

Student Name (8G)
Demo School
(City)
PAN No. 209868176
Winter 2016

4930 / 0414 / J76

Student MyBook Contents



1. Personalised Student Feedback	2
2. Circular Skill Profile	3
3. English Performance.....	4
4. Mathematics Performance.....	7
5. Science Performance.....	9
6. Social Studies Performance.....	11
7. Practice Questions and Explanations	13



PERSONALISED STUDENT FEEDBACK

Dear Student Name,

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 synonyms, antonyms and other words	Registers moods, tones and emotions
	Identifies and recalls direct facts in the passage	Knows punctuation and sentence formation
Maths	Number sense, related competency and computation skills	Data interpretation/analysis: concept of averages, graph reading, etc.
	Fractions, decimals, ratios and percentages: applications	Geometry: concepts and applications
Science	Extraction, translation and application of knowledge or information	Integrating different concepts or information for decision making
	Definition or description of scientific terms, organisms or materials	Analysis of information to identify trends or properties
Social Studies	Knowledge and understanding of governance	Analyzing historical source evidence, and chronological knowledge and understanding
	Knowledge and understanding of historical developments	Analyzing geographic 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 feedback@ei-india.com 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!

Regards,

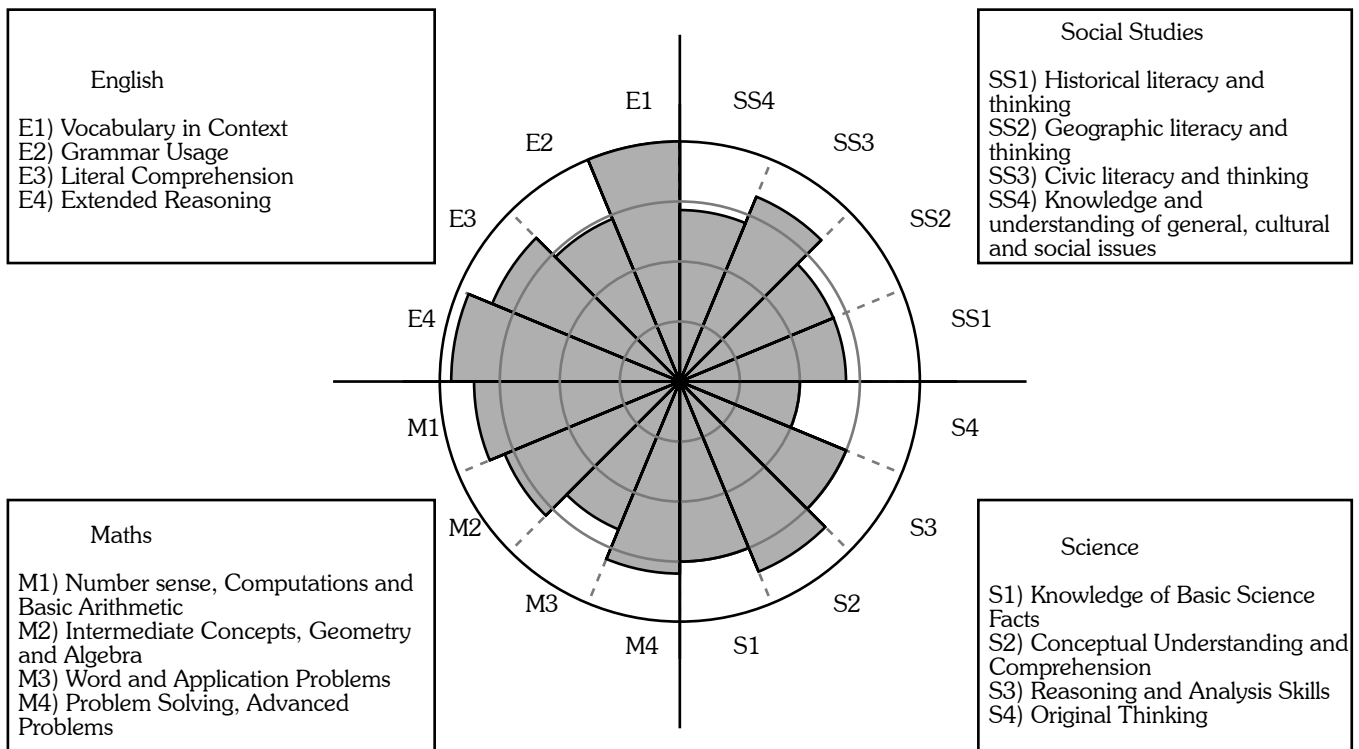
Sridharan

Chief Executive Officer, Educational Initiatives

CIRCULAR SKILL PROFILE



Student Name (8G)



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

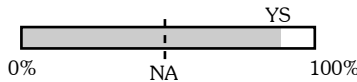
The main difference between the ASSET (Assessment of Scholastic Skills through Educational Testing) tests and the regular school tests lies in the fact that ASSET tests are SKILL-BASED. Skills or competencies refer to specific abilities that a student develops. A skill-based test can be contrasted with 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

Student Name (8G)

Your Score: 53/60



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

Percentile*: 99

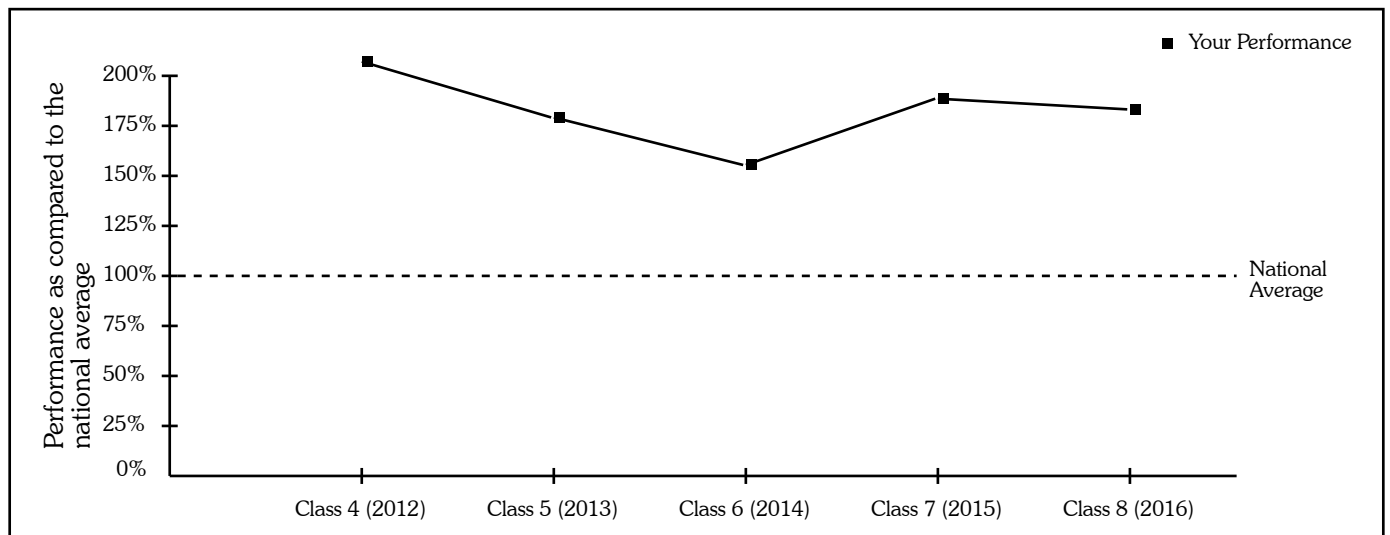
SKILL-BASED SUMMARY AND STRENGTH / WEAKNESS ANALYSIS

No.	Core Skill	Sub Skill	Answered Right	Answered Wrong	Graph	S/W
1	Vocabulary in Context	Deduces word meanings from contextual clues	20,23,40,42			
2		Identifies synonyms, antonyms and other words	7,22,34,39,41,43,44			S
3	Grammar Usage	Knows punctuation and sentence formation	18,47,48,56	16,17		
4		Understands the usage of grammar concepts	46,50,51,52,53,54,55	45,59		S
5	Literal Comprehension	Identifies and recalls direct facts in the passage	1,6,10,27,32			S
6		Understands idioms, proverbs and figures of speech	49,57,58	60		
7		Understands organisation and context of the passage	5,12,28	14		
8	Extended Reasoning	Analyses characters and situations	2,3,4,29,36			S
9		Identifies the main idea and purpose of the passage	8,19,30,31			
10		Infers using contextual clues and prior knowledge	9,11,13,21,24,26,33,35,38			S
11		Registers moods, tones and emotions	25,37	15		

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:



ENGLISH SCORE CARD



Student Name (8G)

