3.1 QUICK ACCESS GUIDE TO THE TEACHER INTERFACE

Mindspark sessions are an integral part of the school maths curriculum, and have to be planned for **two school periods in a week.**

Students are allowed a maximum daily usage of 90 minutes with maximum session time of 30 minutes after which Mindspark automatically ends the session. To continue working on Mindspark the student will have to log-in afresh.

Teachers have unlimited access to Mindspark during the subscription period.

Given that the logistics of the availability of the computer lab and the planning of the time table are taken care of, an ideal way of integrating of Mindspark with the class curriculum could be achieved as follows–

- Day 1 – a classroom instruction by the teacher to introduce a Maths concept/topic
- Day 2 – Mindspark Session in which students work on the same topic/concept taught on Day 1.
- Day 3 (or ideally at the end of Day 2) – the teacher logs in to the Teacher Interface to study the topic progress and the Topic Remediation data. (Next paragraph talks about the important reports which have a direct impact on student's learning)
- Day 4 – Teacher uses the Topic Remediation (refer section 3.1.2.2) to remediate learning gaps/misconceptions or to reinforce concepts and also covers new concepts.
- Day 5 – Students do yet another session of Mindspark (or may have already done it as Home work after Day 4)
- Day 6 – Teacher views the Topic wise Class Performance data again to gauge the extent to which students have been remediated by Mindspark and have moved ahead.

The Mindspark Manual has been developed to assist teachers to

- Integrate Mindspark effectively with the Maths curriculum of the class
- Use Mindspark as a teaching aid/tool to introduce concepts
- Utilize the Mindspark reports as part of his/her classroom instructions, hence addressing student learning gaps and misconceptions.

Keeping the above three objectives in mind, the layout of the Teacher Manual has been designed to take into account the process flow involved while implementing and engaging with Mindspark.

We start with the activities that happen post the school's decision of taking up Mindspark.

1. **Generating User ids for Students and Teacher** Team Mindspark, based on the student data given by the school, generates two sets of user IDs -

- Mindspark School Admin User ID which facilitates –
  - ✓ To create, edit and delete Teacher user ids
  - ✓ To manage and control Mindspark Teacher Interface at a school level giving access to a comprehensive usage data across Mindspark classes
- Student user IDs.

2. **Teacher and Mindspark**

As a quick access guide, this section describes the 4 main aspects of the Teacher-Mindspark relationship

- Topic Activation/Customization/Deactivation – Section 3.1.1
- The important Mindspark Reports that impact the teaching-learning process – Section 3.1.2
- Live Mindspark session – Section 3.1.3
- My Students Interface – Section 3.1.4

Topic Activation/Customization/Deactivation (Section 3.1.1)

The teacher plays an important role in making Mindspark content available to the students of her class (section). **Remember, students can only access topics that are activated and made available by the teacher. It is very vital for the topics that are activated in Mindspark to be synchronized with the content planned for Classroom instruction.**

Mindspark recommends a maximum of 3-4 topics be kept activated at any given point of time – this helps students to focus on the topic being taught by the teacher in the class while at the same time it gives opportunity for students who are lagging behind in a particular topic to achieve topic progress although a good majority of the class has moved to newer topics. Keeping more than 4 topics active prevents student from getting adequate practice, thereby hampering his/her topic progress. Thoughtful topic activation also ensures students maintain the link with topics covered in the recent past.

Good Practice Tip:
Not more than 3-4 topics should be ACTIVE at a time. Generally, a topic should not be active for more than 30 days.

Based on the Curriculum/Board followed by the school, the Mindspark curriculum is default set to any of the following–

- ✓ Mindspark Recommended Curriculum
- ✓ CBSE Curriculum
- ✓ ICSE Curriculum
- ✓ IGCSE

However, the school has the option of changing the Mindspark curriculum using the Mindspark administration user ID. Before the process for Activation is described, it is important to understand the organization of the topics in Mindspark. Teachers can view "All" Topics available in Mindspark or select the master topic to view topics included therein. Master topics available in Mindspark are –

1. Algebra
2. Fractions and Decimals
3. Geometry
4. Measurement
5. Mensuration
6. Factors and Multiples
7. Numbers
8. Percentages and commercial Math
9. Problem Solving
10. Real Numbers
11. Statistics and Data Analysis
12. Trigonometry

Each of the master topics is composed of topics which are mapped to a particular class or group of classes. For example, the table below shows the topics covered in the master topic Measurement –

1. Measurement	Class range
1.1 Length	1,2,3,4,5
1.2 Money	1,2,3,4,5
1.3 Time	1,2,3,4,5
1.4 Mass and capacity	2,3,4,5
1.5 Problems on measurement and estimation	3,4,5

Table 3.1.1.1: Break-up of the Master Topic "Measurement"

Each topic is composed of learning units. The mapping of the learning units to a topic is dependent on the curriculum for a particular class, implying that a learning unit may be mapped to class 1 in ICSE while being mapped to class 2 in CBSE and Mindspark recommended curriculum flow. It is very important for a teacher to view the learning units of a topic before activating the topic. **To view the learning units contained in the topic select "See/Customize".** Although Mindspark supports ICSE/IGCSE/CBSE curriculum and as well as its own curriculum (Mindspark recommended), it is able to incorporate curriculum changes to suit the lesson plans of the teacher. By customizing, the teacher develops a new topic consisting of learning units that cater to the specific class curriculum of the teacher.

Looking at the composition of the topic helps the teacher to decide if the topic needs to be customized to suit the class curriculum. A topic when customized first, appears as a new topic in the list of "Activate a Topic", the teacher has to then select "Activate" to make this active for the students – [for a clearer and deeper understanding refer to the note on Customisation in Appendix 1 (at the end of this section)]

Good Practice Tip:
A customised topic should ideally have 4-5 learning units as this would give students sufficient practice and enable them to achieve faster topic progress. Although the composition of the customised topic is at the discretion of the teacher, it is recommended that the teachers do not resort to excessive customization as this defeats the basic feature of the adaptive logic.

The table below shows the composition of the topic "Length" –

Length	Mindspark Recommended class	CBSE Recommended Class	ICSE Recommended Class
1. Informal understanding of length	1	1	1
2. Problems based on concept of length	1,2	1,2	1,2
3. Measurement using informal units of length	3	3	2,3
4. Measurement of length using the cm-mm scale	3	3	2,3
5. Measurement of length –interactive	3,4	4	3
6. Using standard units of length (m and cm)	4,5	4,5	3,4
7. Conversion of units of length	4,5	4,5	3,4
8. Using standard units of length (km and m)	4,5	4,5	3,4
9. Practice-Conversion among units for length	4,5	4,5	3,4
10. Concept and computation of perimeter	4,5	4,5	3,4

Table 3.1.1.2: Learning Units in the topic Length

To activate a topic –

- Select “My Class” OR
- Use the short cut “Activate Topic” on the left hand-side panel of the teacher interface page.

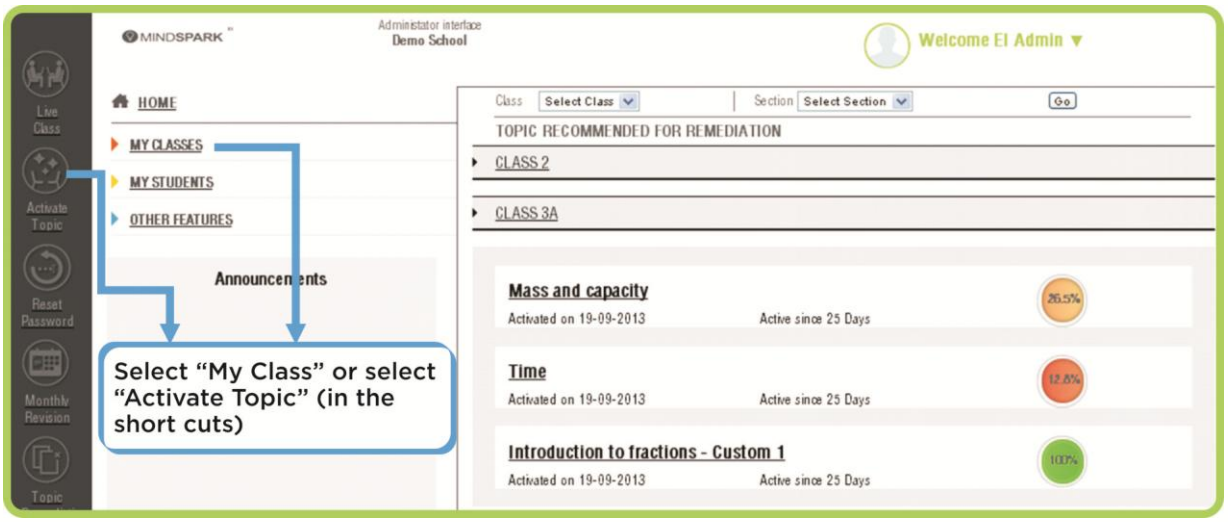

Figure 3.1.1.3: Topic Activation

For every class and section chosen, Mindspark makes available the following data on the topics:

