materials	A	A	✓	34%	-
40	Integrating different concepts or information for decision making	C	C	✓	55%	-
41	Recollection or recognition of science facts and concepts	C	C	✓	53%	-
42	Recollection or recognition of science facts and concepts	B	B	✓	58%	-
43	Hypothesis formulation; design of apparatus or experiment	B	B	✓	35%	-
44	Definition or description of scientific terms, organisms or materials	C	C	✓	42%	-
45	Recollection or recognition of science facts and concepts	A	D	✗	18%	Inadequate understanding of material properties



PRACTICE QUESTIONS

This section has been specially designed for you to practise your low-performing skills.

So, you have received your ASSET results. You have seen the scores, gone through the analysis, checked your answers with the given correct answers and understood your strengths and weaknesses.

Now, your question could be: How can I improve on the skills where I have performed low?

These practice questions have been designed to help you do exactly that. For every subject, we have picked your low-performing skills and provided practice questions with answers and explanations to help you do better next time.*

Try these out - discuss with your parents, teachers or friends if you need to. Answers and explanations are given at the end, but check them only after you have tried your best to answer on your own!

You can also write to us at info@ei-india.com and we'll help you out.

Good luck!

Regards,

The ASSET Team

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

Note: Due to technical limitations, image quality may not be uniform and some images may appear slightly unclear. This is not an error.

ENGLISH

Skill: Identifies facts and makes important connections in comprehending a passage.

By reading a passage carefully, we will be able to identify facts that are clearly stated, sequence them correctly and deeply understand different events, characters and their feelings. We will also be able to use clues in the form of knowledge, words and expressions that we already know to connect important ideas and arrive at the correct answers.

Young Environmentalists Award

Volvo has announced the Volvo Adventure Young Environmentalists Award Contest, 2003.

The contest calls for a team of five students aged between 10 and 16 - accompanied by an adult supervisor- to identify, plan and execute an environmental project that will make a difference to the local environment.

The project would have to be posted on the contest website - www.volvoadventure.org - by December 31, 2003.

A panel comprising eminent environmentalists will judge the projects at the national level and one project representing India will be selected to participate in the global finals in Sweden in May 2004.

Apart from prizes ranging from US$ 4,000 to US$ 10,000, the winning team will win recognition from environmentalists and the industry.

For further information, please contact the following:

1 Sohanjeet Randhawa on 080-7965251-58
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2. Anjali Malhotra on 24904411

1. According to the notice, who will be the judges for the contest?

A. Sohanjeet Randhawa and Anjali Malhotra
B. a group of respected environmental experts
C. senior executives from the Volvo company
D. (this is not mentioned in the notice.)

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2. The above notice announces a contest in which all participants have to

A. devise an effective environmental project.
B. participate in an outdoor adventure trek.
C. design a poster on environmental protection.
D. represent India in an international event.

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3. Where will the final contest be held?

A. in India
B. on the website
C. in Sweden
D. in the U.S.A

MATHS

Skill: Fractions, decimals and ratios: concepts and applications

This skill involves an understanding of fractions and decimals, being able to compare them and do simple operations with them. It also involves an understanding of ratios and using proportional reasoning to solve problems.

4. **Eel is a type of fish. Eels F and G, in an aquarium, are to be fed <u>according</u> <u>to</u> <u>their</u> <u>length</u> .**

If F gets 12 g of food, how much food should G get?

A. 8 g
B. 16 g
C. 17 g
D. 18 g

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5. $0.01 < \square < 0.1$

What number could come in the box to make the above number sentence true?

A. 0
B. 0.5
C. 0.09
D. 0.001

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6. **The points 2.17, 2.7 and 2.35 have to be put in the empty boxes in the number line below:**

From left to right, the numbers that go into the empty boxes are

A. 2.7, 2.17, 2.35
B. 2.17, 2.7, 2.35
C. 2.17, 2.35, 2.7
D. 2.7, 2.35, 2.17

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7. **1.3 crores is the same as**
(Note: 1 crore = 100 lakhs)

A. 13 lakhs.
B. 13 crores.
C. 1 crore 3 lakhs.
D. 1 crore 30 lakhs.

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8. **Which of these sugar syrups will be the sweetest?**
The sugar syrup with

A. 50 g of sugar dissolved in 150 ml water.
B. 100 g of sugar dissolved in 500 ml water.
C. 150 g of sugar dissolved in 300 ml water.
D. 250 g of sugar dissolved in 1000 ml water.