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	✓	39%	-
2	Analyses characters and situations	C	C	✓	59%	-
3	Analyses characters and situations	B	B	✓	60%	-
4	Analyses characters and situations	C	C	✓	75%	-
5	Understands organisation and context of the passage	C	C	✓	68%	-
6	Identifies and recalls direct facts in the passage	B	B	✓	60%	-
7	Identifies synonyms, antonyms and other words	D	D	✓	72%	-
8	Identifies the main idea and purpose of the passage	B	B	✓	73%	-
9	Infers using contextual clues and prior knowledge	D	D	✓	56%	-
10	Identifies and recalls direct facts in the passage	A	A	✓	46%	-
11	Infers using contextual clues and prior knowledge	C	C	✓	65%	-
12	Understands organisation and context of the passage	C	*	✓	100%	(Question dropped - all given credit)
13	Infers using contextual clues and prior knowledge	D	D	✓	67%	-
14	Understands organisation and context of the passage	C	D	✗	38%	Unable to understand the context in a passage
15	Registers moods, tones and emotions	B	C	✗	30%	Unable to interpret moods and emotions
16	Knows punctuation and sentence formation	B	C	✗	30%	Unable to use grammatically correct sentences
17	Knows punctuation and sentence formation	B	A	✗	38%	Unable to use grammatically correct sentences
18	Knows punctuation and sentence formation	B	B	✓	33%	-
19	Identifies the main idea and purpose of the passage	D	D	✓	79%	-
20	Deduces word meanings from contextual clues	A	A	✓	79%	-
21	Infers using contextual clues and prior knowledge	B	B	✓	57%	-
22	Identifies synonyms, antonyms and other words	D	D	✓	16%	-
23	Deduces word meanings from contextual clues	C	C	✓	56%	-
24	Infers using contextual clues and prior knowledge	B	B	✓	43%	-
25	Registers moods, tones and emotions	A	A	✓	53%	-
26	Infers using contextual clues and prior knowledge	A	A	✓	43%	-
27	Identifies and recalls direct facts in the passage	B	B	✓	56%	-
28	Understands organisation and context of the passage	C	C	✓	46%	-
29	Analyses characters and situations	C	C	✓	51%	-
30	Identifies the main idea and purpose of the passage	B	B	✓	46%	-
31	Identifies the main idea and purpose of the passage	B	B	✓	66%	-
32	Identifies and recalls direct facts in the passage	D	D	✓	57%	-
33	Infers using contextual clues and prior knowledge	A	A	✓	50%	-
34	Identifies synonyms, antonyms and other words	A	A	✓	45%	-
35	Infers using contextual clues and prior knowledge	B	B	✓	55%	-
36	Analyses characters and situations	A	A	✓	48%	-
37	Registers moods, tones and emotions	C	C	✓	39%	-
38	Infers using contextual clues and prior knowledge	B	B	✓	53%	-
39	Identifies synonyms, antonyms and other words	D	D	✓	29%	-
40	Deduces word meanings from contextual clues	D	D	✓	20%	-



ENGLISH SCORE CARD

Student Name (8G)

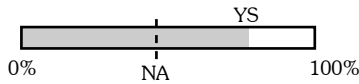
Q	Skill Tested	1	2	3	4	Error Indicated
41	Identifies synonyms, antonyms and other words	B	B	✓	39%	-
42	Deduces word meanings from contextual clues	D	D	✓	61%	-
43	Identifies synonyms, antonyms and other words	B	B	✓	33%	-
44	Identifies synonyms, antonyms and other words	A	A	✓	39%	-
45	Understands the usage of grammar concepts	B	C	✗	39%	Unable to apply grammar concepts
46	Understands the usage of grammar concepts	D	D	✓	47%	-
47	Knows punctuation and sentence formation	B	B	✓	64%	-
48	Knows punctuation and sentence formation	D	D	✓	21%	-
49	Understands idioms, proverbs and figures of speech	B	B	✓	29%	-
50	Understands the usage of grammar concepts	C	C	✓	44%	-
51	Understands the usage of grammar concepts	B	B	✓	47%	-
52	Understands the usage of grammar concepts	A	A	✓	57%	-
53	Understands the usage of grammar concepts	D	D	✓	41%	-
54	Understands the usage of grammar concepts	A	A	✓	66%	-
55	Understands the usage of grammar concepts	C	C	✓	42%	-
56	Knows punctuation and sentence formation	C	C	✓	16%	-
57	Understands idioms, proverbs and figures of speech	B	B	✓	53%	-
58	Understands idioms, proverbs and figures of speech	C	C	✓	45%	-
59	Understands the usage of grammar concepts	B	A	✗	40%	Unable to apply grammar concepts
60	Understands idioms, proverbs and figures of speech	B	A	✗	17%	Unable to identify the meaning of an idiom

MATHEMATICS PERFORMANCE



Student Name (8G)

Your Score: 31/40



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

Percentile*: 92

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	Integers and rational numbers, powers and bases	14,26,30	29		
2		Number sense, related competency and computation skills	16,20,32			
3	Intermediate Concepts, Geometry and Algebra	Algebra: concepts and applications	7,11,28,31			
4		Fractions, decimals, ratios and percentages: applications	2,6,12,23,35			S
5		Geometry: concepts and applications	3,33,38	10,19		
6		Mensuration: area and perimeter; volume	4,13,21	17,24		
7	Word and Application Problems	Applications in daily life: word/visual problems	15,18,25,27	1		S
8		Data interpretation/analysis: concept of averages, graph reading, etc.	9,37	8,36		
9	Problem Solving, Advanced Problems	Problem solving: advanced or challenging problems	5,34,39,40	22		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:





MATHS SCORE CARD

Student Name (8G)

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

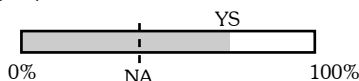
Q	Skill Tested	1	2	3	4	Error Indicated
1	Applications in daily life: word/visual problems	B	C	X	55%	Order of operations unclear
2	Fractions, decimals, ratios and percentages: applications	C	C	✓	73%	-
3	Geometry: concepts and applications	D	D	✓	53%	-
4	Mensuration: area and perimeter; volume	D	D	✓	24%	-
5	Problem solving: advanced or challenging problems	C	C	✓	85%	-
6	Fractions, decimals, ratios and percentages: applications	B	B	✓	29%	-
7	Algebra: concepts and applications	B	B	✓	56%	-
8	Data interpretation/analysis: concept of averages, graph reading, etc.	A	C	X	25%	Error in analysing the question
9	Data interpretation/analysis: concept of averages, graph reading, etc.	D	D	✓	36%	-
10	Geometry: concepts and applications	D	C	X	55%	Properties of parallel lines unclear
11	Algebra: concepts and applications	C	C	✓	54%	-
12	Fractions, decimals, ratios and percentages: applications	B	B	✓	42%	-
13	Mensuration: area and perimeter; volume	C	C	✓	41%	-
14	Integers and rational numbers, powers and bases	B	B	✓	37%	-
15	Applications in daily life: word/visual problems	B	B	✓	66%	-
16	Number sense, related competency and computation skills	A	A	✓	59%	-
17	Mensuration: area and perimeter; volume	B	C	X	18%	Incorrect understanding of perimeter
18	Applications in daily life: word/visual problems	B	B	✓	28%	-
19	Geometry: concepts and applications	B	D	X	34%	Properties of triangles unclear
20	Number sense, related competency and computation skills	A	A	✓	44%	-
21	Mensuration: area and perimeter; volume	B	B	✓	46%	-
22	Problem solving: advanced or challenging problems		C	X	23%	
23	Fractions, decimals, ratios and percentages: applications	B	B	✓	52%	-
24	Mensuration: area and perimeter; volume		A	X	41%	
25	Applications in daily life: word/visual problems	B	B	✓	56%	-
26	Integers and rational numbers, powers and bases	A	A	✓	53%	-
27	Applications in daily life: word/visual problems	B	B	✓	66%	-
28	Algebra: concepts and applications	A	A	✓	74%	-
29	Integers and rational numbers, powers and bases	A	D	X	43%	Concept of rational numbers unclear
30	Integers and rational numbers, powers and bases	C	C	✓	75%	-
31	Algebra: concepts and applications	A	A	✓	37%	-
32	Number sense, related competency and computation skills	C	C	✓	26%	-
33	Geometry: concepts and applications	A	A	✓	24%	-
34	Problem solving: advanced or challenging problems	D	D	✓	47%	-
35	Fractions, decimals, ratios and percentages: applications	C	C	✓	52%	-
36	Data interpretation/analysis: concept of averages, graph reading, etc.	D	B	X	26%	Error in interpreting the data
37	Data interpretation/analysis: concept of averages, graph reading, etc.	D	D	✓	43%	-
38	Geometry: concepts and applications	A	A	✓	43%	-
39	Problem solving: advanced or challenging problems	B	B	✓	61%	-
40	Problem solving: advanced or challenging problems	B	B	✓	40%	-

SCIENCE PERFORMANCE



Student Name (8G)

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	16,28,42			
2		Recollection or recognition of science facts and concepts	1,14,45	32,39		
3	Conceptual Understanding and Comprehension	Classification/comparison of organisms/processes; giving examples	12,15,17			
4		Knowledge of use of scientific instruments, tools and procedures	9,19,30	37		
5	Reasoning and Analysis Skills	Advanced or complex data representation or interpretation	8,33,34,40	10		S
6		Analysis of information to identify trends or properties	3,6,11	23,38		
7		Extraction, translation and application of knowledge or information	4,27,31,35,41			S
8		Representing, relating or explaining scientific processes or observed phenomena	18,25,44	13,29		
9	Original Thinking	Hypothesis formulation; design of apparatus or experiment	7,21,43	2,5		
10		Integrating different concepts or information for decision making	20,24	22,26,36		