- Currently Active Topics (Figure 3.1.1.4) stating the duration of activation and the average topic progress of the class
- All Active Topics
- Activate a Topic (List of Topics for Activation) – This section not only enables a teacher to activate a topic but also offers the teacher insights on the topic through Topic Research (Figure 3.1.1.5)

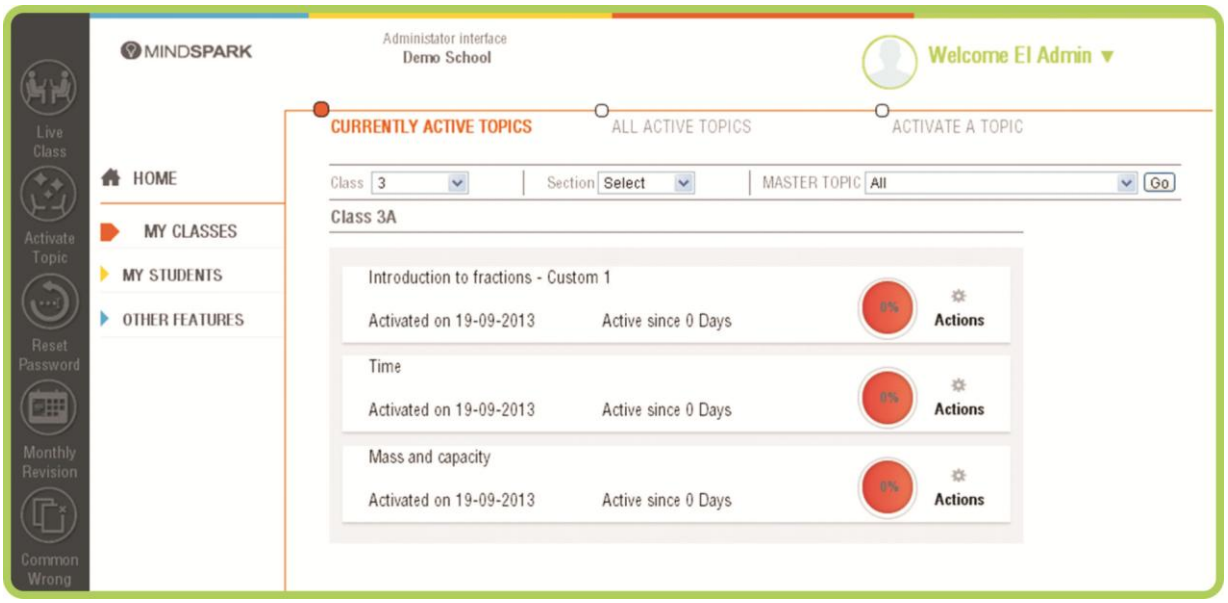

Figure 3.1.1.4: Currently Active Topics

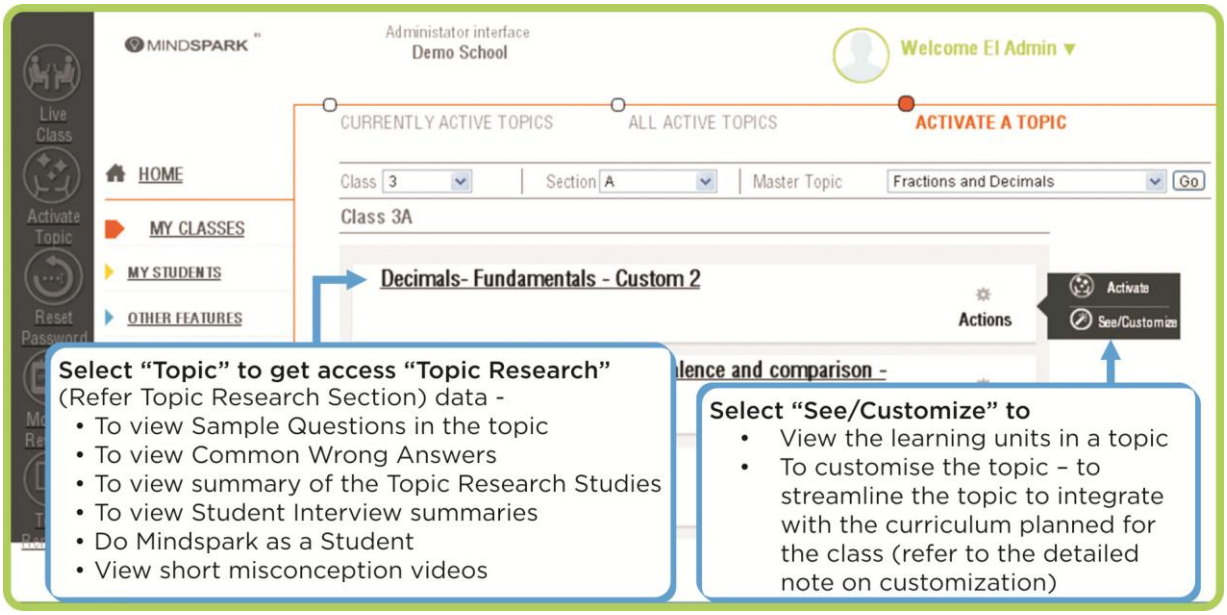

Figure 3.1.1.5: Activate a Topic

Mindspark assists a teacher in lesson planning as it provides vast and rich research data assimilated by Mindspark in the form of –

- ✓ Sample questions on the topic as could be expected in a Mindspark session.
- ✓ A repository of Research Studies and Student Interviews on the topic.
- ✓ Common Wrong Answers from the use of Mindspark by the students from Indian and International schools.
- ✓ An opportunity for the teacher to "DO Mindspark as a Student".
- ✓ A collection of short videos covering major misconceptions in a topic.

Deactivation of a Teacher Topic (Figure 3.1.1.6)–

- ➢ Select "Currently Active Topics" in "My Class"
- ➢ The page displays the list of topics active for the class & sections
- ➢ Move the cursor over "Actions" and select "Deactivate" for deactivation