9. **Which of these is the same as $23\frac{1}{19}$?**

A. $23 + \frac{1}{19}$
B. $23 - \frac{1}{19}$
C. $23 \times \frac{1}{19}$
D. $23 \div \frac{1}{19}$

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10. **If 1.225 × 1.55 = 1.89875, then which of the following numbers would 122.5 × 15.5 be closest to?**

A. 190
B. 1900
C. 18000
D. 19000

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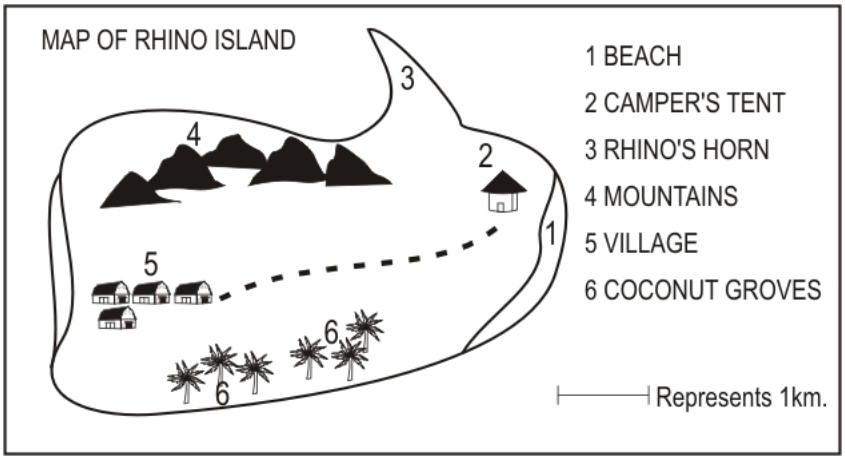
11. **Which of these is the same as 2 hundred ths + 1 ten ths ?**

A. 210
B. 0.210
C. 0.12
D. 0.012

Skill: Measurement and data interpretation

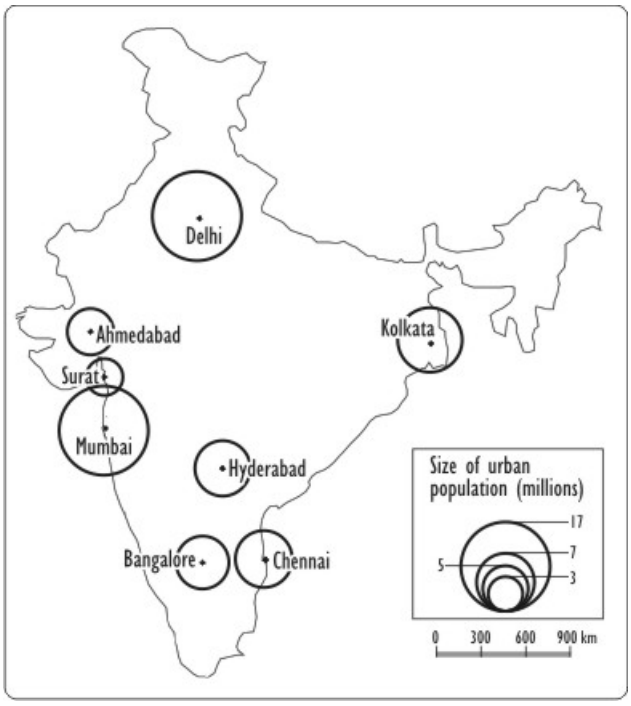
This involves the understanding required to measure length, weight, etc. and their units. It also involves interpreting and analysing data presented in the form of pictograms, different types of graphs or tables and drawing conclusions from them.

12. **See the scale of the map. If the campers trek from their tent to the village along the route shown by the dotted line, nearly how much distance would they have covered?**



A. 300 m
B. 3 km
C. 10 km
D. 40 km

13. **Shown here is a map of India representing the approximate urban population of certain cities.**



As per the map shown, what is the population of Surat?

A. 3 million
B. 5 million
C. 7 million
D. 17 million

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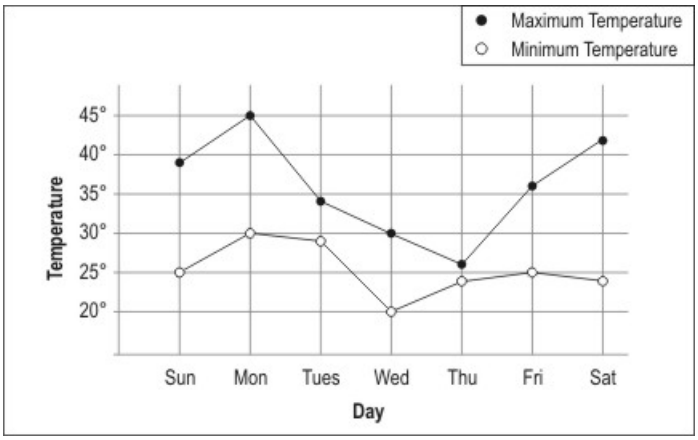
14. **Shown below is the graph representing the highest and the lowest temperature recorded in a day for a week.**



What is the difference between the high and low temperature recorded on Monday?

