

Mathematics Interest Building Handbook

Mathematics Corners, Clubs, Competitions and Games

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Background

The aim of all classroom teachers should be to help their students attain success, to enable them to learn how to learn. Students learn in different ways and their retention rate varies with their intelligence. Therefore, one of the most difficult challenges for the teacher is meeting the varying needs of students in the diverse classroom. The mathematics classroom is no exception; increasing students' interest in the subject, although a key aim of every teacher, is often hard to realize given the varying perceptions that students have of the subject.

For some children, mathematics is considered a difficult subject – a bunch of numbers and signs which only the very "bright" can understand. To others, mathematics classes are an overwhelming bore, merely tolerated because they have no choice. Some children believe that there is no connection between the mathematics that they are taught in school and their real lives; as a result, they show very little interest in learning the subject and may even see it as irrelevant.

It is a known fact that students' interest levels can affect their performance. Hence, it is very important that the mathematics teacher creates a suitable learning environment – one that is conducive to learning the subject and one that meets individual needs, abilities and learning styles.

This handbook is especially designed to help teachers identify strategies for improving students' interest and performance in mathematics. It highlights the use of Mathematics Corners, clubs, competitions and games. The vision of the developers is that the handbook will be used by teachers to build students' interest in mathematics. It is meant to be a starting point in the search by teachers for material to enhance the teaching/learning of mathematics. Using manipulatives is often necessary to address the varying entry points of students; these are particularly well suited to less able learners. Research has shown that the best way to help students understand mathematics is through a conceptual approach. For students who are more able, the idea of providing them with alternative strategies to develop mathematical competency and problem solving skills is through an enriched mathematics experience. The National Mathematics Team, which worked on the development of this handbook, believes that by using the activities in this handbook, any negative perception of mathematics held by students will be challenged and they will come to enjoy – not endure mathematics.

Mathematics Corners



Students huddled together in little groups, playing mathematics games, manipulating objects, talking, laughing, sharing, learning independently, having fun; this is a **Mathematics Corner.**

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Grade 4 Mathematics Corner at Discovery Bay All Age

A Mathematics Corner is a clearly identified place in your classroom that provides practice as well as continual encounters to broaden mathematical concepts. It is interactive and grabs your students' interest. The Mathematics Corner caters to both more and less able learners. It helps to reinforce mathematical concepts; stimulates students' interest in mathematics; aids them in making discoveries in mathematics and creates a more student-friendly classroom. The Mathematics Corner is beneficial as it provides your students with an opportunity to interact with manipulatives and games, while at the same time learning. Since children will be learning at their own pace and in their own time, it also gives students a chance to explore aspects of mathematics that they may not have grasped during class time. It also encourages peer teaching and learning as most times students go to the corner in groups. Mathematics Corners provide an opportunity for students to practise and apply skills and strategies taught within the classroom.

A Mathematics Corner should:

- be an integral part of daily instruction for all children;
- provide meaningful, independent practice based on the curriculum objectives and students' needs;
- include a variety of activities differentiated to meet the needs of students;
- be updated regularly according to the learning styles of students and topics taught;
- provide activities which assess students' mathematical skills and strategies.



Grade I Mathematics Corner at Bethabara Primary School

Establishing a Mathematics Corner

Setting up your corner can be an enjoyable experience. Your entire class may be incorporated into the activity. Ask students to bring items, or to assist in making them. Some items may be bought. A space must first be identified within the classroom since the size of the Mathematics Corner will be determined by the space available. When establishing your corner, be sure to:

- select items that are appropriate to the grade level of the students;
- make the corner accessible to all students;

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- use items that are appropriate to the grade level of the students;
- make the area bright and attractive so that students will gravitate towards it;
- place resources in the corner which reinforce topics taught;
- include interesting mathematical facts to help students appreciate the history of mathematics and the importance of mathematics in daily life;
- include items that encourage students to be self directed;
- include multiple copies of some items so that they can be used simultaneously by many students;
- create items so that they can be reused without having to be replaced or remade (laminating items on which students must write, for example, makes them washable and reusable);

Working with Space Constraints

The Mathematics Corner should ideally be located in the classroom. However, in extreme cases where space is limited, you may choose to have a portable corner which may be stored away at the end of the school day. If space constraints are even more extreme, the school may decide to create a Mathematics Resource Room to be shared by all teachers or a group of teachers.

In order to ensure the success of this venture:

- teachers can create items collaboratively;
- maintain a log for use of the room/items teachers should sign items in and out to ensure accountability. In a shift system, one teacher per shift can monitor the room and the log;
- mobiles may be hung from the ceiling to save on space.



Grade 4 Mathematics Corner at Bohemia All Age



Grade 2 Mathematics Corner at Discovery Bay All Age

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Items for the Mathematics Corner

There are many things that can be placed in your Mathematics Corner; no list could be exhaustive; however, there are some items that are useful in every Mathematics Corner. Your Mathematics Corner may start out with just a few simple items. Gradually you may add other items as they become necessary and as they are introduced in the mathematics lessons that you teach. Do not try to build a Mathematics Corner over a weekend or even over a week or two.