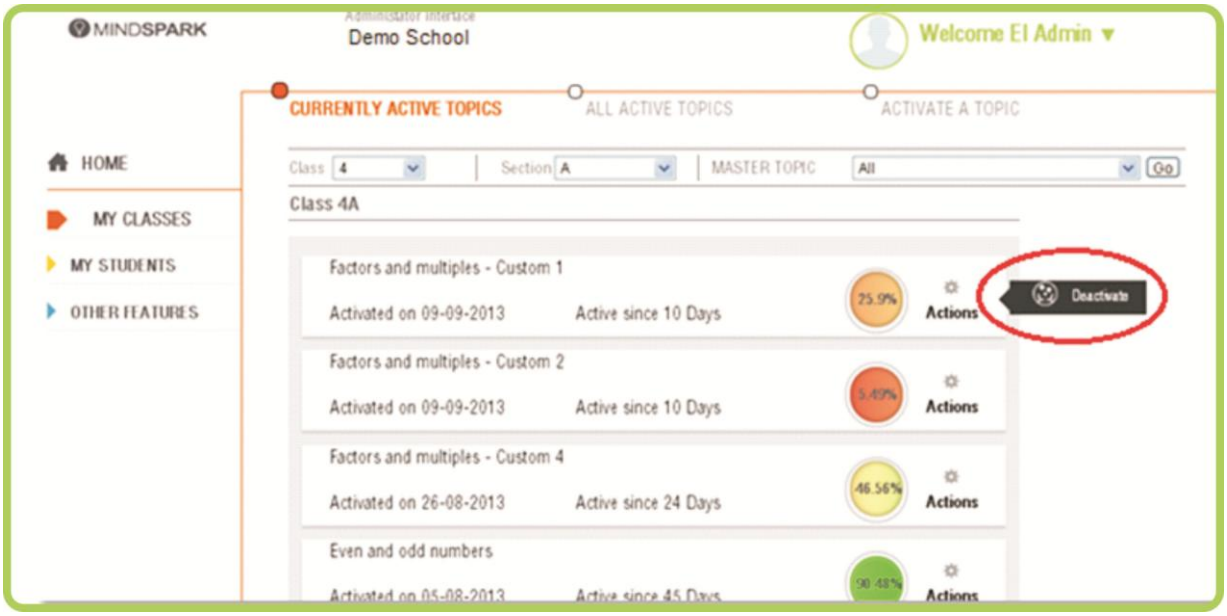

Figure 3.1.1.6: Topic Deactivation

Good Practice Tip:
All Maths teachers of a grade should jointly look at the topic composition and decide on the efficacy of the topic in its originality or decide to use a customized version of the topic. Although, each teacher is free to customize a topic individually, since the curriculum remains the same across the different sections of a grade, it is advisable to have a uniform customized topic though the dates of activation may differ across sections of a grade.

Topic Activation/Customization/Deactivation –

- Teacher must study the learning units contained in a topic
- All the Maths teachers of a particular grade/class must be in consensus on the customized version of the topic and topics must be customized uniformly across all sections of the grade (the dates of activation/deactivation may differ from section to section)
- Teachers may find it beneficial to read the Topic Research section while planning a lesson on a Topic
- Ideally, a topic should remain active till 75%-85% topic progress is achieved

Important Mindspark Reports (Section 3.1.2) – Two reports that help a teacher to significantly integrate Mindspark with his/her classroom instructions are –

The Topic wise Class Performance or the Topic Progress report & the Topic Remediation report

1. **Topic wise Class Performance or the Topic Progress report** (Section 3.1.2.1)– This report is available to the teacher for both the activated and deactivated topics

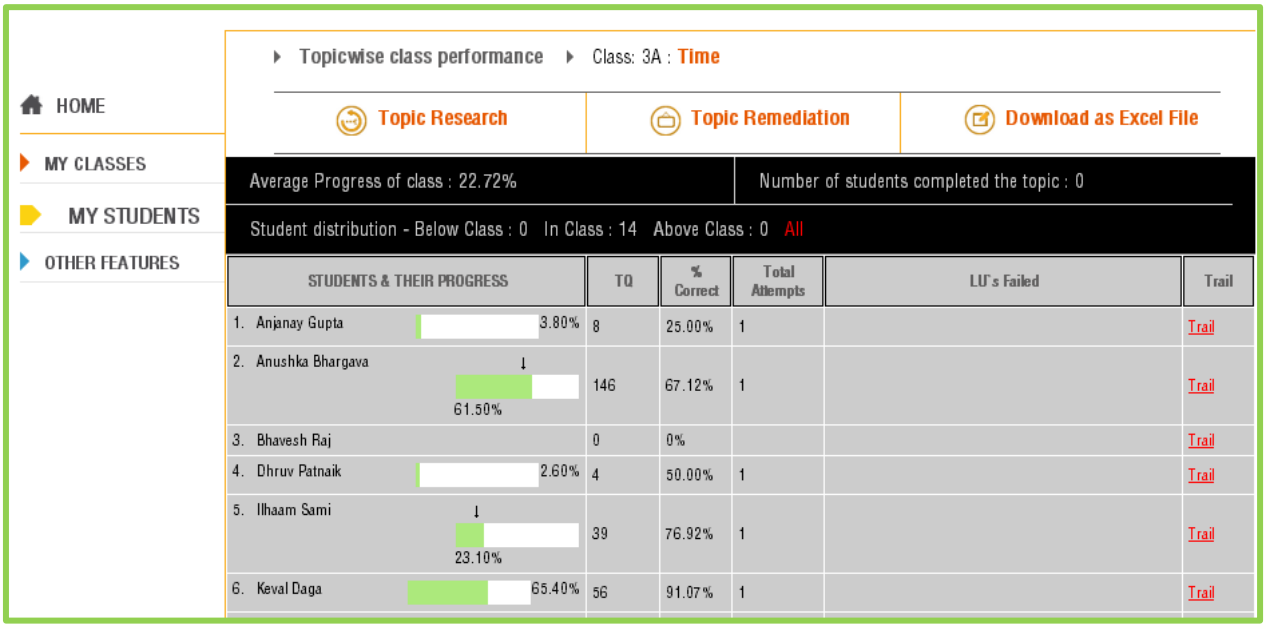

Figure 3.1.2.1: Topic wise Class Performance/Topic Progress Report

The teacher selects the topic to view the topic progress and the displayed page shows data (Figure 3.1.2.1) on

- Average Progress of the class in the topic
- Students who completed the topic
- Individual student data for the selected topic states –
  - The Topic Progress Percentage (Achieved Topic Progress)
  - Number of questions attempted by the student
  - Accuracy of questions answered
  - Number of attempts made by the student on the Topic
  - Learning Units failed by the student – Mindspark allows four attempts to a student to clear a learning unit successfully – however, these 4 attempts don't happen consecutively every time a student fails a learning unit. Each failure is followed by taking the student on a Remediation Path and bringing him back to the learning unit that he failed initially, giving him the opportunity to clear it successfully. Even after 4 attempts, if the student is unable to clear the learning unit, then Mindspark moves the student to the next learning unit but makes the teacher aware of this failure.
  - The question trail of the student
  - Time Spent by the student on the topic
- Access to Topic Research, Topic Remediation

Topic Progress Percentage / Achieved Topic Progress – A detailed note

Topic progress tracks a student's progress in mastering and completing a topic. Unlike the Topic Accuracy data (i.e. Accuracy of Questions answered), it is the actual measure of learning in a topic by the student**. It shows to the teacher the learning path traced by each student** which may be explained as follows -

- A topic at a certain class level, in Mindspark, is composed of different learning units. This topic (for example Fractions) may be covered across a range of classes. Those learnings units which are grouped together and are applicable (based on the School/Board curriculum) form the content for the topic at that class level. This means that the learning units that are part of Fractions at a Class 4 level are different from the learning units that are part of Fractions at a class 5. However, there may be minor incidence of overlapping learning units within the same topic across 2-3 classes also. Also, with Customization, the teacher may create a topic to include learning units which are normally not part of the topic recommended at a particular class level.
- Whatever be the case, when a topic is activated by the teacher, the students have to work on and successfully clear **ALL** the learning units that are part of the topic (Customized or Regular) to achieve topic progress.
- Typically, the different possibilities of topic progress could be stated as follows –

1. **A Smooth or Normal Topic Progress** (Figure 3.1.2.1.1) – where the student completes each of the learning units successfully, thereby moving towards 100% (as in this case) topic progress without any setback.

STUDENTS & THEIR PROGRESS	Total Questions	% Correct	Total Attempts	LU`s Failed	Trail
36. Sumedha Roy 62.2%	95	82.1%	1		Trail

Figure 3.1.2.1.1: A Smooth Topic Progress

Note: *Teachers should be aware of the difference in the interpretation of the terms "topic progress" and "percentage accuracy (of the questions answered)" – the former is a measure of the completion of the topic while the latter is a simple indicator of the correctness of questions answered in the topic.*

2. **Topic Progress with Remediation intervention by Mindspark (Figure 3.1.2.1.2) –** Mindspark as a learning tool helps a student to bridge a learning gap. This intervention by Mindspark happens when a student fails to successfully complete a learning unit and move to the next higher learning unit. When a student fails to clear/pass a learning unit Mindspark helps to remediate the student by making the student visit learning units already cleared (on the rebound to reinforce concepts) or giving the student special remedial units. This halts the progress and the student is shown regressing (downward pointing black arrow), while Mindspark is actually helping the student to remediate. The screen shot below (Figure 3.1.2.1.2) shows the topic progress of student at 61.2% in the topic but the student is actually on the remediation path because of a setback encountered when he/she reached 61.2% of the topic. As a result, Mindspark started remediating by taking the student to lower/previous learning units with the purpose to bridge the learning gap. The downward pointing black arrow in the topic progress bar shows the real time position of the student in the remediation path and may be at a different position every time the student does Mindspark in this topic (moving the mouse position on the downward pointing black arrow tells the teacher the actual position of the student in the topic. For a teacher, this is significant as it denotes the actual position of the student in the topic progress; this arrow is a dynamic representation of the remediation – which means as the learning gap reduces the arrow moves to the right towards the level of topic progress (61.2%) from which he/she regressed. Alternately, if the student regresses further then the arrow would move more towards the left.

