

2.2 MINDSPARK AND THE STUDENT

A student's basic engagement with Mindspark is for learning mathematical concepts. Mindspark uses the constructivist theory of learning, as the basis of the Adaptive Logic to teach the math curriculum. However, Mindspark also offers a host of other opportunities that help enrich a student's academic experience.

The total Mindspark experience can be divided into two -

- · Personalised Learning through Regular Mindspark Sessions
- Other Features

2.2.1 REGULAR MINDSPARK SESSION

A regular Mindspark session, typically, has been developed to comprise of an introduction, regular questions, Challenge Questions, Wild Card Questions, Remedials, Games, Timed Tests, Enrichment modules for the gifted students and other forms of learning resources—

2.2.1.1 Introduction

Description: Introduction helps to introduce the topic to student by connecting it to the practical and real world outside the realms of the text book. It helps catch the attention of the student and induces him to explore and engage with the topic, while using Mindspark. Introductions are, usually, short 5 minute activities that do not count towards topic progress.

Availability: All classes

2.2.1.2 Regular questions based on the Adaptive Logic.

Mindspark judges the current level of understanding in the chosen topic by asking questions. Granular questions help the student to understand and master the concept. Each question, at every step will be 'just beyond' the current level of understanding, and not very much beyond, as the student should be able to answer it correctly and learn in the process. This process – of learning through answering questions – has been found to be effective in helping students learn, rather than merely sharing information by using videos, animation or materials to read.

When a student answers a question correctly, the next question given to him is of a higher difficulty level. When the student fails to answer a question correctly, Mindspark adapts itself to the student's level of understanding without the student's knowledge. Questions asked help Mindspark probe into the student's level of understanding and help him overcome his misconceptions. Mindspark intelligently helps the student to bridge the learning gap. When the student starts understanding and answering correctly, he comes back to the level where he had struggled from and works to move to a higher level.



TYPES OF QUESTIONS

Different types of questions are asked in Mindspark to check the level of understanding. Regular Mindspark questions are of the following type –