A. 15 °C
B. 25 °C
C. 30 °C
D. 45 °C

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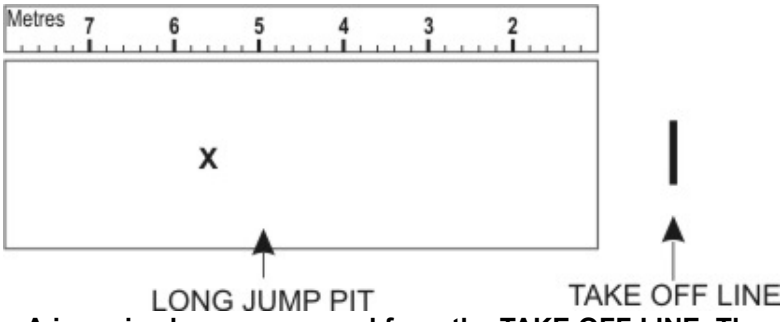
15. **In which year did he play in a Grand Slam final for the first time?**

A. 1997
B. 2001
C. 2004
D. 2005

16. **The figure below shows a view of a long jump pit, take off line and pit-side indicator board at a long jump competition. The distance between the take off line and the nearer edge of the pit is 1 m.**



A jump is always measured from the TAKE OFF LINE. The cross on the pit marks the place where Anju lands after a jump. Assuming that she took off from the proper place, about how long was Anju's jump?

A. 5.60 m
B. 5.3 m
C. 5.06 m
D. 5.03 m

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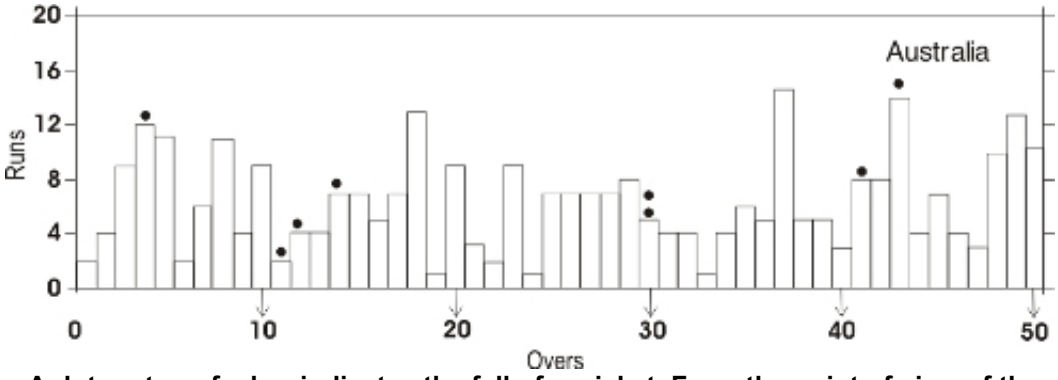
17. **The graph below shows the number of runs scored by Australia in each over of a one-day match against India.**



A dot on top of a bar indicates the fall of a wicket. From the point of view of the number of runs scored, which was the worst over for INDIA?

A. 43 rd
B. 37 th
C. 33 rd
D. 30 th

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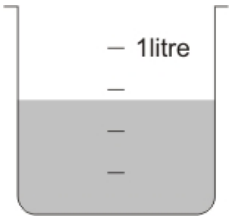
18. **The following table represents the time table of MUMBAI- RAJDHANI express.**

STATION CODE	STATION NAME	ARRIVAL	DEPARTURE
BCT	MUMBAI CENTRAL	Starting Station	16:55
ST	SURAT	20:08	20:10
BRC	VADODARA JN	21:50	22:10
RTM	RATLAM JN	01:30	01:35
KOTA	KOTA JN	04:17	04:27
NDLS	NEW DELHI	09:55	Destination Station

If the train leaves Vadodara at the scheduled time, after how much time would it reach Ratlam? (Assume that it runs on time)