A good start up list for your corner is given below:

- Counters
- Dice
- Problem/question cards (relevant to current or past topics)
- A standard deck of playing cards/a set of number cards
- Mathematics puzzles/games



Mathematics Corner (Shared by Grades I and 3) at Discovery Bay All Age

A more comprehensive list of items for the Mathematics Corner is given below.

Manipulatives

- Abacus for reinforcing place value concepts
- Geo-boards
- Square tiles
- Counters
- Pattern blocks
- Geometric solids
- Tangram sets
- Dice
- Spinners for teaching/reinforcing probability concepts
- Fraction strips/sectors
- Interlocking cubes
- Base ten blocks/rods for teaching place value

Mathematics games

- Magic Squares (See templates in "Take it and Make it" booklet)
- Sudoku (See example in Mathematics Competitions chapter)
- Guess the Number
- Mathematics Bingo
- What am I?
- Guess the Length
- Dominoes

Measuring instruments and useful items

- Rulers
- Protractors
- Cord or string
- Metre rules
- Tape measure
- Measuring cups

- Balances and scales
- Various sized containers for teaching volume and capacity
- Height chart
- Dotted/squared paper teaching perimeter and area

Other Useful Items

- Problem Bank suitable to grade level and topics covered
- Charts on various math topics, concepts or facts
- Worksheets on various topics
- Interactive/computer games and puzzles or tutorials on various topics
- Samples of students' work
- Class timetable
- Duty roster names of students responsible for overseeing the corner
- Material

NOTE: The "Take It and Make It" booklet as well as the mathematics activity booklets for Grades I - 3 and 4 - 6, which accompany the Revised Primary Curriculum are suggested resources for the Mathematics Corner. They provide ideas for creating and using manipulatives in the teaching of several mathematical concepts. The black line masters are also very useful for accessing printable material for your Mathematics Corner.

Maintaining a Mathematics Corner

You may find that one of the most difficult parts of having a Mathematics Corner is maintaining it. If you do not put steps in place, then the corner may deteriorate over time. Careful management of the corner is needed in order to prevent this. The following steps could be taken as you seek to preserve your corner:

- Demonstrate to students how to use the Mathematics Corner.
- Communicate clear, explicit, high expectations and develop a few non-negotiable corner rules established jointly by both you and your students.
- Rotate items: ensure that, for each topic taught, resources are placed in the corner for further reinforcement; older items can then be removed.
- Create a risk free environment where all students can safely share ideas.
- Assign student monitors for careful management of the area.
- Be available to assist students and reinforce appropriate behaviours.
- Instruct, model and provide guided practice opportunities before placing new tasks in Mathematics Corners.
- Preserve print by laminating where possible (cellophane tape may also be used to reduce costs).
- Have a checklist for daily and weekly monitoring by students and teacher.
- Use plastic containers to store small items.
- Store cards and other non-waterproof items in plastic/zip lock bags.

Students are also responsible for the maintenance of the Mathematics Corner and, as a result, the following rules which apply specifically to them should be discussed with them and implemented:

- Ensure that the items in the corner are not abused.
- Return all things taken from the corner as soon as a task is completed.

• Cooperate with the corner monitor in order to ensure proper management and maintenance of the corner.

With the input of your students, you may develop and incorporate other rules.

Using a Mathematics Corner

Having created a Mathematics Corner in your classroom, how do you ensure that its benefits are maximized through careful use? The important thing to remember is that, even though you want your students to voluntarily go to the corner (during lunch time, etc.) and select items for exploration, you also want to ensure that when you plan your lessons you do so with the corner in mind. Consider, for example:

- using an activity/game that is in the corner as the assessment activity for the lesson. At the appropriate point in the lesson, therefore, students (perhaps in groups) would be instructed to interact with a specified activity that is to be found in the corner so as to demonstrate understanding of objectives taught.
- adding activities to the corner as a lesson is taught: these activities may be samples of student's work; a chart depicting the main ideas in a lesson; an activity to promote deeper understanding of the concept taught, etc.
- using the corner as a resource bank for the teaching of the lessons. All manipulatives that the class needs are kept in the corner and are marshalled by the person(s) responsible for regulating the corner. When resources, such as counters, are needed in a lesson, they can easily be fetched from the corner.
- enriching the learning experience of the more able students if they complete tasks before others, by pointing them to the Mathematics Corner where there are items and activities that will grab their interest and attention.

Mathematics Clubs



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What is a Mathematics Club?

A Mathematics Club is an organisation made up of a group of students, teachers, parents and other stakeholders interested in promoting mathematics as fun in schools. It is a great way for students to develop intuitive thinking skills and learn new kinds of mathematics skills. Students will not only learn new material, but will apply their previous knowledge from mathematics class to enjoyable and challenging problems. Furthermore, they will learn to view mathematics not as a set of rules or guidelines, but as an interesting, meaningful subject. The Mathematics Club promotes creativity and provides opportunities for many students to enjoy mathematics. In addition, the Mathematics Club is a great way for students to interact with each other while enhancing numeracy and problem solving skills which are applicable to real life.