> MULTIPLE CHOICE QUESTIONS

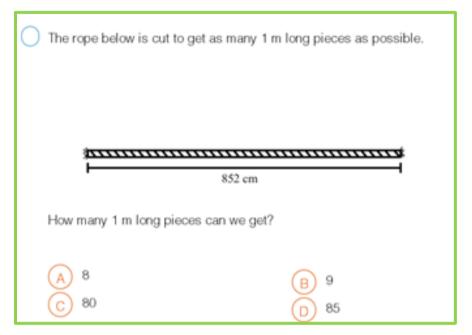


Figure 2.2.1.2.1: Multiple Choice Question

> FILL IN THE BLANK QUESTION

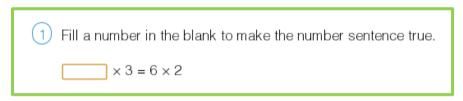


Figure 2.2.1.2.2: Fill in the Blank Question

> DRAG AND DROP QUESTION

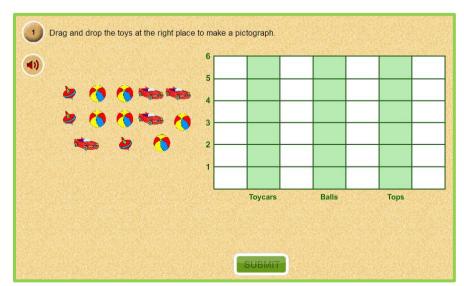


Figure 2.2.1.2.3: Drag and Drop Question



> SELECT FROM THE DROP DOWN QUESTION

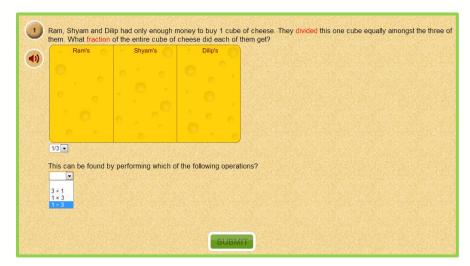


Figure 2.2.1.2.4: Select from the Drop Down Question

INTERACTIVE QUESTION

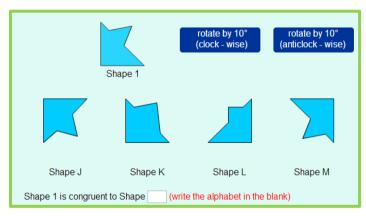


Figure 2.2.1.2.5: Interactive Question

Note 1: Hint - Currently, Mindspark is helping students to solve regular questions by making Hints available for questions which are a little difficult to solve or are being answered incorrectly. Hint is available to the student only after his first incorrect attempt in answering the question. This is done so that students don't get too dependent on seeking help to answer a question. The Hint feature appears with an option where the student can give feedback on the usefulness of the Hint provided.



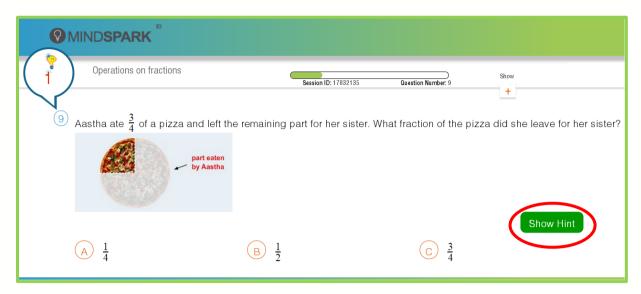


Figure 2.2.1.2.6A: Question prompting Hint

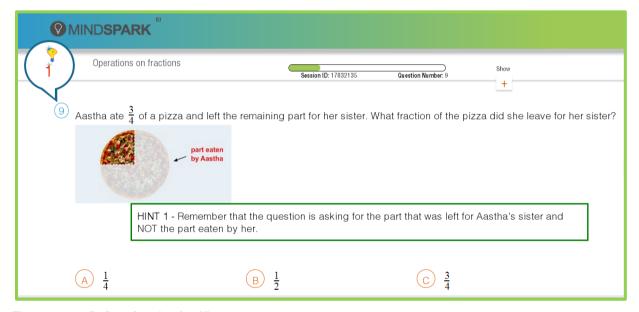
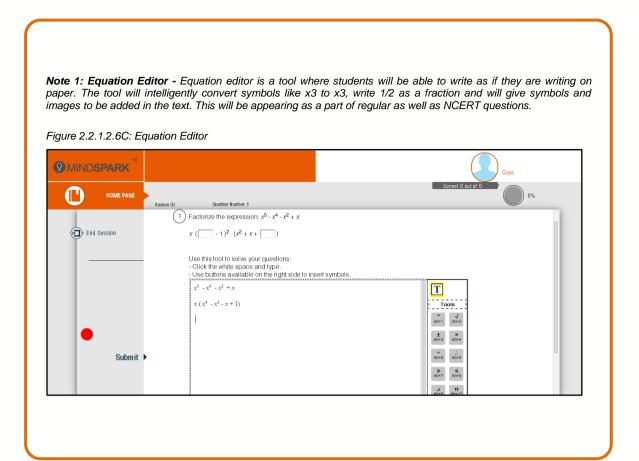


Figure 2.2.1.2.6B: Question showing Hint





2.2.1.3 Challenge Questions

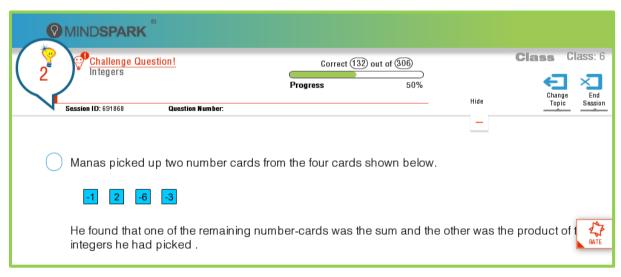


Figure 2.2.1.3: Challenge Question

In Mindspark, Challenge Questions (CQs) are relatively more difficult than the regular Mindspark questions; Challenge Questions appear to a student when he/she answers consecutively 5 questions correctly. The Challenge Questions are given to the students of class 3 and above.