A. 3 hours, 20 minutes
B. 3 hours, 25 minutes
C. 3 hours, 40 minutes
D. 21 hours, 20 minutes

19. **About how much water does this jar contain?**



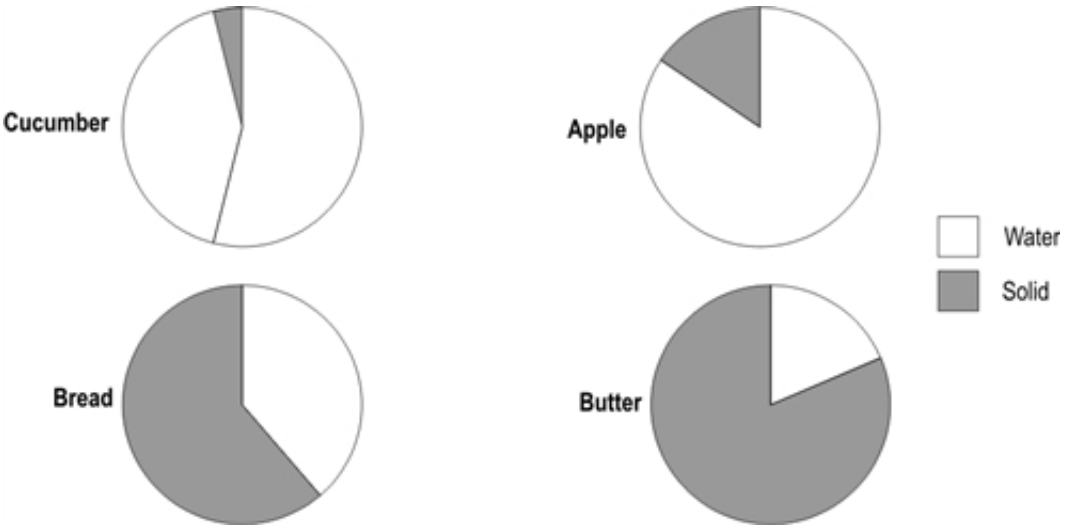
A. 250 ml
B. 700 ml
C. 800 ml
D. 900 ml

SCIENCE

Skill: Advanced or complex data representation or interpretation

Recording and interpreting data is a very important step in any scientific investigation. It allows us to make a systematic recording of things that we want to find out. Once the data is recorded, we can look for possible patterns in it and then proceed to find out reasons for those patterns to exist. The questions under this skill help you to see how to represent data in a systematic way and how to interpret recorded data.

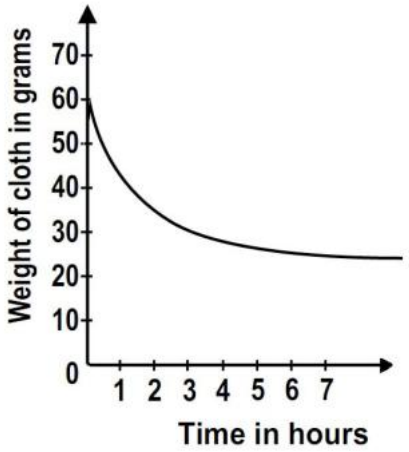
20. **Water is removed from foods because dried foods can be stored for longer periods without getting spoilt. The graphs given below show the water content originally in four different foods.**



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

21. **Raghav had a wet piece of cloth. He kept it outside for some time. Shown here is a graph indicating its weight, as it changed over a period of time.According to the graph, what was the weight of the cloth exactly after 1 hour?**



A. exactly 60 grams
B. exactly 50 grams
C. between 40 and 50 grams
D. between 20 and 30 grams

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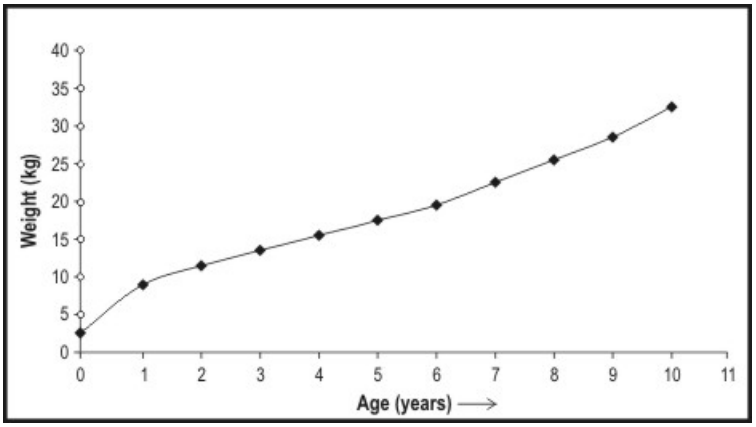
22. **Rima's parents noted her weight every year starting from the day she was born and after 10 years, they plotted a graph as shown below. Look at the graph carefully and answer the following question.**



What was Rima's weight when she was newly born?

A. 0.5 kg
B. 1 kg
C. 3 kg
D. 5 kg

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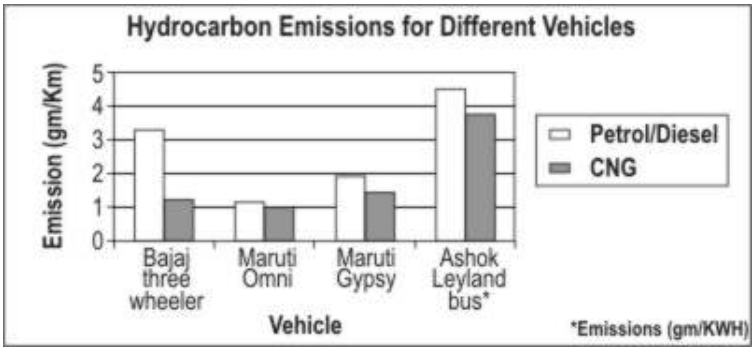
23. **The maximum and minimum temperature during a 24 hour period in four cities A, B, C and D are shown below. Which of the following is likely to be in or nearest to a desert?**