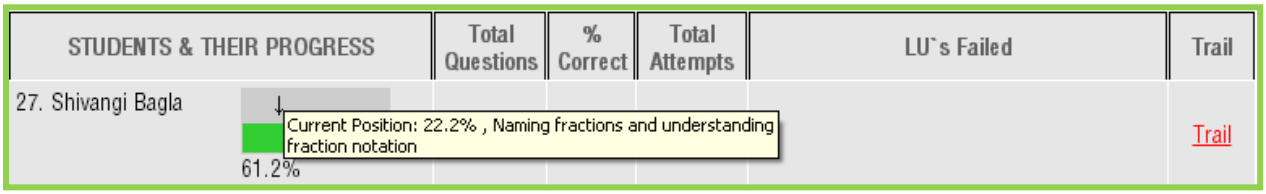

Figure 3.1.2.1.2: Topic Progress with Remedial Intervention by Mindspark

3. Topic Progress with a green star (Figure 3.1.2.1.3) – this signifies that the student after completing all the relevant learning units in the topic has moved to the learning units of the higher class/grade level in the same topic

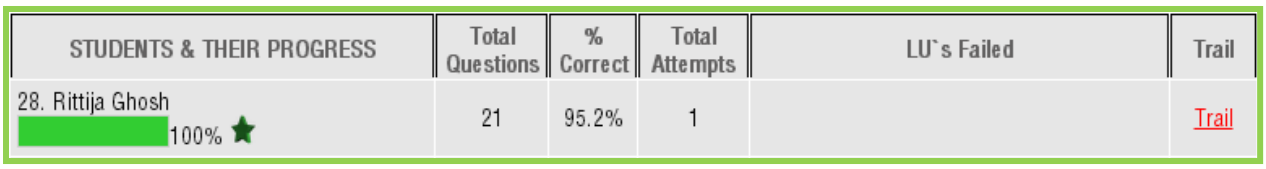

Figure 3.1.2.1.3: Topic Progress with a Green Star

Note: *Topic Progress with a Green Star happens* ***only*** *after 100% topic progress*

4. Topic Progress with a red star (Figure 3.1.2.1.4) – this signifies that while working on the topic, the student had regressed to a lower learning unit of the same topic i.e. going backwards beyond the realms of the topic but Mindspark has successfully helped the student by remediation. The red star is a real time position in the student's topic progress and will not appear if the student has recovered the learning gap and moved ahead.

STUDENTS & THEIR PROGRESS	Total Questions	% Correct	Total Attempts	LU`s Failed	Trail
13. Dikshita Bose 57.9% ★	46	45.7%	1		Trail

Figure 3.1.2.1.4: Topic Progress with a Red Star

5. Topic Progress with both red and green star – This happens when a child regresses to a lower learning unit beyond the scope of the topic, recovers through Mindspark remediation and moves beyond topic completion to a higher learning units of the topic.

6. Topic Progress with red band(s) (Figure 3.1.2.1.5) - A red band or red bands in the topic progress bar indicates that the student has failed to clear/pass a learning unit. This learning unit is mentioned under the column "Learning Units Failed". This indicates that Mindspark's attempt to remediate the student four (4) times wasn't successful. The failure of the student to clear/pass a learning unit after four attempts is highlighted to enable the teacher/parent intervention, while the child is taken ahead to the next learning unit.

STUDENTS & THEIR PROGRESS	Total Questions	% Correct	Total Attempts	LU`s Failed	Trail
20. Kinnori Mukherjee 46.6%	196	80.1%	1	Comparing and ordering larger numbers (upto 9999)	Trail

Figure 3.1.2.1.5: Topic Progress with Red Band

2. Topic Remediation Report (Section 3.1.2.2) is the data, available to the teacher, generated when the topic is attempted by the class or the section. This data captures the common wrong answers and learning gaps that are revealed as students progressively engage in the topic hence the data is updated every time the topic is attempted by a student or students of the class or section.

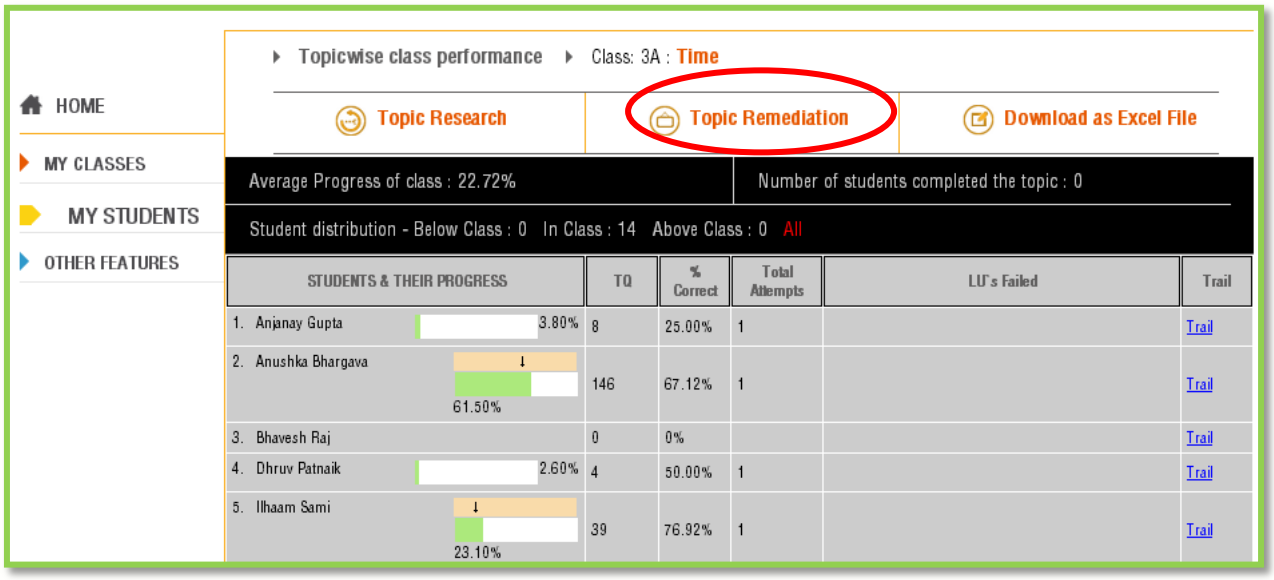

Figure 3.1.2.2.1: Topic Remediation Access

This report helps the teacher at looking at learning gaps and misconceptions at 3 levels -

- **Section Level or Section Remediation** (Figure 3.1.2.2.2) – captures the section specific problematic questions of the topic kept active in Mindspark. This report also states the names of the students who during their topic engagement have never attempted the question correctly.

- **Student Level or Student Remediation** (Figure 3.1.2.2.3) – Highlights the names of those students (a maximum of 5 students) who have not cleared a learning unit or have moved to a lower class level in the topic.
- **Class level or Class Remediation** (Figure 3.1.2.2.4) – Gives data on the top 5 learning units (of a Topic) failed by the students of the class. The report displays 10 questions from each of the learning units which were attempted incorrectly by the students.