The Challenge Questions raise the bar and challenges the student to apply the concepts learnt in a slightly difficult context. The purpose of a Challenge Question is to encourage the student to step out of his/her comfort zone. The student develops confidence and curiosity by solving these relatively difficult questions.



On answering a Challenge Question successfully the student is awarded a Sparkie based on the number of attempts (maximum attempts available are 2) that he/she uses to solve the challenge question.

- First Attempt 5 Sparkies
- Second Attempt 2 Sparkies

Note: In the first attempt if the child doesn't give the correct answer, Mindspark doesn't display the answer, the purpose being to give the child another chance/attempt to solve the Challenge Question

2.2.1.4 Wild Card Question

A Wild Card Question which is not related to the Topic selected by the student is given with the tag "Wild Card Question" to check the alertness and the ability to relate to other topics. The student gets one 1 Sparkie if the question is answered correctly. Unlike, a Challenge Question, a Wild Card Question is a little less challenging and is chosen from a different topic. The ability to answer the question correctly or incorrectly doesn't impact the topic progress of the student (Figure 2.2.1.4).

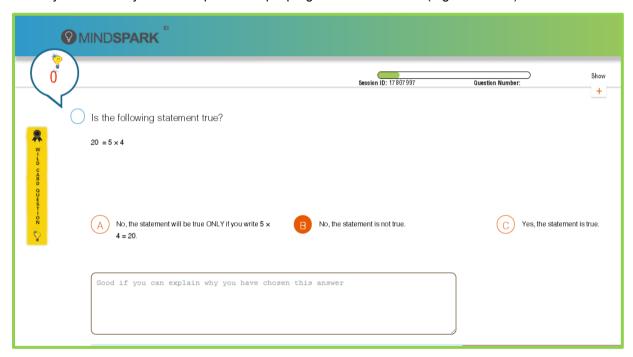


Figure 2.2.1.4: Wild Card Question

2.2.1.5 Remedials

Remedials in Mindspark are meant for children who are struggling in a particular concept or have been identified as having a known misconception. Mindspark identifies such children based on their performance in a Mindspark session and offers them remedials for help. Remedials are an integral part of the Mindspark flow. Remedials are interactive and provide basic scaffolding and handholding for children to make sure they learn in a non-threatening environment. The remedial typically responds to every minor error the child makes and provides conceptual reasoning.



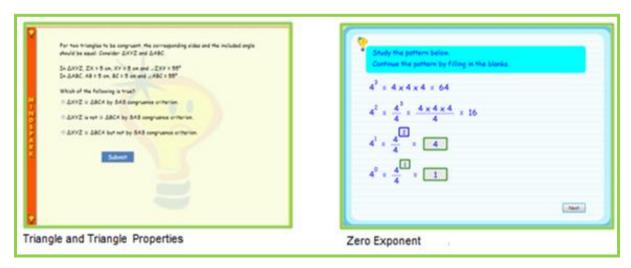


Figure 2.2.1.5: Mindspark - Remedials

2.2.1.6 Timed Tests

Timed Tests are designed to provide a specific type of reinforcement, practice or concept clarity to students. As the name suggests, Timed Tests help students build computational skills and exhibit procedural fluency. A Timed Test is a worksheet which has to be completed within a specific time limit by the student. As the number of questions in a Timed Test remains constant for all the students, it assesses the speed with which a student exhibits his/her understanding and application of the math concepts learnt.