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

24. **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

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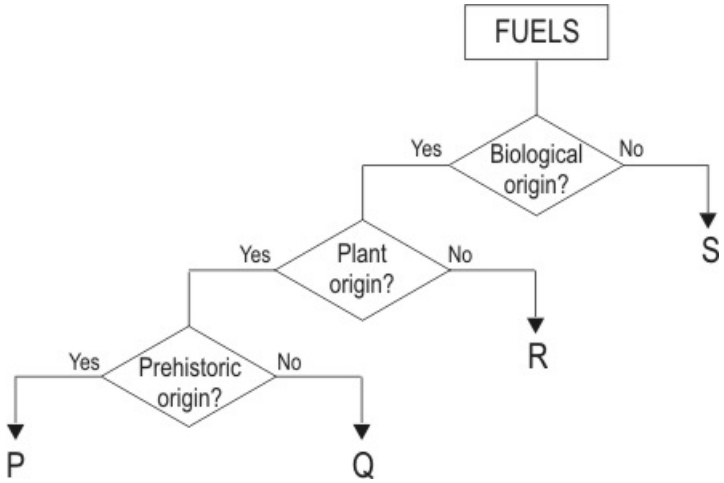
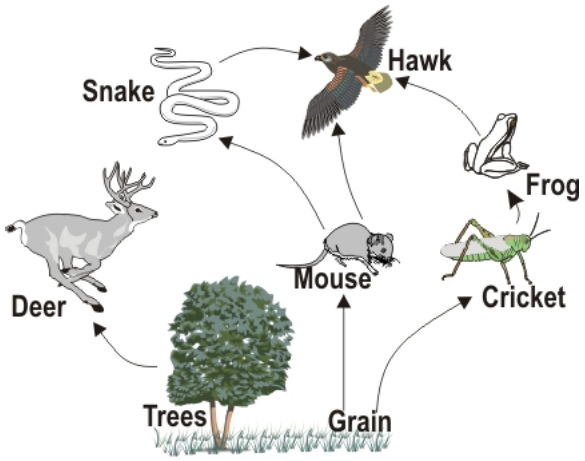
25. **Study this flowchart:**



Which of these could alphabet P be?

A. Wood
B. wind energy
C. coal
D. Petrol

26. **If the number of crickets in this food web was to reduce drastically, the most likely result will be**



A. more competition between frogs.
B. increase in number of frogs.
C. decrease in available grain.
D. decrease in the number of mice.

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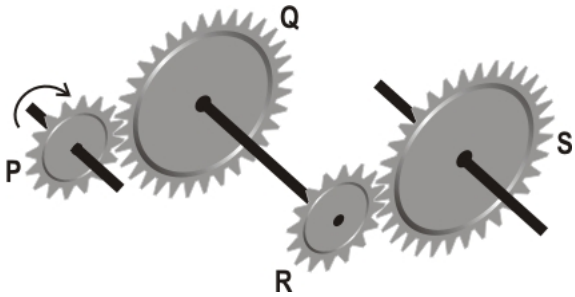
27. **In the arrangement shown the toothed wheel P is making 10 turns per minute in a clock wise direction. What can be said about wheel S? (The connecting rods can only rotate.)**



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.

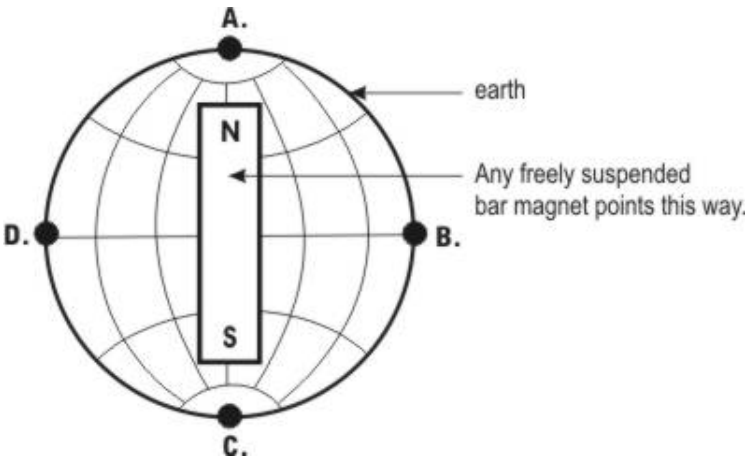
Skill: Extraction, translation and application of knowledge or information

In order to solve a problem, we first need to understand some information related to it. Once we understand this information, we can use it to solve the problem. The questions under this skill help you to draw out, understand and use information to give an explanation or a solution for a problem.

28. When two magnets are placed inside each other's magnetic fields, the like poles repel and the unlike poles attract.

The Earth acts like a giant magnet. Any free bar magnet on Earth aligns itself in such a way that its North pole points as shown in the figure.

Where is the north pole of the giant magnet Earth?



