DETAILED ASSESSMENT EI

TEACHER REPORT

Sc

1 July 2014

Exam Code 772596

States of Matter; Life on Earth; An Introduction to Physics

SCHOOL

School Name

CLASS 6	SECTION B

STUDENTS PRESENT: 19

Class Average: 5.7 / 10

Class Range: 3.0 - 8.0

Best Performed Area:
- Basic Properties of Solids, Liquids and Gases

Areas Recommended for Remediation:

- Life Processes
- Characteristics of Living Organisms

Class Scorecard

The performance of the students of your class for this test is as shown below.

Roll No.	Student Name	Correct (out of 25)	Score
1848	Student 1	17	7.0
1850	Student 2	8	3.0
1861	Student 3	14	5.5
1867	Student 4	17	7.0
1872	Student 5	16	6.5
1874	Student 6	15	6.0
1875	Student 7	12	5.0
1877	Student 8	12	5.0
1882	Student 9	12	5.0
1884	Student 10	20	8.0
1885	Student 11	17	7.0
1886	Student 12	8	3.0
1893	Student 13	14	5.5
1896	Student 14	15	6.0
1897	Student 15	17	7.0
1898	Student 16	11	4.5
1901	Student 17	13	5.0
2054	Student 18	A	A
2131	Student 19	14	5.5
2285	Student 20	17	7.0

Scores are rounded off to the nearest 0.5

A - Absent / Did not attempt

Answer Key

The table below gives the correct answer for each question in this test across all paper versions used in your class.

Q. No.	Correct Answer			
	Version 1	Version 2	Version 3	Version 4
1	4	1	2	1
2	1	2	4	1
3	1	4	1	4
4	2	3	1	2
5	1	3	4	2
6	4	4	1	3
7	3	1	4	3
8	4	2	3	3
9	4	1	4	4
10	4	3	4	3
11	1	4	2	2
12	4	1	3	1
13	1	1	4	4
14	2	2	3	1
15	3	3	3	4
16	3	3	4	1
17	3	3	3	2
18	4	4	1	3
19	2	2	2	3
20	1	1	3	3
21	4	4	3	4
22	3	3	1	4

Q. No.	Correct Answer			
	Version 1	Version 2	Version 3	Version 4
23	3	4	1	4
24	3	4	2	4
25	2	4	4	1

Key Ideas Assessed

The following areas were assessed in the test. The performance of your class in each area and the class performance in each question are displayed below.

Concept Area	Question No.	21	22	23	24	25		Average
An Introduction to Physics	% of student answering correctly	68	52	78	26	84		62
Concept Area	Question No.	11	12	13	14	15		Average
Characteristics of Living Organisms	% of student answering correctly	31	47	68	57	89		58
Concept Area	Question No.	16	17	18	19	20		Average
Life Processes	% of student answering correctly	47	15	57	42	21		36
Concept Area	Question No.	5	6	7	8	9	10	Average
Basic Properties of Solids, Liquids and Gases	% of student answering correctly	89	57	84	42	84	31	65
Concept Area	Question No.	1	2	3	4			Average
Changes in States of Matter	% of student answering correctly	36	94	57	47			59

Note: The question numbers are based on paper version 1 <=40% students answered correctly

Class Discussion Priority

The table below categorises questions as Critical/Recommended/Low. These are priority levels assigned to questions that need to be revisited to explain the concepts behind them.

Class discussions must not only help kids with these question solutions but, more importantly, also address the understanding of the underlying concept(s) of each better.

Discussion Priority*	Action	Q. No.	Count	Count %
Critical	Must revisit without exception	10, 17, 20, 24	4	16%
Recommended	Important to revisit but lower priority than 'critical'	1, 8, 11, 12, 16, 19, 21	7	28%
Low	Lowest priority to revisit, no key insights from data	All other questions	14	56%
		Total	25	100%

*Priorities are set depending on the class performance on each question as well as the extent of choosing a wrong answer option (indicating a possible misconception).

The ultimate goal is to reduce the number of critical and recommended questions coming out from DA. Greater number of 'low' questions generally implies better understanding by the students as a group.

Response Distribution

The table below lists the answer provided by your students for each question. We have highlighted the correct answer in green. The question numbers in the table below are based on paper version 1.