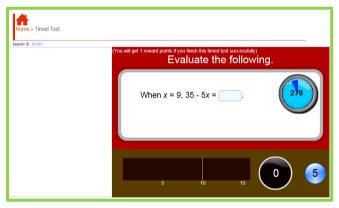


Figure 2.2.1.6: Timed Test question

Only certain topics have Timed Tests mapped

and the appearance of a Timed Test is controlled by the Adaptive Logic. If a student is not able to clear a Timed Test with 75% accuracy then it is repeated in alternate sessions for the first 3 times. If the student shifts to another topic, he won't get the Timed Test related to earlier topics but he will get it on revisiting the topic. If students don't shift to other topics, they will get Timed Test till they clear it with 75% accuracy.

2.2.1.7 Activities/Games

Activities or Educational games in Mindspark serve two purposes-

- 1. Help a student understand and internalize a concept
- 2. Enable a student to have fun while learning a concept.

The philosophy behind Activities in Mindspark is that children learn better while they are having fun doing it. When making these games, in addition to creating fun, we make sure that the students learn something or overcome a misconception or get a lot of practice.

Activities are related to a specific topic/concept. Some activities are part of the flow of a regular Mindspark session .i.e. these are not controlled by the students but are predetermined by the Mindspark



Adaptive Logic. However there are, also, games outside the purview of a regular Mindspark, the access to which is controlled partly by the students. Students may access these by selecting "Activities" on the student home page.



Figure 2.2.1.7: Activities



Figure 2.2.1.7.1: Access Activities on the Student Home page

"Activities" (outside a regular Mindspark session), accessible from the Student Home page (Figure 2.2.1.7.1) are classified as

- Not Attempted
- Attempted
- Locked

Not Attempted: This will include list of activities which are yet to be attempted by the student.



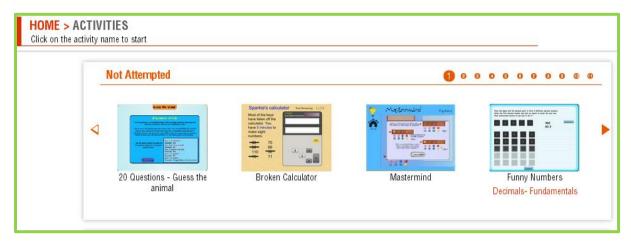


Figure 2.2.1.7.2: Activities - List of Non Attempted Activities

Attempted: This list of activities includes those which have been attempted by the student.



Figure 2.2.1.7.3: Activities - List of Attempted Activities

Locked

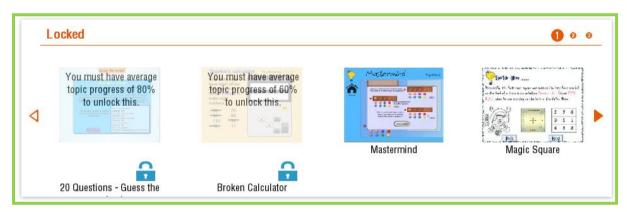


Figure 2.2.1.7.4: Activities - List of Locked Activities

There are activities in Mindspark which are, at the start of a Topic, locked and not accessible to the student. These activities get automatically unlocked and are made available to the student when sufficient topic progress is achieved in the topic to which they are mapped.



2.2.1.8 Enrichment modules

Enrichment modules are part of the Activities but are specifically designed for those children in the class who complete their part of Mindspark quickly. They are the brighter/gifted students in the class who are craving for more. So these modules are generally something that is outside the core curriculum of that class, but something that adds value to the gifted child. This helps the child to learn something new and interesting or pose an interesting challenge to grapple with. Some of the enrichment modules have been mapped to the Mindspark topics and are accessible during regular Mindspark session (generally towards the end of the Topic). Outside the regular sessions these modules are accessible only after the child has achieved 100% topic progress; till such time they remained locked, thereby ensuring that it is done by students who really have the time and the ability to do these.