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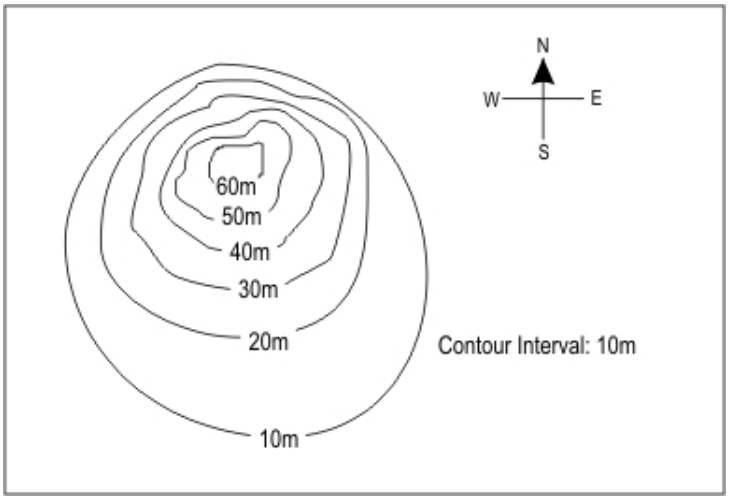
29. Contour lines join points of equal height in a map. Given below is the contour of a hill. The height along each line is also shown.



A steep slope is one in which the change in height is quite sudden. Which slope of this hill is the steepest?

A. Northern
B. Southern
C. Eastern
D. Western

30. **The density of water is 1 g/cm ^{3}. If each of these liquids X, Y and Z is immiscible in water, which of them will float on water?**

Liquid	Mass (g)	Volume (cm^3)
X	5.4	5
Y	46	50
Z	130	100

A. All the three liquids will float
B. Liquids X and Z will float
C. Liquid Y will float
D. The information given is not enough to decide

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31. **If a mineral is defined as follows:**

1. Found in nature	2. Made up of substances that were never alive	3. Same chemical composition wherever found

Which of the following is a mineral?

A. Coal
B. Kerosene
C. Glass
D. Diamond

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32. **The boiling point of water is 100 ^{o}C at sea level. The boiling point of butane is -1.5 ^{o}C. If we leave liquid butane in a bowl on a table in a room where the temperature is 24 ^{o}C, butane will**

A. evaporate
B. condense
C. freeze
D. melt

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33. **Behavioural adaptations are special ways in which an organism behaves in order to survive and reproduce in its particular environment. Which of the following is likely to be a behavioural adaptation?**

A. ducks having webbed feet
B. cactus having spines instead of leaves
C. birds migrating to warmer climates in winter
D. grasses having roots that spread over a wide area

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34. **What does a tabla player do to increase the pitch of his instrument?**

A. He tightens the skin across the tabla.
B. He strikes the tabla harder.
C. He changes the skin of the tabla.
D. He cannot increase the pitch of the tabla.

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35. **In a cricket stadium, when the floodlights were switched on at 7pm, multiple shadows of the stumps appeared. The lengths of the shadows of the stumps would have**

A. increased as the match progressed.
B. decreased as the match progressed.
C. first increased and then decreased.
D. remained the same throughout the match.

ANSWERS AND EXPLANATIONS

English

Skill: Identifies facts and makes important connections in comprehending a passage.

1. B: The correct answer is in this line: " A panel comprising eminent environmentalists will judge the projects at the national level " , which is in paragraph 4. Therefore option D (this is not mentioned in the notice), cannot be the correct answer.

2. A: The purpose of the notice is mentioned in the second paragraph of the passage. (The contest calls ..... supervisor-to identify, plan and execute an environmental project that will make a difference to the local environment .)If such a project is planned with the given objective, it would be an effective environmental project. C (design a poster on environmental protection) is not correct because there is no way of knowing what aspect of environmental effectiveness is expected, whether it would be on protection or development or something else.

3. C : The final contest will be held in Sweden. The given notice mentions this in clear words when it speaks of the "g lobal finals in Sweden in May 2004 ". Option - D is not correct as nowhere in the notice do we find that the final contest or "the global finals" are in the U.S.A. In the notice, the value of the prizes is represented in terms of American Dollars: "US$ 4,000 to US$ 10,000", but this has nothing to do with the place of the final contest.

Maths

Skill: Fractions, decimals and ratios: concepts and applications

4. D: The food that the eels need is proportional to their length. We see that eel F is 10 cm long and it needs 12 grams of food. So an eel twice as long would need twice as much food as eel F, an eel half as long would need half as much food. Remember that this does not mean that an eel that is 2 cm longer than eel F needs 2 g more of food. Eel G is one and a half times the length of eel F. So it needs one and a half times the food that eel F needs. $1\frac{1}{2} \times 12 = 18$ g.

5. < 0.01.