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:





SCIENCE SCORE CARD

Student Name (8G)

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

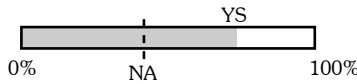
Q	Skill Tested	1	2	3	4	Error Indicated
1	Recollection or recognition of science facts and concepts	A	A	✓	38%	-
2	Hypothesis formulation; design of apparatus or experiment	B	D	✗	50%	Error in drawing inference
3	Analysis of information to identify trends or properties	A	A	✓	37%	-
4	Extraction, translation and application of knowledge or information	D	D	✓	46%	-
5	Hypothesis formulation; design of apparatus or experiment	A	C	✗	18%	Error in drawing inference
6	Analysis of information to identify trends or properties	D	D	✓	54%	-
7	Hypothesis formulation; design of apparatus or experiment	B	B	✓	41%	-
8	Advanced or complex data representation or interpretation	B	B	✓	43%	-
9	Knowledge of use of scientific instruments, tools and procedures	C	C	✓	42%	-
10	Advanced or complex data representation or interpretation	C	B	✗	24%	Inadequate understanding of the scale
11	Analysis of information to identify trends or properties	C	C	✓	43%	-
12	Classification/comparison of organisms/processes; giving examples	B	B	✓	41%	-
13	Representing, relating or explaining scientific processes or observed phenomena	B	A	✗	44%	Relevant concept not identified and applied
14	Recollection or recognition of science facts and concepts	A	A	✓	6%	-
15	Classification/comparison of organisms/processes; giving examples	B	B	✓	62%	-
16	Definition or description of scientific terms, organisms or materials	B	B	✓	48%	-
17	Classification/comparison of organisms/processes; giving examples	A	A	✓	61%	-
18	Representing, relating or explaining scientific processes or observed phenomena	D	D	✓	45%	-
19	Knowledge of use of scientific instruments, tools and procedures	B	B	✓	12%	-
20	Integrating different concepts or information for decision making	C	C	✓	34%	-
21	Hypothesis formulation; design of apparatus or experiment	B	B	✓	39%	-
22	Integrating different concepts or information for decision making	D	A	✗	31%	Relevant concept not identified and applied
23	Analysis of information to identify trends or properties	A	C	✗	35%	Error in prediction
24	Integrating different concepts or information for decision making	A	A	✓	49%	-
25	Representing, relating or explaining scientific processes or observed phenomena	C	C	✓	29%	-
26	Integrating different concepts or information for decision making	A	D	✗	23%	Inadequate knowledge of defining properties
27	Extraction, translation and application of knowledge or information	A	A	✓	51%	-
28	Definition or description of scientific terms, organisms or materials	D	D	✓	40%	-
29	Representing, relating or explaining scientific processes or observed phenomena	C	D	✗	20%	Inadequate understanding of living things
30	Knowledge of use of scientific instruments, tools and procedures	C	C	✓	55%	-
31	Extraction, translation and application of knowledge or information	D	D	✓	46%	-
32	Recollection or recognition of science facts and concepts	C	A	✗	24%	Inadequate understanding of living things
33	Advanced or complex data representation or interpretation	C	C	✓	56%	-
34	Advanced or complex data representation or interpretation	D	D	✓	35%	-
35	Extraction, translation and application of knowledge or information	C	C	✓	35%	-
36	Integrating different concepts or information for decision making	C	B	✗	40%	Inadequate knowledge of scientific processes
37	Knowledge of use of scientific instruments, tools and procedures	D	B	✗	40%	Inadequate understanding of instruments
38	Analysis of information to identify trends or properties	C	D	✗	46%	Error in interpreting pictorial information
39	Recollection or recognition of science facts and concepts	D	C	✗	40%	Inadequate understanding of living things
40	Advanced or complex data representation or interpretation	B	B	✓	48%	-
41	Extraction, translation and application of knowledge or information	C	C	✓	60%	-
42	Definition or description of scientific terms, organisms or materials	D	D	✓	56%	-
43	Hypothesis formulation; design of apparatus or experiment	A	A	✓	45%	-
44	Representing, relating or explaining scientific processes or observed phenomena	A	A	✓	64%	-
45	Recollection or recognition of science facts and concepts	D	D	✓	17%	-

SOCIAL STUDIES PERFORMANCE



Student Name (8G)

Your Score: 33/45



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	Historical literacy and thinking	Analyzing historical source evidence, and chronological knowledge and understanding	6,14,25,29	8,19,42		
2		Knowledge and understanding of historical developments	4,7,13,17,41	3		S
3	Geographic literacy and thinking	Analyzing geographic information	16,37,38,39	9,15,27		
4		Knowledge and understanding of physical and human geography	2,5,10,11,26	36		S
5	Civic literacy and thinking	Knowledge and understanding of civic engagement	22,23,35,43	28		S
6		Knowledge and understanding of governance	20,21,31,32,33,40	45		S
7	Knowledge and understanding of general, cultural and social issues	Knowledge and understanding of general, cultural and social issues	1,18,24,34,44	12,30		

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:





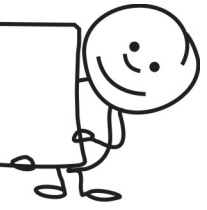
SOCIAL STUDIES SCORE CARD

Student Name (8G)

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

Q	Skill Tested	1	2	3	4
1	Knowledge and understanding of general, cultural and social issues	D	D	✓	33%
2	Knowledge and understanding of physical and human geography	A	A	✓	62%
3	Knowledge and understanding of historical developments	A	D	✗	28%
4	Knowledge and understanding of historical developments	B	B	✓	32%
5	Knowledge and understanding of physical and human geography	A	A	✓	53%
6	Analyzing historical source evidence, and chronological knowledge and understanding	A	A	✓	50%
7	Knowledge and understanding of historical developments	D	D	✓	51%
8	Analyzing historical source evidence, and chronological knowledge and understanding	B	C	✗	28%
9	Analyzing geographic information	B	D	✗	21%
10	Knowledge and understanding of physical and human geography	C	C	✓	52%
11	Knowledge and understanding of physical and human geography	B	B	✓	47%
12	Knowledge and understanding of general, cultural and social issues	A	D	✗	20%
13	Knowledge and understanding of historical developments	D	D	✓	56%
14	Analyzing historical source evidence, and chronological knowledge and understanding	C	C	✓	38%
15	Analyzing geographic information	B	C	✗	48%
16	Analyzing geographic information	A	A	✓	35%
17	Knowledge and understanding of historical developments	B	B	✓	33%
18	Knowledge and understanding of general, cultural and social issues	C	C	✓	36%
19	Analyzing historical source evidence, and chronological knowledge and understanding	C	A	✗	36%
20	Knowledge and understanding of governance	B	B	✓	48%
21	Knowledge and understanding of governance	D	D	✓	48%
22	Knowledge and understanding of civic engagement	A	A	✓	36%
23	Knowledge and understanding of civic engagement	D	D	✓	46%
24	Knowledge and understanding of general, cultural and social issues	B	B	✓	51%
25	Analyzing historical source evidence, and chronological knowledge and understanding	C	C	✓	72%
26	Knowledge and understanding of physical and human geography	D	D	✓	38%
27	Analyzing geographic information	B	A	✗	33%
28	Knowledge and understanding of civic engagement	A	B	✗	31%
29	Analyzing historical source evidence, and chronological knowledge and understanding	A	A	✓	43%
30	Knowledge and understanding of general, cultural and social issues	C	A	✗	40%
31	Knowledge and understanding of governance	C	C	✓	60%
32	Knowledge and understanding of governance	C	C	✓	31%
33	Knowledge and understanding of governance	D	D	✓	44%
34	Knowledge and understanding of general, cultural and social issues	C	C	✓	21%
35	Knowledge and understanding of civic engagement	B	B	✓	59%
36	Knowledge and understanding of physical and human geography		A	✗	38%
37	Analyzing geographic information	A	A	✓	52%
38	Analyzing geographic information	C	C	✓	39%
39	Analyzing geographic information	C	C	✓	49%
40	Knowledge and understanding of governance	D	D	✓	65%
41	Knowledge and understanding of historical developments	C	C	✓	43%
42	Analyzing historical source evidence, and chronological knowledge and understanding	A	B	✗	33%
43	Knowledge and understanding of civic engagement	C	C	✓	45%
44	Knowledge and understanding of general, cultural and social issues	B	B	✓	32%
45	Knowledge and understanding of governance	C	B	✗	25%

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.

Would it be Strange?