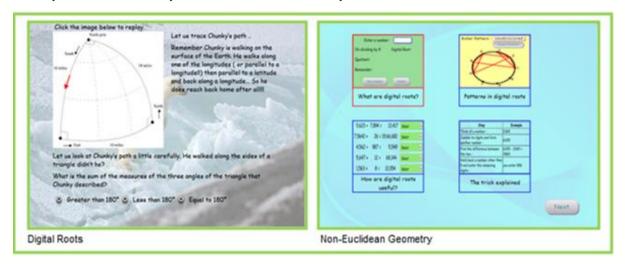


Figure 2.2.1.8: Mindspark - Enrichment Modules

2.2.2 OTHER FEATURES -

2.2.2.1 Activities

As already stated Activities or Educational Games in Mindspark are used to augment learning in students. (Refer to the detailed explanation on Activities is given in section 2.2.1.7 of this chapter)

2.2.2.2 Exam corner

Exam Corner (available for students of classes 8 to 10)

Exam Corner – a feature which allows a student individualized practice to prepare for exams and quizzes. On the one hand, it helps to manage study hours and on the other it keeps the student motivated through well known motivational quotes.



Figure 2.2.2.2.1: Student Home Page - Exam Corner

The following screen appears when Exam Corner is selected on the student home page.

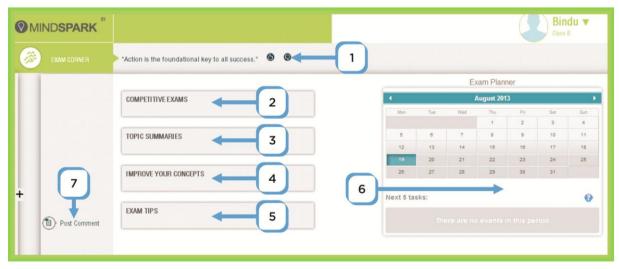


Figure 2.2.2.2: Exam Corner

- 1. Inspirational and Motivational quotes.
- **2. Competitive Exams** –It provides a general idea about the questions in competitive exams like CBSE, NTSE, IIT-JEE, Finland, Singapore, Hong Kong school board, etc.
- **3. Topic Summaries-** Topic Summaries make available briefs on topics as an aid for students to revise important definition and formulas. Summaries serve as the best resource for last moment revision.
- **4. Improve Your Concepts** is an adaptive feature and highlights and categorizes the weak, average and strong concepts for every student based on his/her past performances in regular Mindspark



sessions. It also gives students the opportunity to practice weak or average concepts for consolidation.

- 5. **Exam Tips** are general guidelines to prepare for the examination with least stress.
- **6. Exam Planner** Helps students to make a "to do list". A parent can also make one for his/her child. "To do list" is available on the Exam Corner landing page to help students manage their studies during exam time.
- 7. Post Comment Students may post comments related to the Exam Corner Feature

COMPETITIVE EXAMS

The following screen appears when the student selects "Competitive Exams"

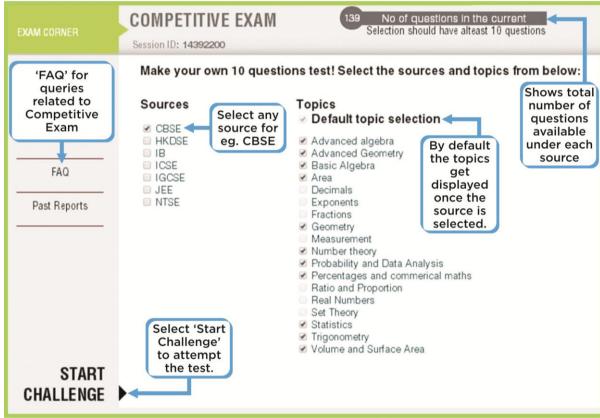


Figure 2.2.2.2: Competitive Exam

Mindspark automatically develops a Test paper (of 10 questions) when the student selects the Exam Source type and the Topics therein. The test paper contains questions from the selected Exam Source and the student gets access to this question paper on selecting "Start Challenge". After the test is solved, the student selects "End Challenge" to get a detailed report on the test paper attempted.