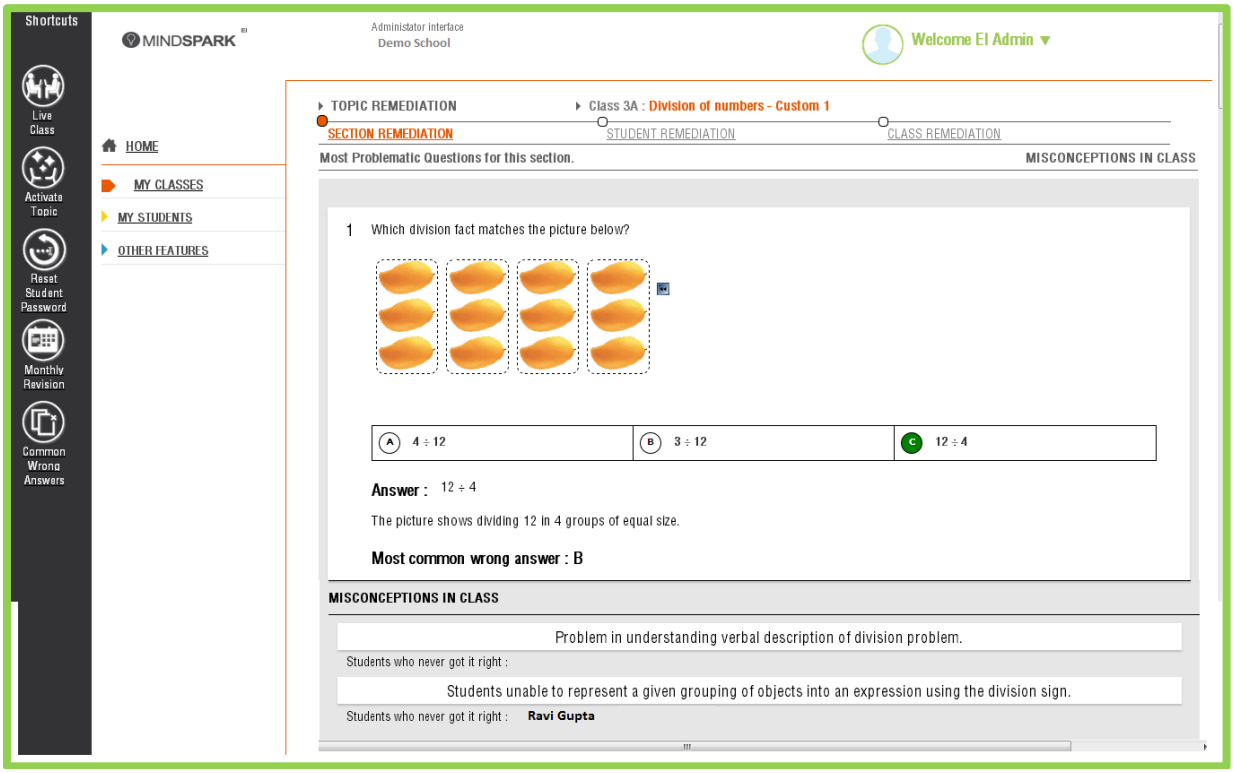

Figure 3.1.2.2.2: Topic Remediation – Section Remediation

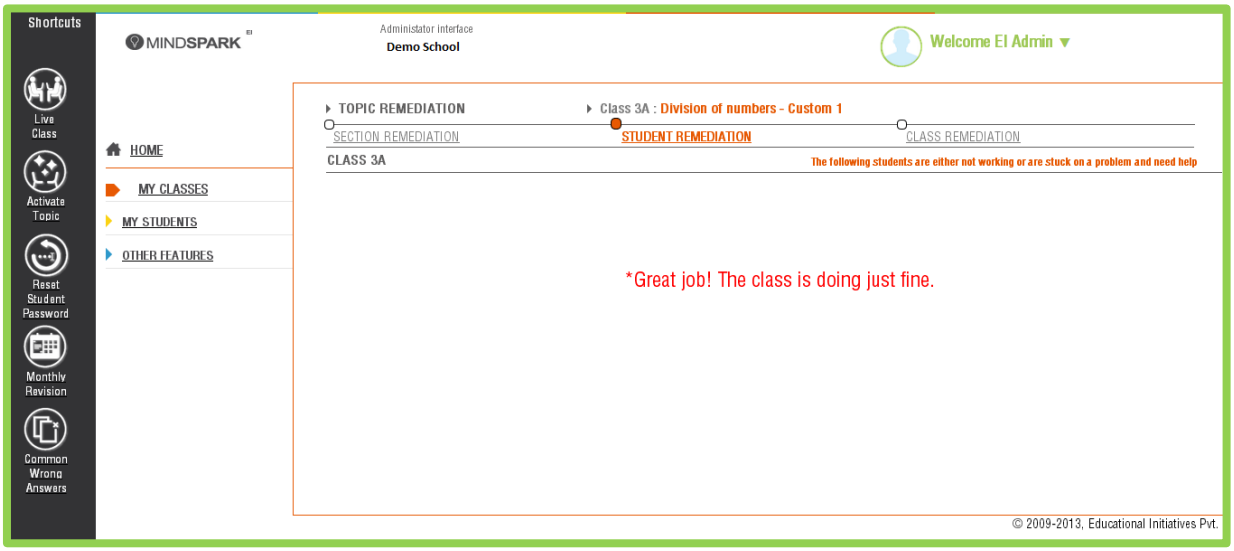

Figure 3.1.2.2.3: Topic Remediation – Student Remediation

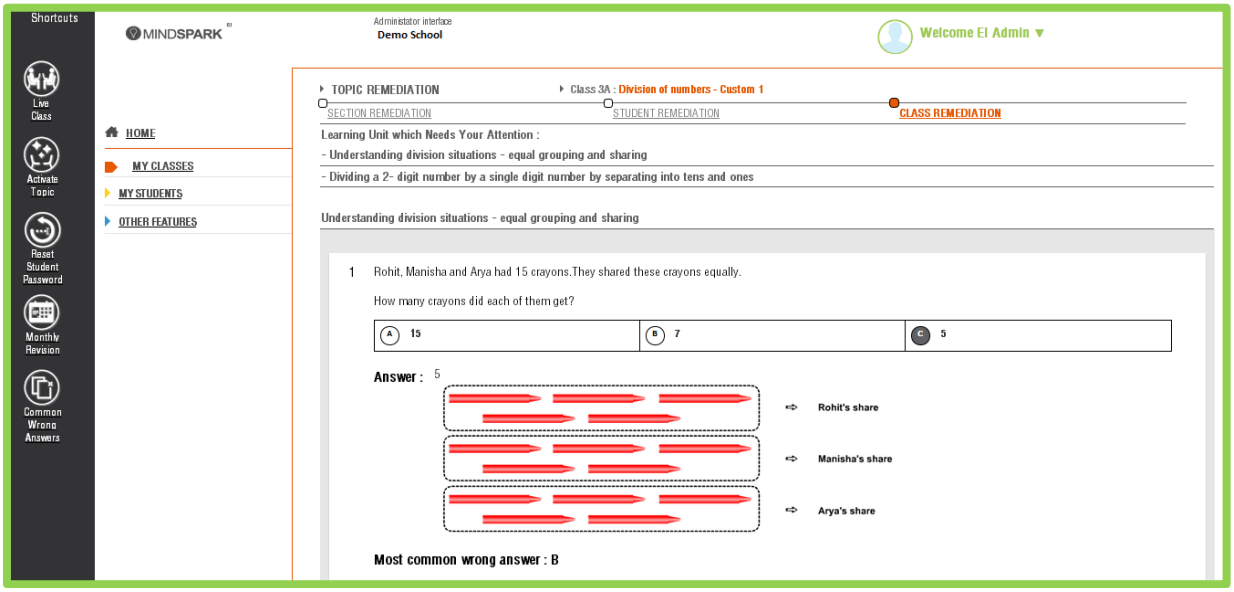

Figure 3.1.2.2.4: Topic Remediation – Class Remediation

Good Practice Tip:

After every Mindspark session and before a classroom session, it is recommended that the teacher looks at the Topic Remediation data (Section Level, Student and Class Level data). This data should be the starting point of the teacher's classroom session.

Live Mindspark Session (Section 3.1.3)

It is a good practice for a teacher to log into Mindspark when the class is also doing Mindspark. Tracking the students during a Mindspark session enables the teacher to engage at a level which has the greatest impact on student learning. Mindspark projects constantly live and real time feedback as the students are working on Mindspark. This also helps him/her to steer and control students to topics that are currently being dealt with in the class.

A Live Mindspark Session is indicated by a green icon on the Teacher Home Page or the "Live Class" short cut icon on left hand side black panel of the Teacher Interface (Figure 3.1.3.1).