6. C: The interval between 2 and 3 is divided into 10 equal parts. So the points of division are 2.1, 2.2, 2.3, ...2.9. The third box coincides with the seventh division and so it is 2.7. Now 2.17 is 2 ones + 1 tenths + 7 hundredths. So it is greater than 2.1 but less than 2.2. The first box is between 2.1 and 2.2, and so could be 2.17. Similarly, 2.35 is between 2.3 and 2.4, and so the second box could be 2.35. So from left to right, the numbers are 2.17, 2.35 and then 2.7. When comparing decimals we have to compare the digits that have the same place value (The digits in the tenths place of these numbers are 1, 3 and 7) and not as if they are whole numbers without decimals.

7. D: We know that 1 crore is 100 lakhs. 1.3 crores = 1 crore + 0.3 crores. 0.3 crores is $\frac{3}{10}$ of a crore, ie $\frac{3}{10}$ of 100 lakhs, ie 30 lakhs. So 1.3 crores is 1 crore and 30 lakhs. 3 lakhs is $\frac{3}{100}$ of a crore, ie 0.03 crores. So 1 crore and 3 lakhs would be 1.03 crores.

8. C: The sugar syrup with the highest fraction of sugar in it will be the sweetest. Sugar syrup in A has $\frac{1}{3}$ sugar, that in B has $\frac{1}{5}$ sugar, that in C has $\frac{1}{2}$ sugar and that in D has $\frac{1}{4}$ sugar in it. Of $\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{2}$ and $\frac{1}{4}$, $\frac{1}{2}$ is the largest and so sugar syrup in C will be the sweetest.

9. A: What do we mean by $1\frac{1}{2}$? One and a half right? That is $1 + \frac{1}{2}$. Similarly $23\frac{1}{19}$ is twenty three and one-nineteenth, or $23 + \frac{1}{19}$. $23 \times \frac{1}{19}$ is $\frac{1}{19}$ of 23 which is not what we mean when we say twenty three and one-nineteenth.

10. B: $1.225 \times 1.55 = 1.89875$. We need to find 122.5×15.5. Let us try to relate this to the given product. $122.5 \times 15.5 = 1.225 \times 100 \times 1.55 \times 10 = 1.225 \times 1.55 \times 100 \times 10 = 1.89875 \times 1000$(using the given value) = 1898. 75. Now this is close to 1900.

11. C: Note that the question asks for 2 hundredths + 1 tenths and not 2 hundreds + 1 tens. In the decimal place value system, we write this as 1 tenths + 2 hundredths = 0.12.

Skill: Measurement and data interpretation

12. B: How long is the dotted line in terms of the length of the line

in the map roughly? Is it not about 3 to 4 times the length of the line? What is the scale of the map?

represents 1 km. That means if the distance between the two objects is the same as the length

on the map, the two objects would be 1 km apart in reality. Hence the actual distance between tents and the village would be about 3 km to 4 km. Hence, the option B is the correct answer.

13. A: The population of the given cities in a map is indicated by the size of circles around them in the map. Mumbai is encircled by a circle of the largest size among the circles in the map. The circle corresponds to 17 million, which indicates that Mumbai's population is 17 million. It can be seen that the population of Surat in the map is indicated by a circle which corresponds to 3 million. Hence, option A is the answer.

14. A: What is the minimum temperature recorded on Monday? 30 ºC, right? (Look at the appropriate line graph.) What is the maximum temperature recorded on Monday? 45 ºC, right? The difference between the two temperatures is 15 ºC. Hence the option A is the answer.

15. B: Have you understood what each legend indicates? A tennis player is out of the Grand Slam tournament if he loses a match. Hewitt was a semifinalist in the US open in 2000 and was out of the tournament as he lost the match. He first won the Grand Slam tournament in 2001 when he won the final match in the US Open. In 2004, he lost the final match of the US Open to be a tournament runner up. Hence B is the answer. Can you try interpreting which Grand slam tournaments did Hewitt play in 2002 and what was the outcome? In 1997 he lost the first round match and did NOT reach the final of Australian Open.

16. A: The distance between the take off line and the nearer edge of the pit is 1 m. The distance of the place marked X where Anju lands in the pit is about 5-6 m away from the take off line. Between 5 and 6 there are 5 divisions on the metre scale. So each division is of 0.2 m in length. The cross corresponds to the 3rd division from the mark of 5 m on the metre scale. So Anju had jumped 5.6 m. Had there been 10 division marks between 5 and 6 on the metre scale, the third division from 5 would refer to 5.3 m which is not the case here. So B cannot be the answer.

17. B: What does the height of a bar in the graph indicate? Does it represent runs scored? What is represented on horizontal axis. Overs, right? In which over did India concede maximum runs? Do we get the answer if we find the over in which the height of the corresponding bar is maximum? Is it the 37th over? So, 37th over was the worst over for India from the point of view of the runs scored.