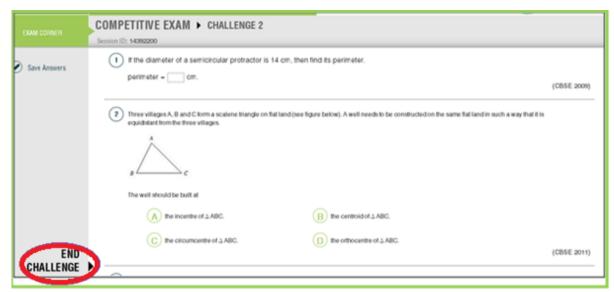


Figure 2.2.2.2.4: Competitive Exam

'END CHALLENGE' page shows details about the total score of the test, answer status of the question along with the correct answer explanation.

There is a repository of Past Reports which a student may access to view his/her performance in the previous tests taken.

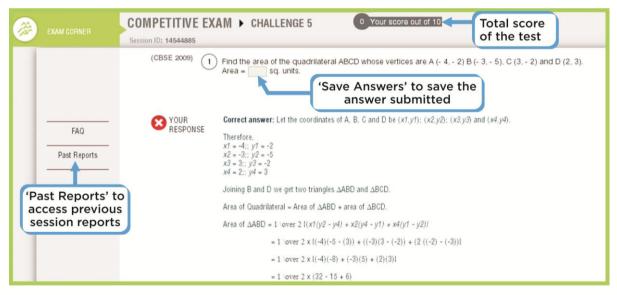


Figure 2.2.2.2.5: Competitive Exam - Test Report



FAQs concerning Competitive exams are also accessible by the student in the Exam Corner feature

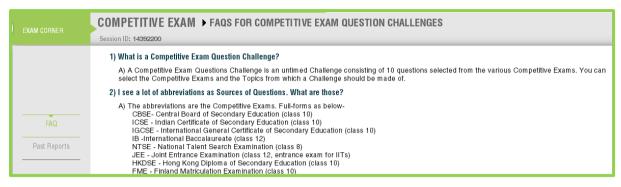


Figure 2.2.2.2.6: Competitive Exam - FAQs

PAST REPORTS - There is a repository of Past Reports which a student may access to view his/her performance in the previous tests taken.

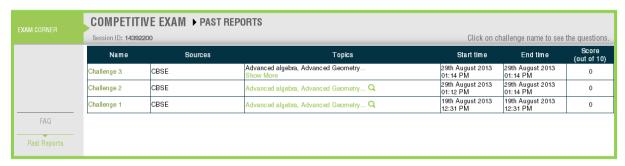


Figure 2.2.2.7: Competitive Exam - Past Reports

TOPIC SUMMARIES - It shows a list of topics attempted by the student. Each topic opens to a PDF containing topic content and other relevant details.

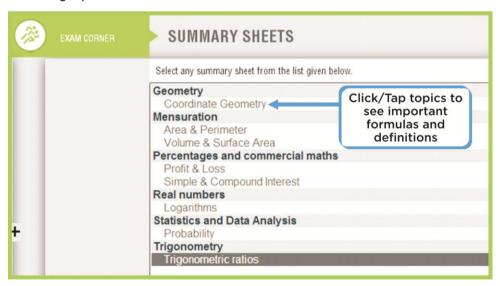


Figure 2.2.2.2.8: Exam Corner - Topic Summaries



IMPROVE YOUR CONCEPTS

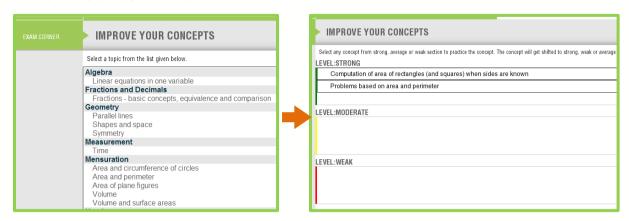


Figure 2.2.2.2.9: Exam Corner - Improve Your Concepts

This feature shows a list of topics extracted from the student's regular Mindspark sessions with accuracy of 50% or above. The student may select any of the topics displayed to practice questions in the same.

Each topic displays three categories of achievements (based on the regular Mindspark session) – Strong, Moderate and Weak. To access practice questions, the student has to select a topic.