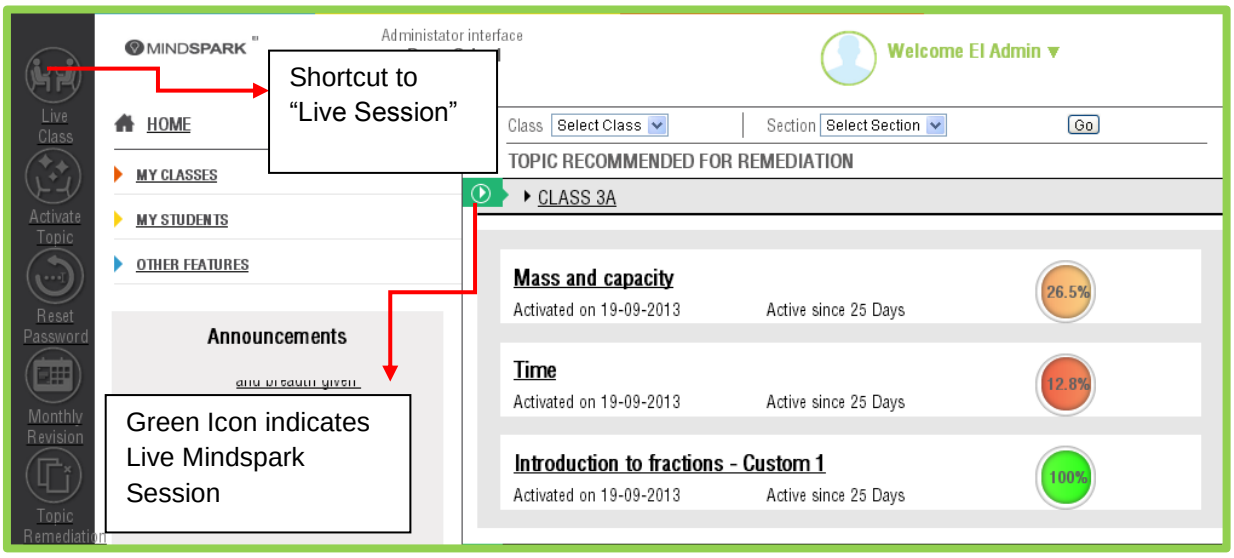

Figure 3.1.3.1: Live Mindspark Session

Reports that a Teacher should view during a Live Mindspark Session

- Select the green icon or the "Live Class" short cut to view the names of five (5) students who have either fallen behind in a topic or have failed to clear learning units in a topic.
- View topic progress in the topic or topics that the students are working on.
- Ideally, a teacher should, prior to the start of Mindspark session let the students know the topic that they ought to work on during the school Mindspark session and this must bear a relevance to the topic that is currently being done in the classroom. Alternatively, the teacher may also leave instructions on the Student Notice Board.
- A school Mindspark session must be followed by the teacher viewing the Topic Remediation report at a Student, Section and Class level. This, ideally, forms the basis for the next classroom session – where the teacher uses this data to remediate the learning gaps before proceeding ahead.

"My Students" (Section 3.1.4)

This section captures, for the teacher a weekly snapshot of her/his students' Mindspark activity and gives the following details for every student (Figure 3.1.4.1)–

- Number of days logged in along with the number of sessions
- Total login time
- Total questions attempted in Mindspark
- Accuracy percentage of the questions attempted in Mindspark
- Average time taken (in seconds) to answer the questions
- Topics attempted in Mindspark
- Challenge Questions (CQ) attempted in Mindspark
- Practice Questions attempted in Mindspark
- Timed tests attempted in Mindspark

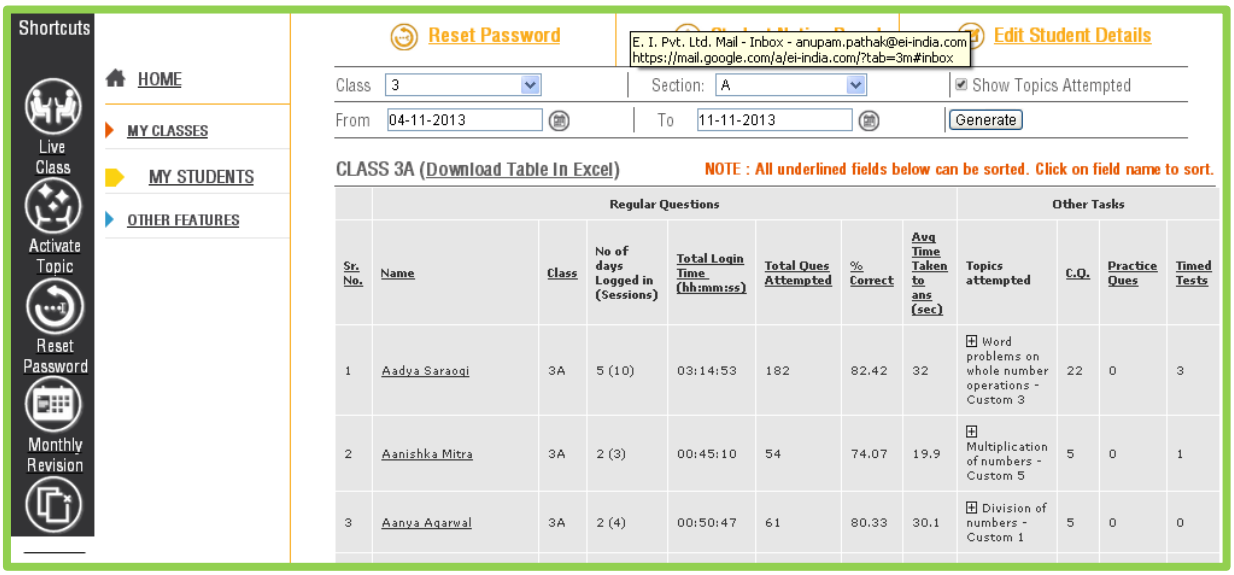

Figure 3.1.4.1: Snapshot of Student Weekly Mindspark Usage

This interface also allows the teacher to –

1. Reset a Student Password - Teacher uses this for resetting the Student's Password in the event to the Default Password (Figure 3.1.4.2). The teacher enters the student's username (firstname.lastname) and is able to reset the password

- to the default password (firstname.lastname) OR
- remove the password option by resetting the password to blank