Is it funny
Would it be strange
To see a young girl
Go dancing around
the market place
Or climb trees by the highway
Or flick an orange from a cart
Or sing to the silent nightingale
Or smile at the nodding flowers
Or rush to hug you
When you'd rather think
a casual Hullo! would do
Or talk to the stars
and splash in the puddles
made by rain
Would it be strange
if she never grew up
and chose to remain the same. Source: '*Would it be Strange?*',
Venu Arora; From the collection "Mire", Writer's Workshop, Calcutta

1. The '**nodding flowers**' in the poem suggest that _____.
 - A. the girl was shaking the flowers
 - B. the flowers bowed their heads to the girl
 - C. there was a gentle breeze blowing
 - D. the nightingale was sitting on the flowers

2. "**Or rush to hug you, when you think a casual Hullo! would rather do**".
From this line we can infer that _____.
 - A. the child cannot sit still but loves to run around constantly
 - B. the child in the poem is very demonstrative in her affection
 - C. the child in the poem thinks that people are like huggable soft toys
 - D. the child in the poem does not think it is necessary to greet adults

3. **What is the tone of the poem?**
 - A. an enquiring tone
 - B. a descriptive tone
 - C. a demanding tone
 - D. a miserable tone

4. **Which of these features do we see in the poem?**
 - A. the absence of rhyme
 - B. the absence of a theme
 - C. incomplete sentences
 - D. a story like narration

5. The first stanza suggests that the girl in the poem is _____ in disposition.
- A. careless
 - B. carefree
 - C. careful
 - D. careworn
-
6. What is the poet trying to say in the line, 'if she never grew up and chose to remain the same'?
- A. The poet wonders what people would think if she continued to behave with childlike intensity.
 - B. The poet has magical powers to remain young forever but wonders if it is okay to use that.
 - C. The poet loves to behave like a child and play childish games only to annoy others.
 - D. The poet is an adult who dislikes the view that young girls should behave in an immature fashion.
-

MATHS

Skill: Data interpretation/analysis: concept of averages, graph reading, etc.

This skill involves interpreting and analysing data presented in the form of tables or different types of graphs like bar graphs, line graphs, pie charts etc. It also involves an understanding of averages.

7. In a Maths test the average score of the 10 girls in a class is 15 and the average score of the 15 boys is 10. The average score of the class in the test is
- A. 12
 - B. 12.5
 - C. 13
 - D. 12.75

8. Manshakti knew the number of medals won by China in some events in an international event. He tried to represent the same by various ways (1, 2 and 3 as shown below). 1.

Event	No. of medals won	
Archery	3	
Gymnastics Artistic	14	
Rowing	2	
Swimming	6	
Weightlifting	9	

1

2.

Event	No. of medals won	
Archery	3	
Gymnastics Artistic	14	
Rowing	2	
Swimming	6	
Weightlifting	9	

2

3.

Event	No. of medals won	
Archery	3	
Gymnastics Artistic	14	
Rowing	2	
Swimming	6	
Weightlifting	9	

3

Which of them can Manshakti use to represent the data?

- A. 1 only
 B. 1 and 2 only
 C. 1 and 3 only
 D. all- 1, 2 and 3
-
9. The average height of 3 boys is 130 cm. If the shortest boy is 120 cm tall, how tall could the tallest boy be?
- A. 180 cm
 B. 165 cm
 C. 145 cm
 D. 130 cm

10. In a survey, 300 students were asked to name their favourite chocolate bar. Their choices are represented as a circle graph below.

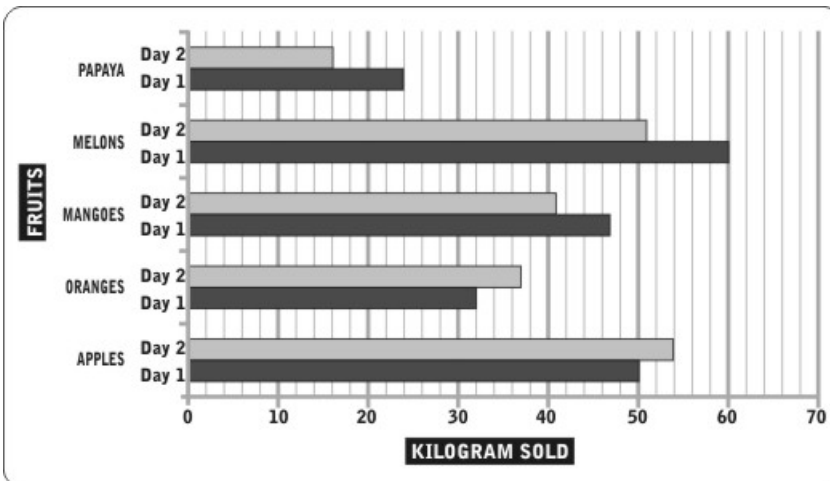


(Note: The circle is divided into 20 equal divisions.)

If 45 students liked '7 star' the most, how many students liked 'Perky' the most?

- A. 60
- B. 55
- C. 20
- D. 15

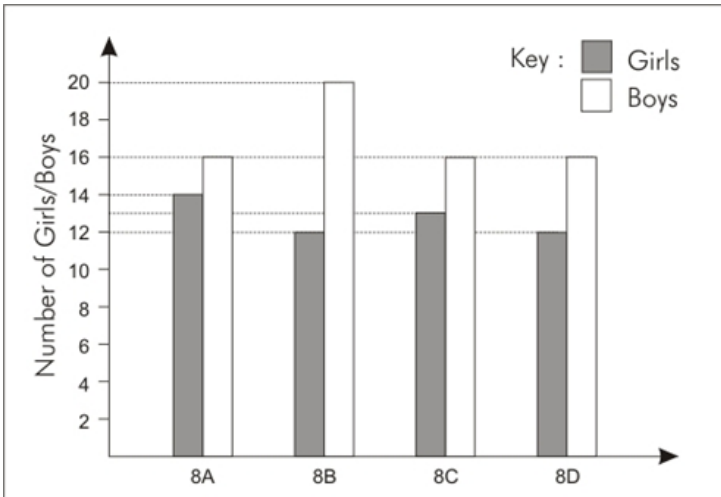
11. Study the graph shown below.



According to this graph, which of the following statements is correct?

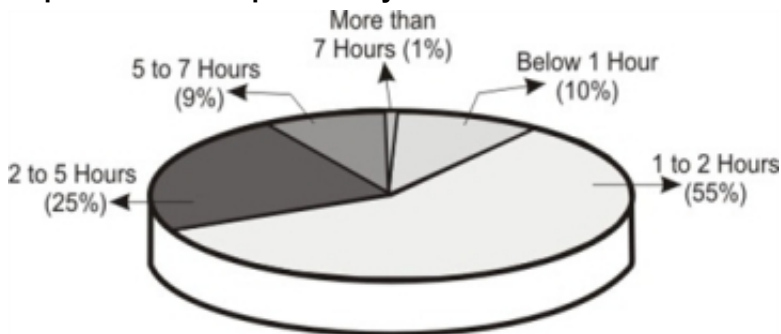
- A. The overall sale of fruits increased from Day 1 to Day 2.
- B. The sale of melons decreased by 9% from Day 1 to Day 2.
- C. 25% of papayas sold on Day 1 got spoilt on Day 2.
- D. The sale of apples increased by 8% from Day 1 to Day 2.

12. Jagruti High School has four sections in class 8. The number of boys and girls in each section are shown in this bar graph.



What is the average number of boys per section in class 8 of Jagruti High School?

- A. 18
 B. 17
 C. 16
 D. 13
-
13. A survey was conducted among schoolchildren in a city to find out the average number of hours they spent on the computer every week. The results are shown in the pie chart below.



What percent of the total number of students surveyed had never used a computer? (Among the students who were in the 'Below 1 Hour' category, 5% had never used a computer.)

- A. 0.50%
 B. 2%
 C. 15%
 D. 50%

14. A website has rated the last 5 movies of Vidhu Vinod Chopra on a scale of 10. The rating of the movie 'Mission Kashmir' is missing.

MOVIE	RATING
Eklavya	★★★★★☆☆☆☆☆
Lage Raho Munnabhai	★★★★★☆☆☆☆☆
Parineeta	★★★★★☆☆☆☆☆
Munnabhai MBBS	★★★★★☆☆☆☆☆
Mission Kashmir	

It's known that the average rating for those 5 movies was 8 stars. What could have been the rating for the movie 'Mission Kashmir'?

- A. 9
- B. 8
- C. 7
- D. 6

Skill: Geometry: concepts and applications

This involves an understanding of terms such as points, lines, angles, parallel, perpendicular etc., shapes, their properties and relations between them. It also involves applying the appropriate results to the given situation and reaching the correct conclusion.

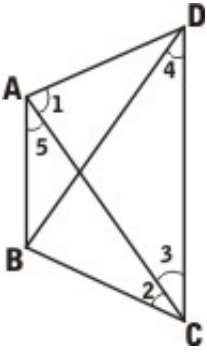
15. Shown here are a wrist watch and a tower clock.



Which of these will be the same for both the clocks?