Q. No.	Option 1	Option 2	Option 3	Option 4	Skipped	Priority
1	21%	21%	21%	36%	0%	Recommended
2	94%	0%	5%	0%	0%	Low
3	57%	15%	21%	5%	0%	Low
4	10%	47%	21%	21%	0%	Low
5	89%	5%	0%	5%	0%	Low
6	15%	15%	10%	57%	0%	Low
7	0%	0%	84%	15%	0%	Low
8	10%	15%	31%	42%	0%	Recommended
9	10%	0%	5%	84%	0%	Low
10	5%	52%	10%	31%	0%	Critical
11	31%	21%	21%	26%	0%	Recommended
12	0%	5%	47%	47%	0%	Recommended
13	68%	0%	15%	15%	0%	Low
14	10%	57%	15%	15%	0%	Low
15	10%	0%	89%	0%	0%	Low
16	10%	10%	47%	31%	0%	Recommended
17	47%	10%	15%	26%	0%	Critical
18	10%	15%	10%	57%	5%	Low
19	10%	42%	31%	10%	5%	Recommended
20	21%	26%	36%	15%	0%	Critical
21	5%	21%	5%	68%	0%	Recommended
22	15%	10%	52%	21%	0%	Low
23	5%	0%	78%	15%	0%	Low
24	0%	68%	26%	5%	0%	Critical
25	5%	84%	5%	5%	0%	Low

Remediation Support

Out of the critical and the recommended for discussion questions identified above, here are some remediation ideas developed by EI's subject specialists. You may choose to use these to address misconceptions in class or develop some remediation methods of your own.

Have an interesting remediation idea? Please write to us at da@ei-india.com. We would love to hear from you and incorporate interesting ideas into our program.

Concept: Products of photosynthesis

Q 17 **Which of the following are products of photosynthesis?**

P. oxygen
Q. proteins
R. glucose
S. carbon dioxide

1 only P **2** only P and Q **3** only P and R **4** all - P, Q, R and S

Option 1	Option 2	Option 3	Option 4
47%	11%	16%	26%

Students choosing option 1 may think that only oxygen is formed during photosynthesis. Students choosing option 2 may think that oxygen and proteins are formed during photosynthesis or they may be just guessing at the answer. Students choosing option 4 may think that all the products mentioned are formed during photosynthesis.

Remedial Measure (Discussion Priority - **Critical**)

Ask students if they know what happens during the process of photosynthesis. Ask them to name the substances that are utilized as raw materials and the substances that are the products of photosynthesis. Check if students are getting confused between respiration and photosynthesis.

Get students to conduct some research on photosynthesis and its processes and make a chart describing the processes involved in photosynthesis. Tell students that they need to find out what are the raw materials required for photosynthesis, where the plants gets them from and what happens to them. Ask students to also find out what happens to the products of photosynthesis.

Once students have completed their charts ask them to present their chart in the class and share what they have learned about photosynthesis.

Concept: Difference between respiration, photosynthesis and combustion

Q 20 **Which of the following are examples of respiration?**

P. Humans use oxygen and release carbon dioxide.
Q. Plants use carbon dioxide and release oxygen.
R. Burning dry leaves uses oxygen and releases carbon dioxide.

1 only P **2** only Q **3** only P and Q **4** all - P, Q and R

Option 1	Option 2	Option 3	Option 4
21%	26%	37%	16%

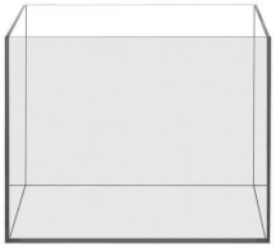
Students know that plants use carbon dioxide during photosynthesis. But they even tend to think that only one gas can be used at a time and since carbon dioxide is being used, they cannot use oxygen. Hence, plants use only carbon dioxide and not oxygen. Students choosing option 2 tend to extrapolate this misunderstanding to the fact that they consider this process of using carbon dioxide and releasing oxygen as respiration. They draw an analogy with the animal systems that use oxygen and release carbon dioxide. Students choosing option 3 might be confused between the two processes - respiration and photosynthesis. Students choosing option 4 might think that burning of leaves is an example of respiration.

Remedial Measure (Discussion Priority - **Critical**)

Let students understand the basic ideas in a concept before moving on to defining them. Ask students what they mean by respiration and photosynthesis. It is very likely that they give a standard definition answer to the question. Ask them to explain the difference between the two processes in terms of the gases that are exchanged. Explain the importance of respiration and photosynthesis in living organisms. Generate a discussion to get students to think about the given question and guide them to the correct understanding about the processes - photosynthesis, respiration and combustion.

Concept: Observing things

Q 24 **Here is a picture of a fish tank.**



Which of the following is DEFINITELY true about it?

1 It is made of plastic.
2 It will break if dropped.
3 It has rectangular sides.
4 Light will not pass through it.

Option 1	Option 2	Option 3	Option 4
0%	68%	26%	5%

Students may think that a picture of a transparent fish tank definitely indicates that it is made up of plastic. They might miss the fact that glass is also transparent. Some students may think that is made of glass and will break if dropped.

Remedial Measure (Discussion Priority - **Critical**)

Ask students to give the reason for their answer. Take two transparent glasses and one made of glass and put them on a table. Ask students a similar question and let them answer just by looking at the glasses from their place. They may say that they are made up of glass. Call them and ask them to check what the glasses are made up of by touching them and making a sound by striking them. Ask them again if they can observe option 2 just by looking at the picture. Most probably they will change the answer.

Making observations is the first step in any experiment. Expose students to other such cases where they observe things and note them down carefully in their books.