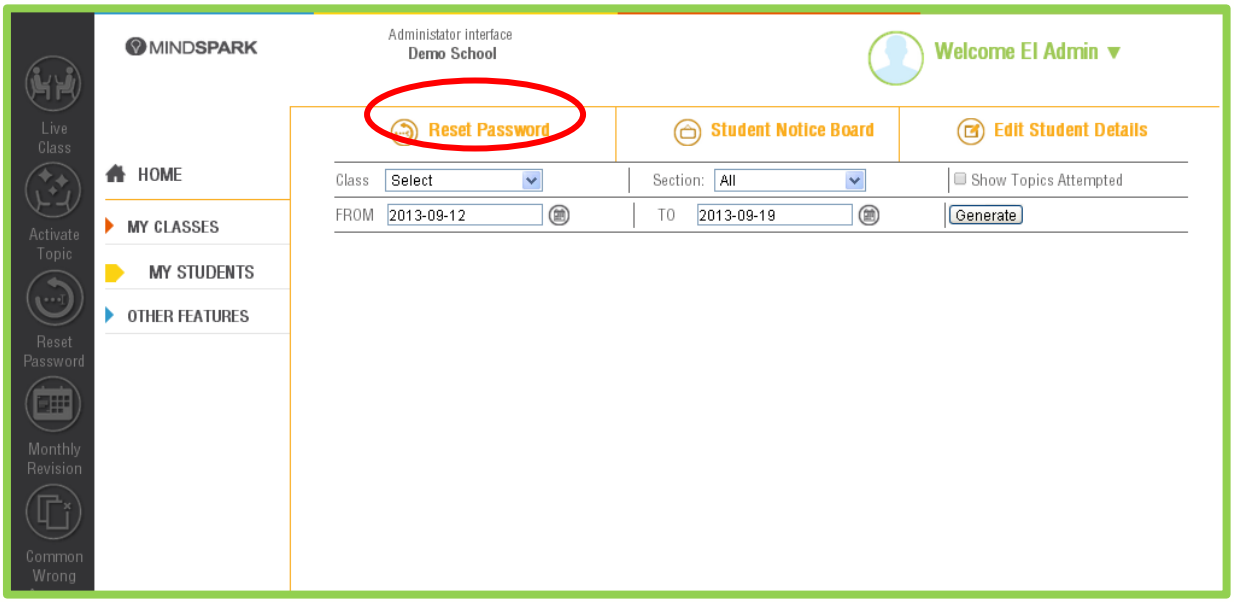

Figure 3.1.4.2: Reset Student Password

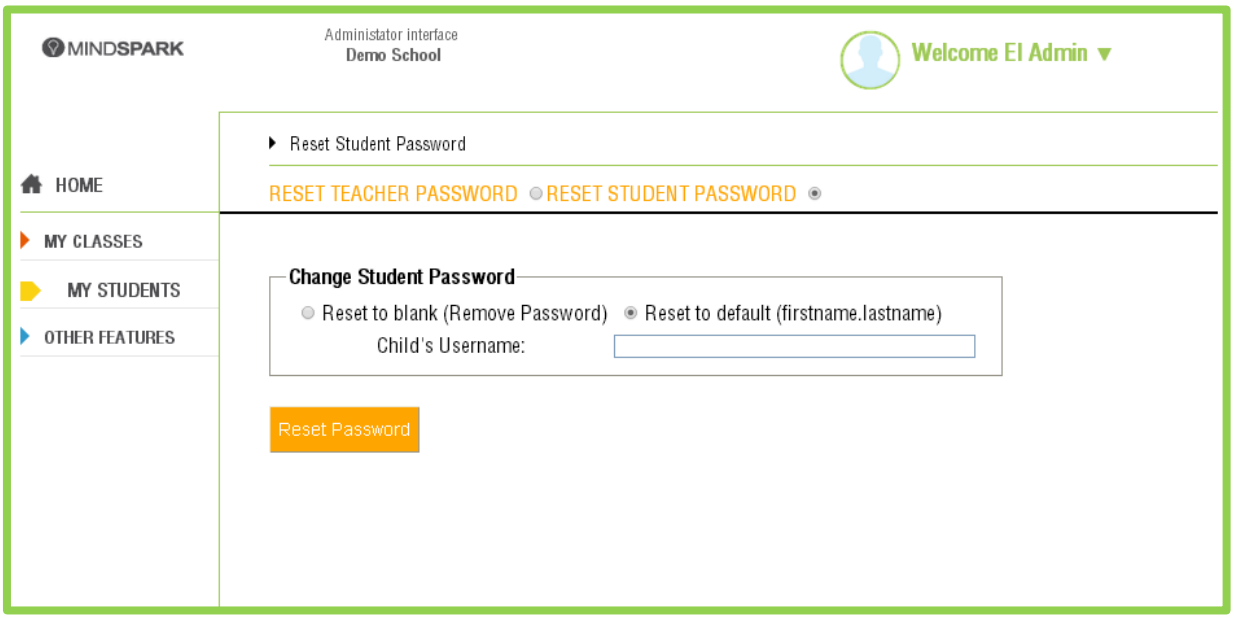

Figure 3.1.4.3: Reset Student Password

2. Post messages/instructions on the Student Notice Board - the comment posted by the teacher has validity (for a fixed number of days) determined by the teacher (Figure3.1.4.4).

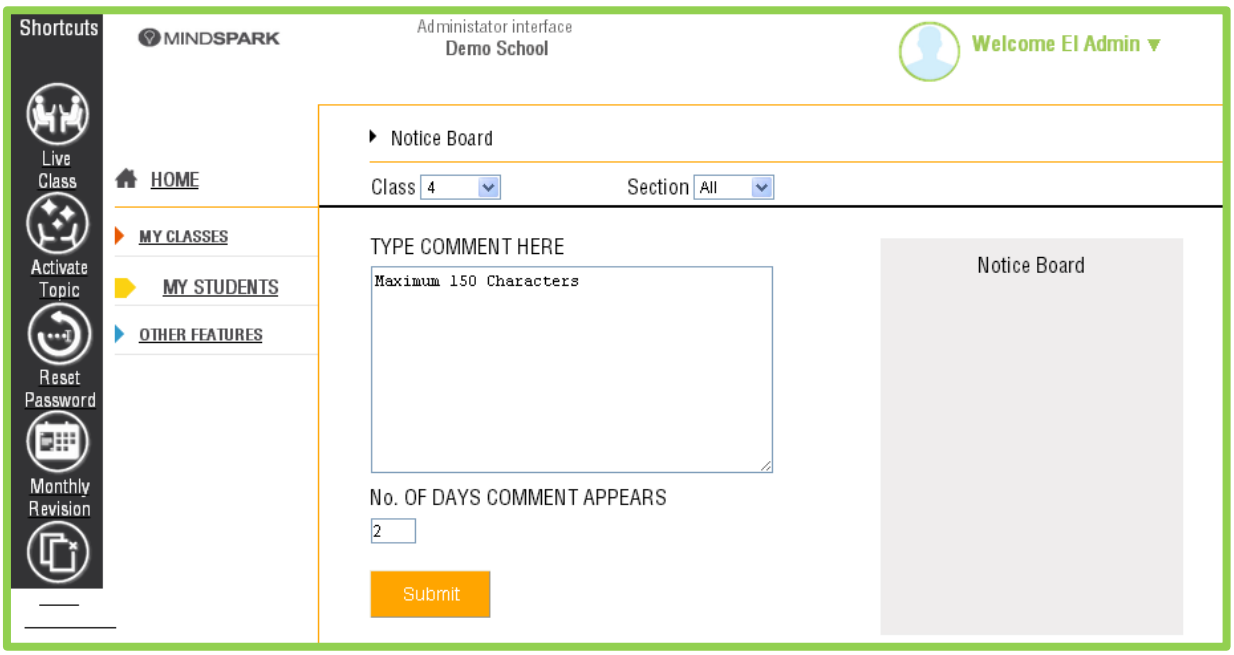

Figure 3.1.4.4: Student Notice Board

3. Edit Student Details – This option allows the teacher to edit the following details of the student (Figure 3.1.4.5)–

- Name
- Email address
- Date of Birth (DOB)
- Parent email address
- Class

- Section
- Option to change the password

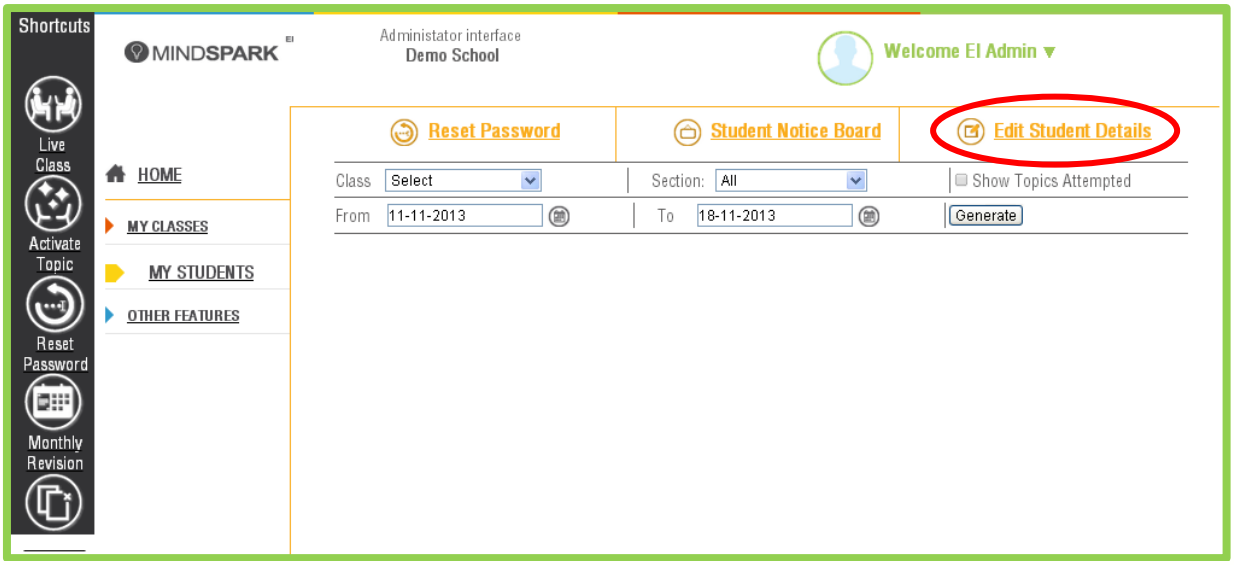

Figure 3.1.4.5: Edit Student Details

To edit the student specifications, the teacher

- selects “Edit Student Details (Figure 3.1.4.5)
- Submits the class, section and name of the student on the page displayed (Figure 3.1.4.6)