Benefits of a Mathematics Club

The benefits of a Mathematics Club are many. Primarily, it exposes students to opportunities to experience mathematics in novel and exciting ways. As a result, students develop a more 'rounded' view of mathematics and are more likely to see it as a useful subject in their daily lives. Some of the other benefits are as follows:

- A Mathematics Club encourages a sense of **community.** That is, it is a place for students to fit in with others since having a Mathematics Club fosters a sense of unity and acceptance of all students. The effect of this is often lifelong friendships.
- Having a Mathematics Club fosters a sense of **pride** as students experience some level of importance and satisfaction for mathematical problems that are solved. Being a part of a Mathematics Club provides feedback and builds confidence in mathematics abilities, and perseverance in the face of challenges.
- Some students need **material rewards** as a form of motivation. Extrinsic incentives for participation can become a major part of any club, so external motivation can benefit those students who are not intrinsically motivated. Incentives may include: scholarships, calculators, trips, books, rulers, food, and certificates of participation, achievement, etc.

- A very important aspect of having a Mathematics Club is to give students **pleasure**. Students learn that doing mathematics can be fun. Using interesting problem solving activities in club meetings challenges students at all levels.
- Pep talks and other motivational speeches to students, parents, teachers, etc. in a Mathematics Club help to build **focus** for most students. This building of focus will produce benefits in other subject areas and endeavours.
- Club members can learn that mathematics can be linked to other activities which are sources of enjoyment. Mathematics teams can take trips, play volleyball, see movies, play cards, etc. Make mathematics team outings fun; provide lots of varied activities, not just mathematics. Fond memories associated with mathematics related events can sell the concept of mathematics to those who do not like it.
- Younger students emulate the older ones and therefore having a Mathematics Club is a very good way to build role models and encourage **team bonding**.

Starting and Maintaining a Mathematics Club

The time and place to meet

Have a regular meeting time and location. Before recruiting students for the Mathematics Club, it is important to find a meeting place and time that can be used throughout the school year, for example, the mathematics resource room, the library or a designated classroom. Especially during the first year, the coordinator should determine a time and place to meet that is convenient for as many people as possible. The ideal duration for a Mathematics Club meeting is at least forty minutes. In order to maintain the club effectively, it is easier to have meetings at least twice per month and incorporate activities such as treasure hunts and other outdoor activities. It is best to start the Mathematics Club as early as possible in the school year when all the other clubs are also just being organised.

Recruiting students for the Mathematics Club

"Think of ourselves as gardeners, not fishermen. Fishermen know what gets the fish. But a gardener provides the environment and enables plants to grow. With mathematics teams, don't try to just get the best students and win; instead, get as many students as you can, and do whatever is possible to make them better at mathematics." - Ashley Reiter

Some recruiting suggestions are as follows:

- Post information/pictures of past achievements of the Mathematics Club on a notice board.
- Prepare an informational handout/flyer to be given to new students on orientation day.
- Post intriguing mathematics questions or puzzles around the school at popular locations and give incentives for the solutions.
- Make a small presentation at the first school assembly if possible; having the student body know about the Mathematics Club is very important.
- Do not limit recruitment of students only to those who show a keen interest in the subject; rather, make an effort to target those with little or no interest as well.
- Use a Mathematics Wall of Fame: display photographs of past members who have excelled or information about other outstanding mathematics students.

NOTE: If your recruiting drive yields an overwhelming number of students, consider separating students and coordinating clubs according to grade groups, for example, grades I - 3, grades 4 - 6 and grades 7 - 9.

The most important aspect of maintaining steady attendance that does not fade away within the first few weeks is to focus on making your Mathematics Club an interesting, organized and well-run organization with fun-filled activities. This will interest other students who will be more likely to join.

Core Members

A successful Mathematics Club will need to have a core group of members who attend the majority of club meetings. The core group does not have to be large in order to be effective. From this core group choose the executive members and make them aware of their duties; train them if necessary. Since mathematics mentors are chosen from each class, those students can be a part of the core group that forms the club initially and each new mentor automatically becomes a member.

Suggestions for the first meeting

The first meeting is often the most important one, as it gives newcomers a good idea of what a Mathematics Club is and what is expected of them, and will also give you, the teacher, an opportunity to convince doubtful students to remain in the Mathematics Club. Some students will come for the problems, and some will come for the expected excitement. Those are the students upon whom you should focus. The goal of the teacher in the first meeting is to try and get everyone interested in coming back to Mathematics Club meetings and remaining in the club. For this to occur, it is necessary to develop an inviting environment where students who have an interest in mathematics can develop and where other students can see the benefits of mathematics and so develop their own interest.