- A. angle swept by the minute hand in 10 minutes
- B. area of the portion swept by the minute hand in 10 minutes
- C. circumference covered by the minute hand in 10 minutes
- D. all of the above

16. ABCD is a trapezium with AB || DC.



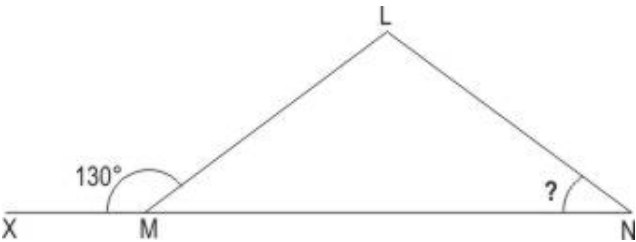
Which of the following pairs of angles must **NECESSARILY** be equal?

- A. Angle 1 and angle 2
 - B. Angle 2 and angle 3
 - C. Angle 4 and angle 5
 - D. Angle 5 and angle 3
-
17. Some students are measuring and examining diagonal properties of quadrilaterals in their Geometry class. They have so far measured four quadrilaterals given in a worksheet and recorded their findings in a table as shown below.

Name of the quadrilateral	Diagonals bisect each other	Diagonals are equal	Diagonals are perpendicular
EFGH	Yes	No	No
IJKL	No	No	No
MNOP	No	No	Yes
QRST	Yes	Yes	No

Which of the quadrilaterals measured by the students is a rectangle?

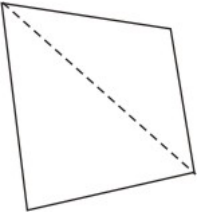
- A. EFGH
 - B. IJKL
 - C. MNOP
 - D. QRST
-
18. Study the following figure.



Which additional information is **NOT** sufficient to know the measure of $\angle LNM$?

- A. $LM = LN$
 - B. $m \angle MLN = 60^\circ$
 - C. $m \angle LMN = 50^\circ$
 - D. $m \angle MLN = m \angle LMN$
-
19. Manshakti asks Arya to draw a triangle satisfying certain conditions. He gives him such a set of conditions that Arya finds it **IMPOSSIBLE** to draw a triangle. Which of these conditions could it be?
- A. an obtuse-angled equilateral triangle
 - B. an obtuse-angled isosceles triangle
 - C. an acute-angled equilateral triangle
 - D. an acute-angled isosceles triangle

20. Any quadrilateral can be separated into two triangles as shown here.



Two triangles can be joined to form a quadrilateral **ONLY** if

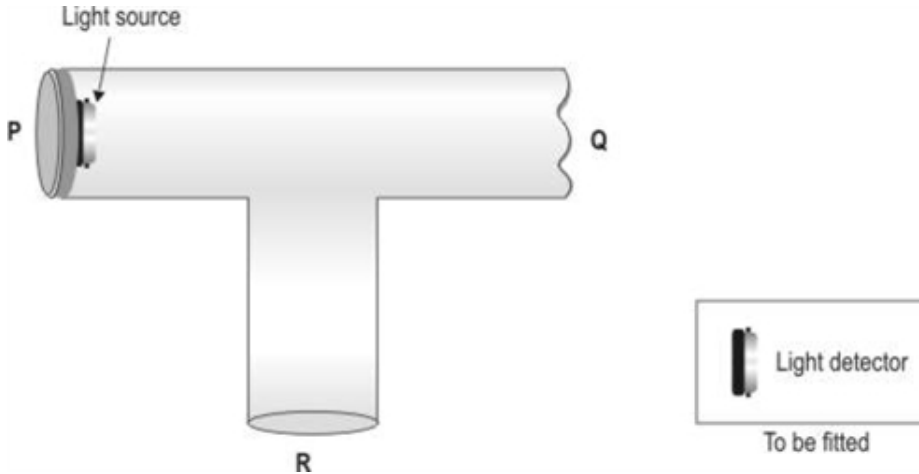
- A. one triangle is acute-angled and the other is obtuse-angled.
 - B. either both triangles are acute-angled or both are obtuse-angled.
 - C. one side of the first triangle is equal to one side of the second.
 - D. both the triangles are right-angled triangles.
-
21. Two of the angles of a triangle are of measures 30° and 35° each. The triangle is
- A. an acute angled triangle.
 - B. an obtuse angled triangle.
 - C. a right angled triangle.
 - D. (cannot be determined because measures of all the three angles are not known)

SCIENCE

Skill: Integrating different concepts or information for decision making

Many things/events happen around us due to a variety of reasons. In order to explain them, we need to understand and use different concepts or information related to them. So it becomes important to look at all the concepts together and see how they may be affecting those events.

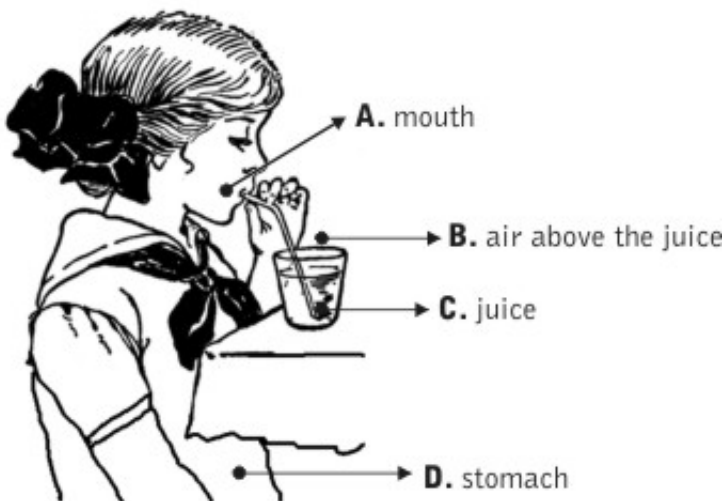
22. A smoke detector, shown in the figure below - consists of a light source and a light detector which triggers an alarm when light falls on it. The smoke detector works on the principle of scattering of light by particles in the smoke.



In the figure below, where should the light-detector be fitted, and where should the entry of the smoke be from? Choose the BEST answer!

	Light Detector	Entry of Smoke
A	Q or R	P
B	P	R
C	R	Q
D	Q	Q or R

23. When we suck up liquid through a straw due, to a pressure difference, the liquid moves up. The liquid flows from a region at higher pressure to a region at lower pressure. In the figure below, a girl is drinking juice with the help of a straw. Where is the low pressure created?

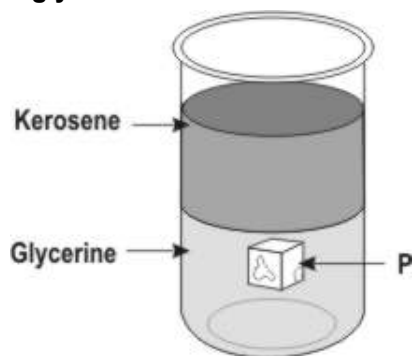


24. The Wildlife Institute of India survey reveals that 70-80% of individual freshwater marshes and lakes in the Gangetic plains have been lost in the last five decades. At present only 50% of India's wetlands remain. Which of the following is a NOT a cause for the disappearance of wetlands?
- A. Increasing urbanization and industrialisation
 - B. Increased tree-cutting and deforestation
 - C. Increase in migratory bird population
 - D. Recovery of marsh land for agriculture
-
25. For several centuries it was believed that the earth was the centre of the universe and the stars and planets revolved around it. Which of these is likely to be the reason scientists like Galileo were convinced that this was not correct, and the earth actually revolved around the sun?
- A. They looked through telescopes and saw that the earth was actually revolving around the sun.
 - B. They found that natural phenomena (like the phases of Venus) could be explained better this way.
 - C. The church in 17th century advocated it based on passages in the Holy Scriptures.
 - D. They found that the majority of scientists had a similar idea, and therefore believed that this must be correct.
-
26. Four school bags of the same size and dimensions but with different strap sizes are available. Among these, the strap offering the most comfort while carrying the bag would be
- A. 2 cm wide strap
 - B. 3 cm wide strap
 - C. 4 cm wide strap
 - D. 5 cm wide strap
-
27. If equal weights of all the three states of a substance X are taken, which state will have the MAXIMUM number of molecules?
- A. solid
 - B. liquid
 - C. gas
 - D. (All three will have the same number of molecules.)
-
28. Which of these cannot be considered a direct effect of increase in human population?
- A. increase in number of new micro-organisms.
 - B. increase in the area of deforested land.
 - C. increase in the amount of carbon dioxide in the air.
 - D. increase in the number of people below poverty line.
-
29. What is the colour of the sky as seen from the moon?
- A. Blue in the "day" and black in the "night"
 - B. Blue in the "day" and "night"
 - C. Black in the "day" and "night"
 - D. Red in the "day" and black in the "night"

Skill: Analysis of information to identify trends or properties

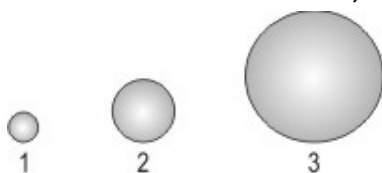
Information is presented to us in various forms - images, graphs, tables and even text. It is possible that there are certain patterns in the data and based on those patterns, we can identify some general property that might exist or something common between different pieces of information.