Important Questions - these are questions which the student attempted wrong in the regular Mindspark session and are made available for practice in the Exam Corner. This option is available when the student selects a concept from any of the three categories as shown in Figure 2.2.2.2.9 above.

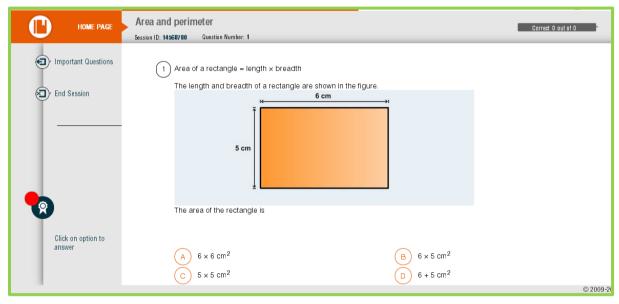


Figure 2.2.2.2.10: Exam Corner - Important Questions



EXAM TIPS

This page gives tips for students which can help them during exam days.

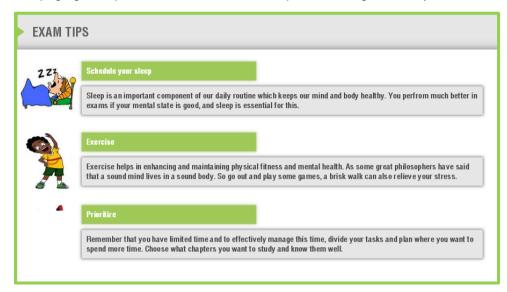


Figure 2.2.2.2.11: Exam Corner - Exam Tips

EXAM PLANNER

Students can plan their schedule of preparation by adding a task against a date in the calendar.

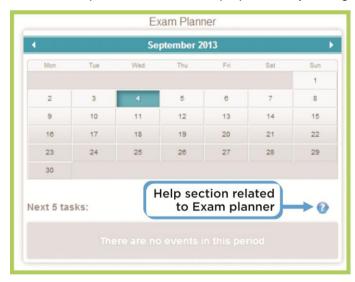


Figure 2.2.2.2.12: Exam Corner - Exam Planner

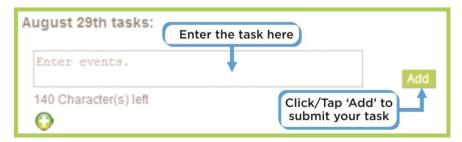


Figure 2.2.2.2.13: Exam Corner - Exam Planner



Once the task is submitted it will appear on the screen as shown below:

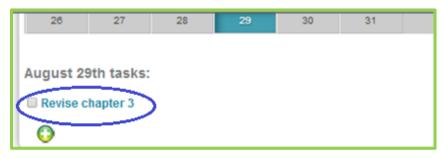


Figure 2.2.2.2.14: Exam Corner - Exam Planner

2.2.2.3 NCERT Exercises

NCERT exercises are available for students of classes 6 and above. It is accessible by the student from the student home page, only if the teacher activates it, teachers may assign NCERT Exercises as homework which is graded by Mindspark. (Note: Not available for individual users). The report of the students' performance is available only to the teacher on the Teacher Interface.



Figure 2.2.2.3.1: NCERT Exercise Access on the Student Home Page

Instruction window pops up, when NCERT exercise is selected. Click/Tap 'Cross' after perusal of instructions to proceed.



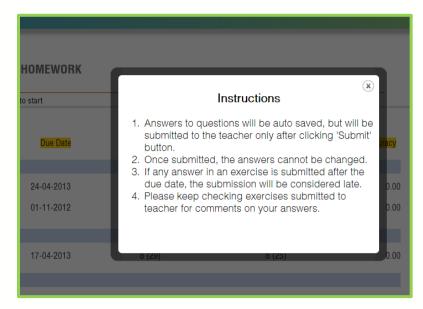


Figure 2.2.2.3.2: NCERT Exercise - Instructions to Student

The page shows the status of the child's attempts with respect to the NCERT exercises- attempts made by the student, total number of the exercises activated by the teacher, due date for submission, total questions available in each exercise, total questions attempted, accuracy etc.