Here are a few suggestions for what to do at the first meeting:

- Introduce yourself to the students present; inform the students of the rules and regulations of the club, how often the club will meet, and confirm the time and place of the next few meetings.
- Gather information to form a register.
- Have students introduce themselves so that they become familiar with each other.
 Students could state their reasons for joining the club or could describe themselves using a mathematics word.
- Have an electrifying first day activity to capture the interest of all the students.
- Inform students of the date and time for electing officers for the club. Make them be aware of the officers that will be chosen.

- Continue to sell your Mathematics Club. Find out what aspects students like about mathematics/the Mathematics Club the most by being observant and listening to what club members have to say.
- Record minutes of the meeting.

Examples of Mathematics Club Activities

- Problem Solving Activities: (See Problem Solving Handbook.)
- Games: (See chapter on Games.)
- Puzzles: for example, Sudoku (See example of Sudoku at end of chapter.)
- Competitions: (See chapter on Competitions.)
- Mini Math Lesson: (If used, make lesson short and interesting.)
- Identify and discuss the mathematics in a book or song.
- Math Quiz: individual, group, etc.
- Newspaper Mathematics: Have everyone bring a newspaper and look for mathematics information.
- Stories and Drawings: For example, make up a story that describes the properties of the 4 basic operations and how they are related. This could also be done in a diagram.
- Mathematics Codes: Write a message in a code that you made up. Have other club members try to crack the code and unravel the message. (See an example at the end of the chapter.)
- Meet the Group: Topic: Why I like mathematics; How I use mathematics in my daily life. Have a resource person on hand to show how he/she uses mathematics in his/her job.
- Measurement Walk: Go around the neighbourhood and take measurements. How far away are the houses on a given street? How far is it to the corner shop? What's the perimeter of the netball court or football field?
- Math Treasure Hunt: Hide a token (the treasure) and have students use mathematics related clues to locate it.

- Community Outreach: Club members may participate in an activity to promote numeracy in the community, for example, a math march, mounting displays in a library, health centre or community centre, distributing flyers/brochures, putting up posters.
- Math Hot Seat: Students answer mathematics questions in order to maintain a seat in a circle. The last person to remain seated is the winner.
- Mathematics Jeopardy.
- Mathematics Bee.
- Inter-clubbing (interactions across different clubs within the school or with a Math Club from another school.)
- Math Grab Bag: Students take turns grabbing math questions or other tasks from a bag.

A Sample Agenda

- Early Bird Math Attack (a short activity for those who are early.)
- Preliminaries: devotions, welcome, apologies, minutes, etc.
- Math Facts/Math Shorts (Share an interesting math fact or a short puzzle or problem.)
- Main Activity (This activity forms the core of the meeting spend most time on this.)
- Closing.

Running a meeting

Providing mathematical problems (and often food) for a Mathematics Club is an important task for a Mathematics Club leader. However, this is only one of the roles of the leader. If prepared and planned well, a Mathematics Club meeting can be effective and educational. However, making a Mathematics Club meeting both informative and inspirational can be difficult without prior experience. Here are a few tips to keep things friendly and fun:

• Prepare a brain teaser to keep students thinking at the beginning of the meeting while they settle down. The students can work individually or collaboratively. Once a solution to the brain teaser has been presented by one of the students, the Mathematics Club can begin, but allow no more than fifteen minutes for this activity.

- Use an official time keeper and or warden (student) in the club meetings to ensure effective use of time and to encourage idle members to participate in the club activities.
- Change the pace during the meetings to keep energy levels high. It is a good idea to incorporate short mathematics "breaks" into your meeting times if your meeting is longer than 45 minutes. Keep students occupied during the breaks with short discussions about an upcoming event.
- Utilize the talents of the student officers. This will develop their leadership skills.
- Always end meetings on a high note with an activity or song.

If your club is large, you may group students according to abilities for some meetings in order to address their special needs. The club may host a homework help centre, extra lessons or peer teaching initiatives in order to assist its members who are struggling. Note however that these initiatives should never become the mainstay of the club.

NOTE: The Mathematics Club is most effective when the entire school is kept aware of its activities. Make your club visible and seek ways to incorporate the club's plans into the overall school activities. A few ideas for annual projects are:

- Mathematics Quiz Competitions (class, club, house)
- General Devotions
- Mathematics Fairs
- Mathematics Day you may wish to celebrate World Maths Day or Maths Awareness Month
- Math Poster Competitions, Displays, March, etc.



Mathematical Games for Clubs

Here are two games, differing in degrees of difficulty, which will enliven club activities.

	8		3			5		
5	1						3	
			8	5		4		
					9		2	3
		8				7		
3	4		7					
		2		9	7			
	3						6	1
		6			1		5	

SUDOKU

Sudoku is a game which uses a square which is divided into nine smaller squares, with each of the individual squares sub-divided into nine smaller squares. The numbers from 1 - 9 are used to fill the smaller squares. However, no number should be repeated in any of these squares or in any row or any column.

MATHEMATICS CODES

This shows a letter-number code. Below is an example of a coded message which is to be solved using the letter-number code. The letter-number codes can be changed at the teachers' leisure.