30. A body P, when dropped into a jar containing kerosene and glycerine, sinks below the kerosene level to float in glycerine exactly as shown in the figure. What can we say about the densities of kerosene, glycerine and P?



- A. density of P > density of glycerine > density of kerosene
B. density of P = density of glycerine > density of kerosene
C. density of P < density of glycerine < density of kerosene
D. density of P > density of glycerine = density of kerosene
-
31. Roma has 3 solid metallic balls, all of equal weight. The sizes of the three balls are as shown below.

If the ball 2 sinks in water, which of the other balls will DEFINITELY sink in water?



- A. only ball 1
B. only ball 3
C. both ball 1 and ball 3
D. cannot be sure
-
32. An obsolete scientific theory is a scientific theory that, though once widely accepted, has since been discarded. For example, the Flat Earth theory, which states that the Earth's shape is flat, like that of a paper, is an obsolete scientific theory. This is because it was later proven that the Earth's shape is not flat, but almost spherical. Which of the following is another obsolete scientific theory?
- A. Lamarckism: Characteristics that an organism develops during its lifetime, like the liking for music or books, can be passed on to its offspring.
- B. Theory of heat transfer: Heat always flows from an object which is at a higher temperature, to an object at a lower temperature.
- C. Heliocentrism: According to this theory, the Earth and other planets revolve around the Sun.
- D. Germ theory of disease: Most infectious diseases are caused by germs.

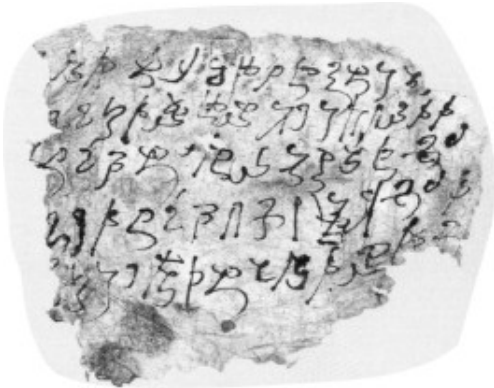
33. Many organizations in the USA have been organizing exchange programs in which people who have Mercury thermometers are encouraged to exchange them for alcohol-based thermometers. What could be the MAIN reason to collect and replace the Mercury thermometers?
- A. Alcohol based thermometers help reduce fevers because alcohol absorbs the heat.
 - B. Alcohol based thermometers are more reliable when measuring body temperature.
 - C. Mercury is heavy; therefore the thermometers become less reliable after some years.
 - D. Disposal of Mercury thermometers needs to be done very carefully to prevent contamination of water sources.
-
34. Orbit sugar-free chewing gum claims to protect the teeth against tooth decay, which is caused by the action of acids. The chewing gum works by stimulating the secretion of saliva in the mouth. The saliva contains a substance which helps to protect the teeth against tooth decay. This substance is probably
- A. sour.
 - B. basic.
 - C. acidic.
 - D. sweet.
-
35. Crop rotation is the practice of growing a series of dissimilar types of crops on the same piece of land, in seasons that come one after the other. What kind of crops can be grown in rotation?
- A. different crops having same water requirements
 - B. different crops having same nutrient requirements
 - C. different crops having different nutrient requirements
 - D. different crops having different soil-type requirements
-
36. A girl found the skull of an animal. She did not know what the animal was but she was sure that it preyed on other animals for its food. What clue led to this conclusion?
- A. The eye sockets faced sideways.
 - B. The skull was much longer than it was wide.
 - C. Four of the teeth were long and pointed.
 - D. The jaws could move sideways as well as up and down.
-
37. 5 cubes of ice at 0°C are put into a hot cup of milk at 50°C . The room temperature is 30°C . What could be the temperatures of the milk in the cup and the room, 1 minute after the ice cubes are put in?
- A. Milk in cup: 15°C ; Room: 30°C
 - B. Milk in cup: 50°C ; Room: 35°C
 - C. Milk in cup: 50°C ; Room: 30°C
 - D. Milk in cup: 0°C ; Room: 35°C

SOCIAL STUDIES

Skill: Analyzing historical source evidence, and chronological knowledge and understanding

Documentary, primary and secondary sources, inscriptions, archaeological relics, other artifacts, oral history and narrations are the sources which are used to build up histories. Dates are assigned directly from the historical evidence or through indirect or indirect/scientific methods. These questions are related to understanding of the sources of history and key time periods.

38. The image below is an example of the ancient Kharoshti script. It was confined to the north-west areas of India and was in use from the middle of the 3rd century BCE until it died out around the 3rd century CE. Unlike other Indian scripts, it was written from right to left. The influence of which language is this peculiarity of the script MOST suggestive of?



- A. Persian
- B. Tamil
- C. German
- D. Sanskrit

39. The monarchs shown here were contemporaries of the Mughal emperor _____.



- A. Babur
- B. Akbar
- C. Aurangzeb
- D. Shah Jahan

40. Which of the following is TRUE for Chandragupta Maurya?

- A. He was the first king of Magadha.
- B. He was the founder of India's earliest empire.
- C. He had conquered Kalinga during his rule.
- D. He was a contemporary of Gautama Buddha.

41. 1. The Delhi Sultanate extends its power eastwards into Bengal and southwards into the Deccan.
2. Akbar builds a walled capital called Fatehpur Sikri (Fatehpur means Fortress of Victory) near Agra.
3. Mahmud of Ghazni attacks North India seventeen times, annexing Punjab as his eastern province.
4. Shah Jahan sends Mughal armies to conquer the Deccan and the northwest beyond the Khyber Pass.

Arrange these historical events in chronological order.

- A. 4, 2, 1, 3
B. 4, 1, 3, 2
C. 1, 3, 2, 4
D. 1, 2, 3, 4

Skill: Analyzing geographic information

Map and graph reading skills and knowledge about different places are not only essential in school but are also useful in our day-to-day life. The questions under this skill focus on understanding and using maps.

42. Japanese maps use a variety of easily recognizable symbols. For example,



stands for a Shinto shrine,



stands for a Buddhist temple and



stands for a windmill.

If you were in Japan and saw the following sign on a map, going by its shape, what would it most likely be a symbol of?



- A. ferry
B. museum
C. hospital
D. lighthouse

43. The figure shown here is from Himalayas which is devoid of vegetation and hence a desert region. Identify this place shown in the figure 2 here.

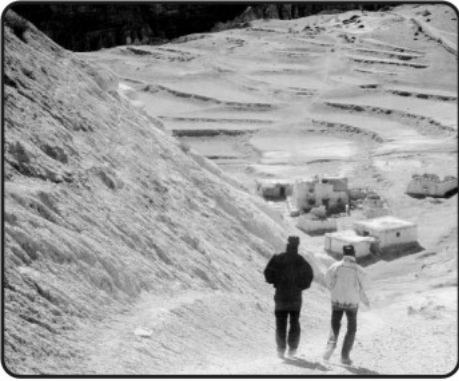


Figure 1

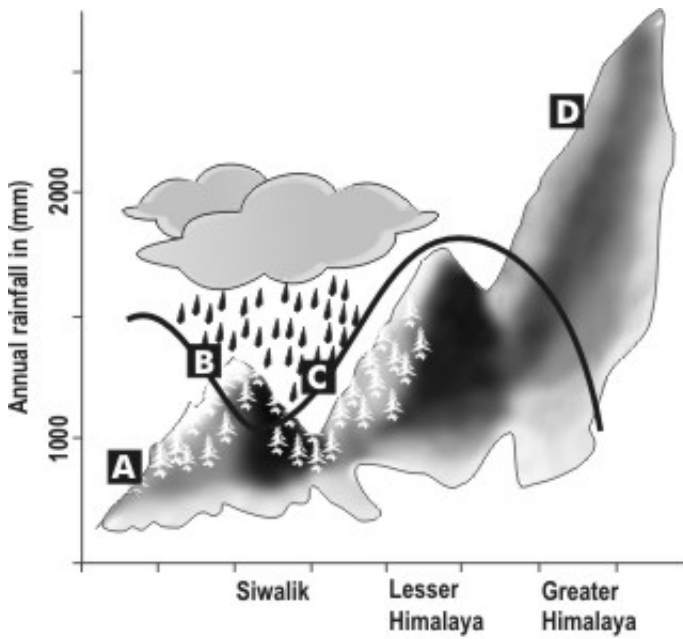
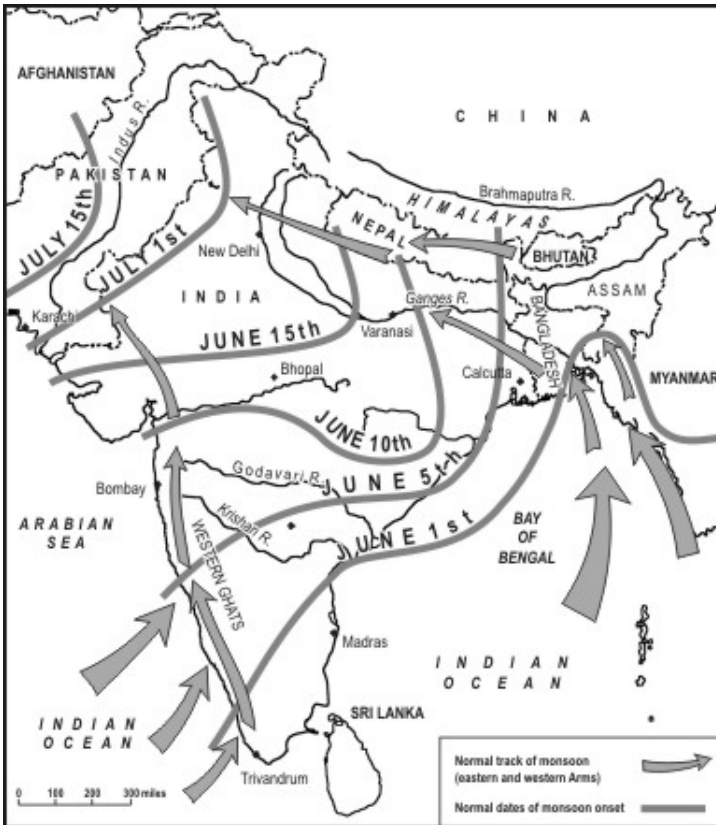