18. A: Arrival time indicates the time at which the train arrives at the station and departure time, the time at which the train leaves the station. The train running on schedule departs Vadodra junction at 22:10 and reaches Ratlam station at 1:30. So the train takes 3 hours and 20 minutes, the difference between the times 1:30 and 22:10, to reach Ratlam. Add 3 hours and 40 minutes to 22:10. Is it 1:30? So C is not the answer.

19. B:There are 4 equally spaced divisions on the jar indicating the water level. The last one is marked 1 litre. So each is $\frac{1}{4}$ of a litre or 250 ml. The given water level is just below the third mark which is 750 ml level . Hence, among 250 ml, 700 ml, 800 ml and 900 ml, 700 ml could be the amount of water in the jar.

Science

Skill: Advanced or complex data representation or interpretation

20. 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.

21. C: Check the X- axis, it shows the time. Draw a vertical line from the point of 1 hour to the curve of the graph. Now from this point on the curve, draw a horizontal line to the Y- axis. It will be somewhere between 40 and 50 grams. Hence, the weight of the cloth at 1 hour would be between 40 and 50 grams. Hence, option C is correct and options A and D are incorrect.

22. C: Look carefully at the graph - When Rima's age is 0 years (newly born), her weight was midway between 0 and 5 kg. This means that it was around 3 kg. It could not have been 0.5 kg, because it would have then been closer to the 0 point on the Y axis. Hence, option A is incorrect.

23. 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.

24. 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.

25. C: The first question being asked is whether it is obtained from living things. The answer is yes. So, option B is incorrect. The 2nd question is whether it is of plant origin. The answer is yes. So, option D is incorrect, because petrol is not of plant origin. Now, the 3rd question is whether it is of prehistoric origin. The answer is yes. So, it cannot be wood, because most wood fuel is not prehistoric. Only coal is of prehistoric origin. Hence, option C is correct.

26. A: Crickets eat grain. So if the number of crickets were to go down, then the amount of grain available would probably increase, and hence, option C is incorrect. Following this, the number of mice would eventually go up, and hence, option D is also incorrect.Crickets are eaten by frogs, hence, if the number of crickets decreases, then the frogs would have to compete for food. Hence, only option A is correct.

27. 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.

Skill: Extraction, translation and application of knowledge or information

28. C: The north pole of any magnet always points to the geographic north pole - that is, the one that is found in the Northern hemisphere of the earth. However, if the earth behaves like a giant magnet, then the south pole of this giant magnet earth, must be attracting the north pole of the magnet. Hence, option A will be the south pole of the giant magnet earth and option C will be the north pole. Hence, option C is correct.

29. A: Contour lines join points of equal heights in a map. So all the points on the same contour line will be at the same height. Also, the more the slope in a region, the more will be the gap between two concentric contour lines. A steep slope would mean a lesser gap between the two lines. Hence, the northern side of the hill has the steepest slope.

30. C: Density is the mass present in a given volume. To calculate the density, we should divide the mass by the volume. Mass and volume of all the liquids are given. On calculating the density of the 3 liquids, you will find that densities of X and Z are more than 1, whereas that of Y is less than 1. We know that a liquid with less density floats on top of a liquid with higher density. Since density of only liquid Y is less than 1, ie. the density of water, only liquid Y will float on the water. Liquid Y will not mix with water as they are immiscible.

31. D: Look at the characteristics of a mineral given in the question. Coal and Kerosene are formed from the dead matter of plants and animals. Hence, options A, B and C are incorrect. Diamonds are pure carbon and have all the characteristics mentioned in the question.

32. A: When a substance reaches its boiling point, it starts to evaporate rapidly. The boiling point of butane is -1.5 ^{o}C, which is below 0 ^{o}C. 24 ^{o}C is much higher than the boiling point of butane, and hence, when butane is kept at this temperature, it will immediately boil and evaporate. It will not freeze because the freezing point of a substance will be MUCH lower than its boiling point. Hence, option C is incorrect.

33. C: A behavioural adaptation has something to do specifically with behaviour. Options A, B and D talk about structural adaptations, where the structure of the organism has a role to play in its survival. However, option C talks about what the birds 'do' or how they behave in order to survive. Hence, option C is the only correct answer.

34. A: Try plucking a rubberband that has been stretched across something tightly. When you pluck it, it makes some sound. If you tighten the rubberband further, the pitch rises. This is because the rubberband is not allowed to vibrate too much and hence, it lets out a higher note. By simply striking a tabla harder, you can increase the loudness of the sound, but not the pitch. Hence, option B is incorrect.

35. D: What time of the day is 7 pm? It's late evening. So the sun is most likely to have set already, and it must be slightly dark (that's why the stadium lights were turned on). With fixed lights, like the ones you see in stadiums, are the shadows likely to change? Shadows only increase or decrease in length during the day because the sun, the source of light, appears to move in the sky from east to west. Hence, option D is the only correct answer.

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