-A	2-B	3-C	4-D	5-E	6-F	7-G	8-H	9-I	10-J	11-K	12-L	13-M	14-N
5-0	16-P	17-Q	18-R	19-S	20-T	21-U	22-V	23-W	24-X	25-Y	26-Z		
9		12	15	22	5	13		20	8	3	12	21	2
9		12	15	22	5	13		20	8	3		2	2 21

Mathematics Competitions



The aim of this section is to expose teachers to mathematics competitions as a medium through which students can be motivated, their interest captivated and key mathematical concepts reinforced. Additionally, competitions serve the purpose of developing good social and problem solving skills, which are necessary for students to function effectively in the wider society.

Types of Competitions

There are many different types of competitions in which students can be engaged. Some of these include:

- Mathematics Corner Competitions (among classes)
- Mathematics Pageant Competitions
 - ✓ Miss and Mr. Mathematics etc.
- Mathematics Song or Poetry Contests
- Mathematics Art Competitions
 - ✓ Geometric Solids models of trucks, buildings
 - ✓ Patterns and Tessellations
 - ✓ String Art
 - ✓ Origami
- Mathematics Quiz Competitions
 - ✓ Inter-class competition (problem of the day/week/month)
 - ✓ Inter-grade competition
 - ✓ Inter-house competition
 - ✓ Individual "Mathematics Challenge" where students attempt a given problem or task within a specified time period.

Organizing, Establishing and Maintaining Mathematics Competitions

Before organizing any type of mathematics competition, it is important that permission be sought from the principal or other relevant authority. A committee of at least three members should then be established to oversee the competitions. In formulating this committee, it is recommended that a representative from each house, grade, school or cluster (depending on the type and nature of the competition) be a member. This committee will determine the types of mathematics competitions to be undertaken for the school year. For each competition agreed on, a set of criteria for judging should be established and communicated to all participants. Additionally, the committee may also solicit or raise funds necessary for executing each competition, provided that all necessary permissions are obtained and all relevant protocols observed.

Mathematics Quiz Competitions

A quiz is a form of game or mind sport in which the players (as individuals or in teams) attempt to answer questions correctly.

Guidelines for Hosting a Mathematics Quiz Competition

Team Selection and Composition

One very important aspect of the Mathematics Quiz Competition is formulating the teams. A typical structure for selecting the teams could be based on the existing house system within the school. It is suggested that each house selects a team and each team should be comprised of students from different grade levels. Try to structure the competition in such a way that no grade is left out and each grade representative can participate. Care should be taken to ensure that teams are mixed in terms of gender: where possible both genders should be represented. It is recommended that teams have a minimum of three members and a maximum of six.

Format of Competitions/Matches

All matches should have a panel of independent judges who adjudicate on all issues. Matches can be played on a knock-out basis, in order to eliminate weaker teams. For example, in a knock-out situation with four houses (A, B, C, and D), A and B may play the first match while C and D play the second match. The losers will be eliminated while the winners will play off to determine the eventual champion. The two losing teams can play for the third and fourth place positions.

In the case of an odd number of teams, the teams may play off with each other and the team which amasses the highest number of points declared winner.

A good format for a match is given below.

In section one each team could be given two problem solving items which the entire team will solve collectively within a specified time period. A rubric should be created which determines how marks are allotted for each question. This section could take place before the actual match, so that each team enters the next round having already scored a number of points from this section.

Section two could be a face-off between members of respective teams, where the student representing the team answers questions based on a particular strand or grade level. This section could also be treated in an alternative way, where questions will be asked of each team alternately. Correct answers will be awarded one point and no point will be lost for any incorrect answer.

Section three could last for four minutes. Questions should be thrown open to both teams with the first team identified (by using a signal buzzer or bell) earning the right to answer. Teams should earn points for answering correctly but not lose points for incorrect answers.

The points from all three sections should be combined and the team with most points declared the winner.

Awards / Award Ceremony

In order to motivate students, it is suggested that tangible rewards such as trophies, certificates or medals be awarded to participants.

Sample Quiz Match for Grades I – 3

Using Alternate Approach

This section will last for eight minutes. In this section, questions are asked alternately of each team. Each team will have ten seconds within which to give their answers. If a team does not attempt to answer a question, the question will be passed to the other team without them losing their turn. One point will be awarded for each correct answer, but no points will be deducted for incorrect answers. The judges' decisions will be final.

The following are the types of questions which could be asked.