Figure 2
(The curved line shows the annual rainfall)

44. According to this map, what would be the normal dates of monsoon onset in Bhopal, Madhya Pradesh?



- A. June 1st-5th
- B. June 10th-15th
- C. June 15th-July 1st
- D. July 1st-15th

ANSWERS AND EXPLANATIONS

English

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

1. C: The girl is a carefree child, happy to be admiring everything around her. The weather appears to show that there was a gentle breeze blowing. Its gentle movement causes the flowers to move gently as if they were nodding their heads to the girl, agreeing with her feeling of joy. Option B (the flowers bowed their heads to the girl) is not the correct answer as the flowers are not magical that they can move on their own and bow as soon as the girl comes and stands before them.
2. B: The lines referred to in the poem are, "Or rush to hug you When you'd rather think a casual Hullo! would do" if written in normal prose would be, "Would it be alright if I rush to you and hug you rather than just say 'Hullo!' from a distance?" This means that the child in the poem likes to be warm by showing her affection to others with a hug instead of being formal and distant. So B is the correct answer. The rest of the poem may hint at the child not wanting to sit still, but this question focuses only in the given line - which refers very clearly to a demonstration of affection. Therefore A is not correct.
3. A: The question words, "Would it be...", "Is it..." throughout the poem and the lack of answers to these questions create an enquiring tone in the poem. The poet keeps asking questions about whether it would be strange to be doing different actions, but it does not in any way describe how different actions were done or why different actions were done. Therefore the tone of the poem cannot be descriptive which makes Option B wrong.
4. A: There is no particular rhyme scheme in the whole poem. A story like narration would have a beginning, end and some incident or event. We find none of these in the poem. So D is not a correct answer.
5. B: The word, "carefree" describes a person who has no problems, who is not worried about anything. The girl in the poem is obviously carefree which can be seen from the way she wants to run about, sing, hug people, talk to nature, play with it and not be bound by the do's and don'ts of society. Option A (careless) is wrong as it describes a person who does not take or show enough concern and attention to something. The very fact that the girl likes to hug people, talk to birds and nod to the flowers shows that she cares about everything she sees in nature. Therefore A cannot be correct.
6. A: It is clear that the poet knows that people are aware that she is an adult and should behave differently like an adult, but she also wonders what people would think if she still behaved like a child and ran about enjoying things as carefree as a child. Option C (The poet loves to behave like a child and play childish games only to annoy others) is not correct because we know that the poet liked to behave like a child, as she really felt happy doing so, and not because she wanted to make others angry.

Maths

Skill: Data interpretation/analysis: concept of averages, graph reading, etc.

7. A: The average score of the 10 girls is 15. Average score = The sum of scores ÷ the number of scores. So we can get the sum of the scores of the girls, as average score × number of girls, that is, $15 \times 10 = 150$. Similarly the sum of the scores of the boys is 150. So the sum of the scores of the whole class of 25 students in all (10 girls + 15 boys) is $150 + 150 = 300$. So the average score of the whole class is $300 \div 25 = 12$. The average score of the class is NOT the average of the average scores of girls and boys.
8. D: When we try to represent a set of data using tally marks, we just need to see to it that we place one mark corresponding to one observation. In all the three tables, the number of tally marks made and the number of medals won are equal, and so all three tables are correct representations of the given data. The grouping of 5 tally marks into one block is something which we do for our convenience, to be able to count the tally marks easily. It doesn't matter whether we group them by means of a horizontal line or a slanting line or a circle.
9. C: The average height of 3 boys is 130. So the sum of their heights is average height × number of boys = $130 \times 3 = 390$. The shortest boy is 120 cm tall. So the sum of the heights of the other 2 boys is $390 - 120 = 270$. If taller one of these 2 boys were 165 cm tall, the other one has to be 105 cm tall. But this is not possible as the shortest boy is 120 cm. If the tallest boy is 130 cm, the third boy should be $270 - 130 = 140$ cm, taller than the tallest boy! So this is not possible. Therefore the tallest boy could be 145 cm.
10. A: The circle is divided into 20 equal divisions and 300 students participated in the survey. So each division of the circle stands for $300/20 = 15$ students. The region corresponding to the students who liked Perky the most has 4 divisions. So $4 \times 15 = 60$ students liked Perky the most.
11. D: The lower rectangle shows the sale of fruits on Day 1. We see that the sale of papayas, melons and mangoes are more on Day 1 and sale of apples and oranges are only slightly lesser on Day 1. So A is wrong. The sale of melons decreased by 9 kg, from 60 kg on Day 1 to 51 kg on Day 2. So the percentage change in sales is $\frac{9}{60} \times 100 = 15\%$. Thus B is not correct. Sale of apples increased from 50 kg to 54 kg, so the percentage change is $\frac{4}{50} \times 100 = 8\%$. So the correct answer is D.

12. B: We see that there are 16 boys in 8A, 8C and 8D and 20 boys in 8B. So the average number of boys is $(16 + 16 + 16 + 20) \div 4 = 68 \div 4 = 17$. We cannot say that the average number of boys is 16, because there are 16 boys in 3 of the 4 divisions. We have to calculate the average as the (total number of boys in the different sections) \div (the number of sections).
13. A: From the graph we see that 10% of the students surveyed used the computer for less than an hour a week, and 5% of this 10% had never used a computer. So the percent of students who have never used a computer is 5% of 10% of the whole, that is $5/100 \times 10/100$ of the whole or $5/1000$ of the whole or $0.5/100$ of the whole or 0.5%. Let us try this out with some numbers. Suppose 1000 students were surveyed. 10% of 1000 = 100 students use the computer for less than an hour a week and 5% of this 100 students; ie, 5 students have never used a computer. Now 5 is 0.5 % of 1000, which is the number of students surveyed.
14. C: The average rating for these 5 movies is given to be 8 stars. The average is obtained as (the total number of stars) \div (the number of movies). So the total number of stars can be got as (the average rating) \times (the number of movies). That is the total number of stars = $8 \times 5 = 40$. We see that the four movies given here have received 33 stars of the total of 40. So Mission Kashmir received $40 - 33 = 7$ stars.

Skill: Geometry: concepts and applications

15. A: What is the angle swept by the minute hand of the clock in 15 minutes, 30 minutes, 45 minutes and 60 minutes? 90° , 180° and 360° respectively, right? Do the minute hands of different lengths sweep angles of different measure in 15 minutes? No. So, the angle swept by both the clocks in 10 minutes is same. The minute hand of the tower clock is much longer than the minute hand of the wrist watch. The area of the portion swept and the length of the arc formed by the minute hand in 10 minutes will be different in the wrist watch and the tower clock. Try verifying this by drawing two angles equal in measure but different arm lengths.
16. D: In trapezium ABCD, AB is parallel to CD. Angles 5 and 3 are alternate angles formed by a transversal which cuts parallel lines AB and CD. So these angles are equal. Angles 1 and 2 are alternate angles but formed by a transversal which cuts non-parallel lines AD and BC. So they are not equal. Hence, D is the answer and not A. Angles 2 and 3 need not necessarily be equal. Similarly angles 4 and 5 may not be necessarily equal.
17. D: Diagonals of a rectangle are equal in length and they bisect each other. From the table, QRST is a rectangle. The diagonals of a square and a rhombus are perpendicular. So, quadrilateral MNOP cannot be the rectangle as its diagonals are not equal in length. You may verify this by drawing any rectangle.
18. C: LMX and LMN are supplementary angles. So $LMN = (180 - 130)^\circ = 50^\circ$. If $LM = LN$ then $\angle LNM = \angle LMN = 50^\circ$ as sides opposite to equal angles are equal. Thus A cannot be the answer. If $\angle MLN = \angle LMN$ is given, then $\angle MLN = 50^\circ$. By angle sum property, $\angle LNM = (180 - 50 - 50)^\circ = 80^\circ$. So D also cannot be the answer. If $\angle MLN = 60^\circ$ is given then by angle sum property $\angle LNM$ can be determined. ($\angle LNM = 180^\circ - 60^\circ - 50^\circ$). So B cannot be the answer. The fact in C is already known and is not sufficient to determine measure of $\angle LNM$. Hence, C is the answer.
19. A: In an equilateral triangle, all the three angles are equal and are of measure 60° . So an equilateral triangle can never be obtuse angled. It is, thus, not possible to have a triangle with the three angles 30° , 30° and 120° respectively. An isosceles triangle is obtuse-angled. So B cannot be the answer; A is the correct answer.
20. C: When two triangles are joined to form a quadrilateral, the triangles are joined along a common side. So one of the sides of a triangle has to be equal to one of the sides of the other triangle to form a quadrilateral by joining the two triangles. As shown in the figure in the question, two triangles joined to form a quadrilateral share a common side. The square, which is a quadrilateral can be seen to be formed by joining two congruent right angled triangles. Hence A cannot be the answer.
21. B: By angle sum property of the triangle third angle will be $(180 - 30 - 35)^\circ$, which is 125° . So the triangle is an obtuse angled triangle. In acute angled triangles all the three angles are acute. Hence, B is the answer and not A.