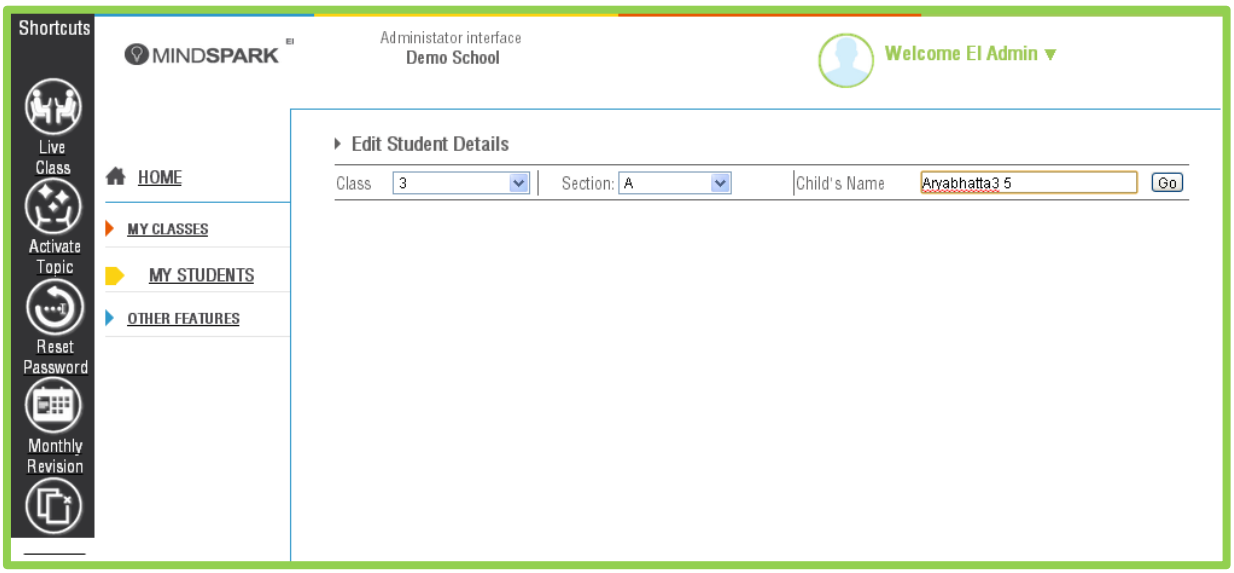

Figure 3.1.4.6: Edit student Details – Teacher submits the student’s class, section and name

- The page displays the student information
- Teacher selects “edit” (Figure 3.1.4.7)

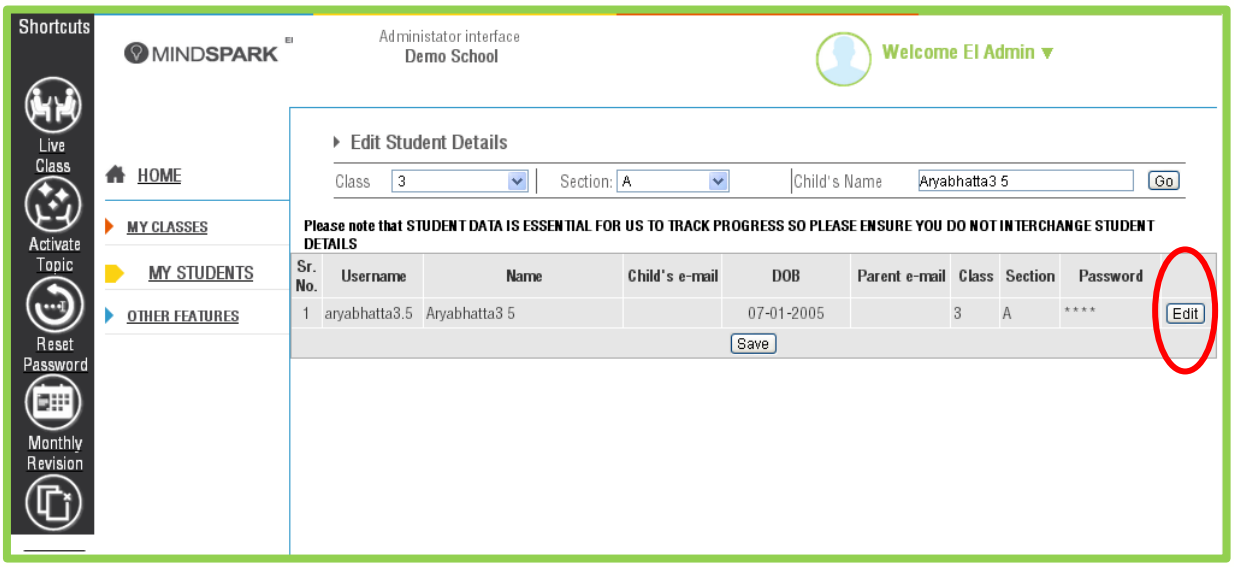

Figure 3.1.4.7: Editing Student Details

- The page (Figure 3.1.4.8) then enables the teacher to edit the student specifications. After editing, the changes made need to be saved. Remember, the student's username cannot be changed by the teacher/school.

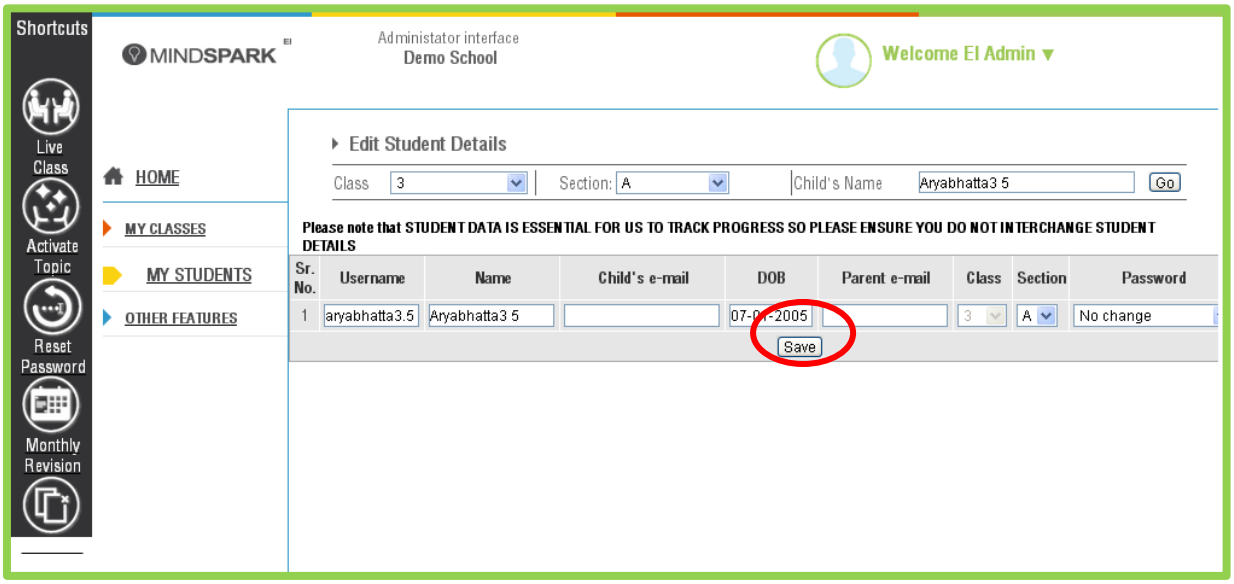

Figure 3.1.4.8: Edit Student Details