- What is the 10th letter of the alphabet? Ans. J
 What position is the letter 'H' in the alphabet? Ans. 8th
- Nine groups of 10 and 8 ones are equal to? Ans. 98
 How many groups of hundred are in 675? Ans. 6
- 3. I have 6 yellow beads, 3 blue beads and 1 red bead in a bag. How many chances do I have to choose a yellow bead? **Ans. 6**

I have 6 yellow beads, 3 blue beads and I red bead in a bag. How many chances do I have to choose a red bead? **Ans. I**

- 4. What instrument is used to measure temperature? Ans. thermometerWhat specific unit is used to measure the distance from your home to school? Ans. km
- Round off 157 to the nearest 100. Ans. 200
 Round off 61 to the nearest 10. Ans. 60
- How many years are in 24 months? Ans. 2 yearsHow many months are in 4 years? Ans. 48 months
- 7. How many metres are in 600 cm? Ans. 6Five metres is equal to how many centimetres? Ans. 500
- 8. If n = 4, what is the value of n + 16? Ans. 20
 If n = 11, what is the value of n 7? Ans. 4
- 9. Which number would come next in this series: 3, 6, 9, ----? Ans. 12
 Which number would come next in this series: 5, 10, 15, ----? Ans. 20
- 10. Add together 43 and 15. Ans. 58Add together 49 and 11. Ans. 60
- How much is 3 less than 29? Ans. 26How much is 4 more than 18? Ans. 22
- 12. Which fraction is the greatest: 1/7, 1/9, 1/8? Ans. 1/7
 Which fraction is the least: 2/8, 2/6, 2/5? Ans. 2/8
- If Y + 7 = 19, what is the value of Y? Ans. 12
 If 13 Y = 5, what is the value of Y? Ans. 8
- What is the value of 200 + 70 + 8? Ans. 278
 What is the value of 600 +10 + 8? Ans. 618
- 15. What is value of 9 in 796? Ans. 90What is the place value of 6 in the number 567? Ans. Tens
- 16. What is a half of 24? Ans. 12What is a quarter of 16? Ans. 4
- 17. On what number would the minute hand of a clock be if the time is 15 minutes to 7? Ans. 9On what number would the minute hand be if the time is 8 o'clock? Ans. 12

Ryan has 30 apples. If he shares them among his 3 friends, how many will each girl get?
 Ans. IO

Susan shares all her apples among her 4 friends so that each boy gets 3. How many apples did Susan have? **Ans. 12**

- 19. Rick has \$90. How much is a half of this? Ans. \$45Mary has \$35. How much is 2 times this amount? Ans. 70
- 20. Which is longer: 7 km or 21 cm? **Ans. 7 km** Which is heavier: 500 g or 500 kg? **Ans. 500 kg**
- What is the numerator of this fraction 7/8? Ans. 7
 What is the denominator of this fraction? 8/9. Ans. 9
- How many sides does a square have? Ans. 4What name is given to a four-sided shape? Ans. Quadrilateral

Buzzer Section

In this section, questions will be thrown open to both teams with the first to press the signal buzzer earning the right to answer. Teams will have ten seconds within which to give their answers after being identified. Two points will be awarded for each correct answer, but one point will be deducted for incorrect answers. Teams will also lose a point if they answer before being identified or if they fail to give an answer after being identified. The judges' decisions will be final.

- I. Which of these is an odd number: 14, 35, 44? Ans. 35
- 2. Allan left home at 6:15 and arrived at church at 6:25. How long did it take him to get to church? **Ans. 10 mins**
- 3. How many groups of 4 are in 24? Ans. 6
- 4. What is 28 + 23? Write your answer to the nearest 10. Ans. 50
- 5. What is the difference of 45 and 11? Ans. 34
- 6. How many quarters are in 2 1/4? Ans. 9
- 7. What is the value of 4 \$5 coins, 6 \$10 coins and 9 \$1 coins? Ans. \$89

- 8. What is the value of 7 in 678? Ans. 70
- 9. What is my change from \$100 if I buy cake for \$23 and a juice for \$30? Ans. \$47
- 10. If I am counting by 7, which number would come after 14? Ans. 21
- II. What is the product of 7 and 3? Ans. 21
- 12. When these numbers are arranged in order from the least to the highest: 654, 431, 112, which number would appear in the middle? **Ans. 431**
- 13. If I buy a bun for \$45 and a drink for \$15, how much money did I spend? Ans. \$60
- 14. When I am counting by 4, which number would come next in the series: 12, 16, 20 ----?Ans. 24
- 15. How much is 5 more than 12? Ans. 17
- 16. How many fifths are in one whole? Ans. 5
- 17. Four groups of 4 is equal to? Ans. 16
- 18. What is the first even number? Ans. 2
- 19. Which of these fractions is improper: 5/9 or 7/2? Ans. 7/2
- 20. A yellow string is 30 cm long and a blue string is 22 cm long. How much longer is the yellow string than the blue one? **Ans. 8 cm**
- 21. How many groups of 10 are in 102? Ans. 10
- 22. How many minutes are in 2 1/2 hours? Ans. 150
- 23. What is the value of 5/9 4/9? **Ans. 1/9**
- 24. Y + 6 = 22. What is Y? **Ans. 16**

NOTE: You may choose to include a problem solving task for teams to complete prior to the match. If this option is chosen, ensure that each team is assigned the same task and allowed equal amounts of time to complete it.