Science

Skill: Integrating different concepts or information for decision making

22. C: Look at the light source P. You know that light travels in a straight line. The light-detector will trigger an alarm when light falls on it. So, the light-detector cannot be placed at Q, otherwise it would trigger the alarm whenever the light at P was switched on. The light at P must remain switched on at all times - the light-detector should detect light only when it is scattered by the smoke. It can only do this when it is placed at R and the smoke is allowed to enter at Q. When smoke enters, light will be scattered towards R, and the alarm will be triggered. Hence, option C is correct.
23. A: When we suck a straw, we create a low pressure in our mouth. The air from the straw enters our mouth due to the low pressure in it. The area immediately behind this air in the straw then becomes a low pressure region and all the air gets pushed up the straw. The liquid enters the straw due to this pressure difference. Thus, there is high pressure outside the straw and over the juice compared to inside the straw. The stomach and the juice pressure are not reduced due to sucking. Hence, option A is the only correct answer.

24. C: An increase in the migratory bird population will not affect the disappearance of wetlands because birds do not use up the wetlands, causing their depletion. When marsh land is used for agriculture, the amount of marsh land goes down. Hence, option D is an incorrect answer.
25. B: It is not possible to directly see the Earth revolving around the Sun, from somewhere on Earth itself. We can only make observations of objects around the earth and conclude that it is revolving around the Sun. Hence, option A is incorrect. The phases of Venus help us conclude that Venus moves around the Sun, leading scientists to conclude that planets move around the Sun.
26. D: Try putting around 3 kg of potatoes in a plastic bag. Now make the strap of the plastic bag as thin as possible and hold it in your hand. The straps of the bag will press strongly into your skin. Now put an inch wide strip of cardboard between the strap and your hand. The weight of the bag will be distributed by the cardboard strip onto a wider area of your hand. This will feel more comfortable because there is less pressure on any single point, as the weight is distributed over a wider area. Hence, option D - a 5 cm wide strap will be the most comfortable.
27. D: The weight of a substance is determined by the amount of matter it contains. Matter is made up of atoms and molecules. If equal weights or equal masses of a substance are taken in all three states, they will contain the same number of atoms or molecules. When we take the same weight (ignoring g) of ice, water and steam, the number of molecules in each will be the same. In a solid, the molecules are tightly packed, but 3 molecules of a solid will weigh the same as 3 molecules of a gas. Hence, only option D is correct.
28. A: An increase in human population results in greater deforestation as trees are cut down for various human needs. This also results in an increase in the amount of carbon dioxide in the air. Human activities like combustion (in vehicles and industries) also increase carbon dioxide. As human population increases, the amount of available resources per person also decreases, hence, the number of people below the poverty line will also increase. The only thing that will not be a direct effect of an increase in human population is the number of new micro-organisms.
29. C: The sky appears blue due to the atmosphere. The light entering the Earth's atmosphere gets scattered as it passes through the air, and it therefore, appears blue to us. The atmosphere on the Moon is too thin, and does not have enough gases to make the light scatter as it does on Earth. Hence, the sky on the Moon looks black during the day as well as the night. Hence, option C is the only correct answer.

Skill: Analysis of information to identify trends or properties

30. B: A denser object sinks in a liquid, whereas, a less dense object floats on the surface of the liquid. If the density is equal, the object floats inside the liquid and not on its surface. P floats inside glycerine which means its density is equal to that of glycerine. Also, it sinks below the level of glycerine and so its density is more than that of kerosene.
31. A: The 3 metallic balls are of the same weight, but of different sizes, hence, the densities of each of the balls are different. Density depends on the mass and volume of a substance. If there is more mass in a fixed volume, the density of the substance will be higher, and vice versa. If ball 2 sinks in water, then ball 1 will also sink, because ball 1 is denser than ball 2. This is because it is of the same weight as ball 2, but in a smaller volume. Ball 3 is of the same weight as ball 2, but in a bigger volume. So we can say for sure that it is less dense than ball 2, but we don't know whether it is dense enough to sink or float in water. Hence, option A is the only correct answer.
32. A: An obsolete scientific theory was once accepted. But it got rejected in the course of time as better explanations were found, and hence, new theories were established. All, the theory of heat transfer, heliocentrism and the germ theory of disease, hold true even now and they haven't been discarded. The only theory which has been discarded is Lamarckism. The characteristics acquired during a lifetime, cannot be passed on to the next generation.
33. D: Both mercury and alcohol have the property of expanding measurably on a little change in temperature. This makes them suitable for being used in thermometers. Both are equally reliable. The only difference is that mercury is toxic, and hence, when the thermometer breaks, mercury might spill out and might be dangerous. Hence for safe disposal, they are exchanged for alcohol thermometers.
34. B: Tooth decay is caused by the action of acids. If some substance in the saliva is protecting the decay, it is likely to function by not allowing the acids to act on the teeth. It might be the neutralising action of saliva and hence, might be basic in nature. It cannot be acidic in nature, because if it were, it would cause more decay.
35. C: The main reason for crop rotation, is that certain plants use up certain nutrients from the soil which can be restored by other plants. Their nutrient requirements are slightly different and so, by crop rotation, both the plants can grow well in the same soil. If they had the same nutrient requirements, then one plant would use up the nutrients and the other plant would not be able to get those nutrients, and hence, would not be able to grow.
36. C: All - A, B and D are characteristics which can be found in any animal. A characteristic which is unique to those animals that eat other animals, is the long pointed teeth which it uses to tear the meat of other animals.

37. A: When a cold substance comes in contact with a hot substance, the temperature of the cold substance increases and that of the hot substance decreases, till their temperatures become equal. When ice at 0°C is added to milk at 50°C, the ice would melt and its temperature would increase whereas the temperature of milk would decrease. This won't affect the room temperature significantly. Hence their temperatures after a minute are likely to be 15°C and 30°C. It is unlikely that the temperature of milk remaining the same, as the ice would draw heat from the milk, reducing its temperature.

Social Studies

Skill: Analyzing historical source evidence, and chronological knowledge and understanding

38. A: Most horizontal scripts are written from left to right, whereas some scripts like Persian are written from right to left. The direction of the Kharoshti script shows the influence of Persian. German script is based on the Latin alphabets. Tamil and Sanskrit are written from left to right.
39. B: Akbar reigned from 1556 to 1605, which makes him a contemporary of these rulers. Babur reigned from 1483 to 1531. Aurangzeb reigned from 1658 to 1707.
40. B: Chandragupta Maurya was the founder of the Maurya Empire, he ruled around 320-298 BC. Magadha was a region of ancient India in the regions of modern-day Bihar. There were other dynasties and kings who ruled in Magadha hundred of years before the the Maurya Empire was founded.
41. C: The Delhi Sultanate was established before the Mughal Empire, the Ghazni attacks took place towards the end of the rule of the Delhi Sultanate, and Shah Jahan succeeded Akbar.

Skill: Analyzing geographic information

42. B: From the examples, it is clear that the map symbols are simple signs for the things they represent. Thus, the symbol in question is most likely to be that of a museum. Hospitals all over the world use the sign of the cross, and it is not used here.
43. D: From figure 2, you can make out that option D is in a rain shadow region. A rain shadow is a dry area on the mountainside, facing away from the direction of the wind. The mountains block the passage of rain-producing weather systems, casting a "shadow" of dryness behind them i.e. a desert-like region. Option A gets rain and is not in a rain shadow region.
44. B: The map shows the dates for the onset of the monsoons in different parts of India. Bhopal falls in the region between June 10th and 15th, which means that those are dates for the onset of the monsoons in Madhya Pradesh. June 15th-July 1st are the dates for the onset of the monsoons in northern India.

NOTES



Lined writing area with 22 horizontal lines.



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