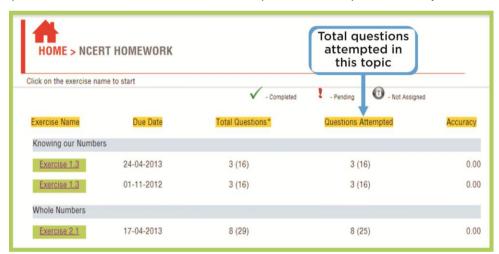


Figure 2.2.2.3.3: NCERT Exercise

Student can practice by attempting different exercise activated by the teacher.

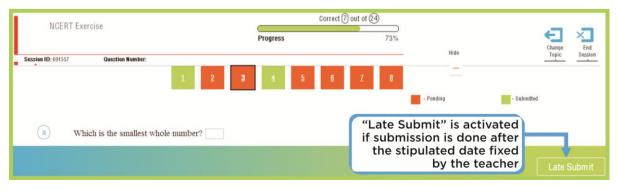


Figure 2.2.2.3.4: NCERT Exercise

18 | www.mindspark.in



2.2.2.4 What's New

'What's New' section displays the current update of various features, games, enrichment modules added in Mindspark with screen shots of the same.

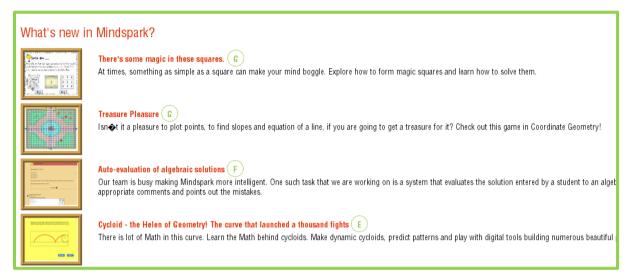


Figure 2.2.2.4: What's New

2.22.5 Explore Zone

Explore Zone is a new feature specifically available for students from grades 8 to 10. It's a space where students can go and explore the wonderful world of math as it provides some useful math shortcuts that students can use in their daily calculations. It's aimed to, also, help in increasing a student's mental math abilities. Currently, there are 20 shortcuts available.

Apart from that, Explore Zone has mind-bending brain teasers. Students are provided with 2 teasers a week (Monday and Thursday). There is also a section of archived teasers where students get to view previous teasers.





Figure 2.2.2.5.1: Explore Zone

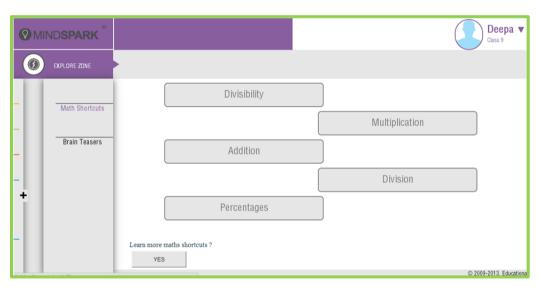


Figure 2.2.2.5.2: Explore Zone

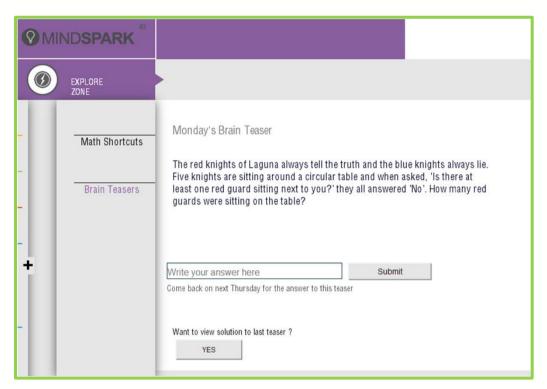


Figure 2.2.2.5.3: Explore Zone

21 | www.mindspark.in