Mathematics Corner Competitions

Establishing a Mathematics Corner Competition

The committee charged with responsibility for competitions has the following roles in relation to Mathematics Corner Competitions:

- educating the staff about the benefits of establishing a Mathematics Corner;
- providing teachers with a list of basic resources to be included in the Mathematics Corner;
- developing the criteria for judging;
- identifying an independent panel of judges (minimum of three persons);
- establishing a time line for the competition;
- generating funding for prizes.

Executing a Mathematics Corner Competition

The period of judging should span at least two terms with an emphasis on how familiar students are with items in the corner. Mathematics Corners must be judged at least twice prior to the final judging. The following is necessary when executing a Mathematics Corner Competition:

- Mathematics Corner Competitions should be organized to facilitate preliminary judging by the panel within the agreed time frame.
- The panel should complete preliminary judging using the established criteria and provide the participants' classes with written feedback.
- The panel should visit the participants on the date of the final judging to assess the corners based on established criteria in the rubric.

The class that accumulates the most points over the two periods will be judged the winner.

Visual and Performing Arts Mathematics Competitions

Visual and Performing Arts Mathematics Competitions involve the use of art, craft and bodily performances to represent mathematical ideas. These types of competitions can facilitate group effort, where individuals with unique skills can work together to achieve a common goal. Standards and criteria for judging should be established by the competition committee with a rubric capturing mathematical ideas expressed in an artistic form.

Example: Geometry

It is suggested that the competition be divided in two categories, lower school (grades one to three) and upper school (grades four to six). Students could work in groups to create designs based on specific themes such as 'my community', 'motor vehicles', etc. From these, they will highlight and display geometric aspects of the broad theme. The groups can be inter-grade or intra-grade.

This competition could be judged based on the following criteria:

- Effective use of discarded material
- Creativity of design
- Variety of geometric concepts in the design

NOTE: This type of competition can be extended to include any strand or a combination of strands.

Mathematics Pageant Competitions

The idea of hosting a Mr. and Miss Mathematician has proven to be an avenue which sparks interest in students. Through a Mathematics Pageant, students are allowed to explore their creativity in presenting mathematics ideas. The idea of a Mathematics Pageant takes the general format of an ordinary pageant; however, students will select mathematics strands, ideas or domains and sell the concept and content in their own way. For example, a student may wish to represent Miss Measurement. Throughout the competition, she will design a talent piece which is centred on the strand; she also answers the judges' questions which will also be based on the measurement strand. Other aspects which will add variety to a competition may also be included. A Mathematics Pageant Competition may be done on a yearly basis.

Judging

The following criteria could be used to judge a competition:

- Most aware most mathematically aware
- Best costume depicting his/her selected theme
- Best talent piece (which should highlight the concept/strand being represented)
- Responses to questions



Mathematics Poetry Competitions

In catering for students who are not deemed kinaesthetic, an opportunity could be created where students are allowed to express themselves in poetic form.

In this type of competition, students will write poems to reflect different mathematical concepts.

Judging

The best poem will be identified according to how much it embodies a particular mathematical concept as well as creativity. Poems could be written at the end of a topic. The writer of the best poem could be highlighted on the school's notice board, etc.




Mathematics Games

Picture this scenario:

"The bell just rang signalling the end of the lunch break. Into the classroom trudge thirty-five grade three students: some hurriedly finishing their last bites of lunch, others sweaty from an abruptly ended ball game. Only two hours left in the school day and guess which subject they are timetabled to have? Mathematics!" You would agree that if the teacher for this class is not prepared to engage these children in a stimulating, enjoyable activity, the results could be chaotic. After all, who wants to endure a lecture at this time of day, especially when you are just hours away from your favourite cartoon or TV show?

Mathematics games are ideal for stimulating students' interest while developing or reinforcing their knowledge of one mathematics concept or another. While games can be used at any stage of the mathematics lesson, they are particularly helpful in situations as described above. By infusing fun into the mathematics classroom, students who would otherwise be distracted or non-participatory, may be fully engaged in meaningful learning activities.

This section of the Mathematics Interest Building Handbook provides a handy collection of games which you may call upon as required, in the mathematics lesson, in the Mathematics Club or in pull-out or small group sessions. Games may also enhance your Mathematics Corner to be used by students for individual practice or peer work.

Although a suggested grade level is given for each game, you are at liberty to modify the games as much as you desire for your particular class or grade group. Some games lend themselves to extensions and may even be assigned as enrichment tasks or assignments. The collection of games presented is in no way exhaustive; in fact you are encouraged to research other game ideas; you may also create games of your own and encourage your students to do the same.

I – Number Lotto

Players:Whole ClassMaterials:Pack of Playing Cards (1-9: Use Queen to represent 0)Topic:Place ValueGrade Level:2 - 6

Procedure:

- Players begin by drawing lines for digits (one line more than the number of places that were taught). For example, if two-digit numbers were taught, draw 3 lines, e.g. _____, _____.
- Students take turns in selecting a card from the playing pack. They must write the number selected on a line after each pick. They can write the number selected on any line.
- They continue until there is a digit on each line. They are allowed to strike out one of the digits. The person with the largest/smallest number is the winner.

Extension: This game may also be played with dice or spinners.



Players:Whole ClassTopic:Place ValueGrade Level:3 - 6

Procedure:

- > The teacher will write down a four-digit number without showing this to students.
- Students will be given the individual digits that make up the number and told the place value of one of these digits. Students will be given 10 seconds to guess the number that was written.
- > One point will be awarded for each correct guess.
- > Continue for 5 rounds to determine the winner (the person with the most points).

Modification:

The game could be modified for three-digit and five-digit numbers.

Additionally, students could be given the place value of more than one digit or no digit at all.

3 – Put in Order

Players:Whole ClassMaterials:2 Dice, Paper and PencilTopic:Place ValueGrade Level:2 - 6Procedure:



- The aim of this activity is to form 6 two-digit numbers and arrange them in ascending or descending order of size on a piece of paper. To play, each person draws six circles in a row on a sheet of paper.
- Taking turns, each person rolls two dice alternately and uses the numbers to form a two-digit number. For example, if you roll a 3 and a 5 you can make either 35 or 53. Write your twodigit number in one of the circles.
- When it is your turn again, roll the dice and form another two-digit number. Remember the numbers must be placed in order of size – either from smallest to largest or largest to smallest.
- Be careful! Once a number is written in a circle, you cannot change the number in any way. The first person to fill all 6 circles with numbers in either ascending or descending order wins. Play 3 games and see who wins most often.

4 - Snail One Hundred

Players:2 – 4Material:Board Game, Counters, DieTopic:Place ValueGrade Level:I - 3Procedure:

Snail One Hundred



- > Each player puts 2 counters of the same colour on 0.
- Players take turns throwing the die and move accordingly.
- > Each throw is added to their previous total.
- When a player reaches 9 both counters are needed. One counter is used to represent the tens and the other counter to represent the units.
- > The winner is the first to reach 100.

5 - Round 'em up!'

Players:Whole ClassMaterials:3 Dice, Paper and PencilTopic:Place Value, AdditionGrade Level:4 - 6

Procedure:

- Roll three dice. If you have only one die, roll it three times.
- Make any three-digit number from the numbers rolled.
- > Round off your three-digit number to the nearest 10 and write down this new number.
- Take turns, repeating the process each time and keeping a total of the numbers after they have been rounded off.
- > The first person to get to or exceed 3000 or any pre-determined number wins.

6 – Number of the Day

Whole class
Paper and Pencil
Addition, Subtraction, Multiplication, Division
1-6

Procedure:

- Place students in groups of fours.
- Choose a number appropriate to the grade level. Each group writes as many equations as possible that will equate to that number, using one or all four operations. You can make the game more fun by restricting the time for writing the equations.
- At the end of the allotted time the group with the greatest number of correct mathematical equations is the winner.



7 – Circles and Stars

Players:Whole ClassMaterials:One or two Dice, Paper and PencilTopics:Multiplication and AdditionGrade Level:3 - 6Procedure:



- > Each player takes turns in rolling the die twice or rolling two colour coded dice together.
- If one die is rolled twice, the first roll indicates the number of circles that should be drawn and the second roll indicates the number of stars that should be drawn in each circle. If two dice are rolled one colour represents circles and the other represents stars.
- At the end of a specified number of rounds the player with the largest number of stars is the winner.

8 – Multiplication Face Off

Players:	Whole Class/ In Pairs
Торіс:	Four Basic Operations
Grade Level:	2 - 6



- > Students playing in pairs will hold one or both hands behind them.
- At the count of three, they will show a certain number of fingers to each other simultaneously.
- > The first student to give the correct product of the two numbers displayed is the winner.
- At the end of each round, losers will take their seats and the winners will pair off for the next round. The game continues until one winner remains.

Modification:

- I. Players could be asked to find the sum or difference instead of the product.
- 2. The game could start with only one hand being used and, as the rounds progress, both hands becoming involved.

9 – Dice Addition

Players:Whole ClassMaterials:Dice, Score SheetTopic:AdditionGrade Level:2 - 6Procedure:



- > This game is played with 2 or more dice. Each player will keep a score sheet.
- Players will take turns to roll both dice. They will find the sum of the numbers on the dice and add it to their previous total.
- > The first player to reach 100 is the winner.

10 - Closest to 15/10

Players:	2 - 4
Materials:	A Die
Торіс:	Addition
Grade Level:	3 - 6
Procedure:	

- Players will take turns to roll the die.
- > They can roll it as many times as they want and keep the total.
- > When the player stops rolling, he/she records the total.
- The winner is the person whose sum is exactly or closest to 10 or 15 without going beyond the number.
- > If a player goes over 10 or 15, then he/she loses that round.

II – War

Players:2 or 4Materials:Playing Cards from I – I0Topic:AdditionGrade Level:2 - 6

Procedure:



- > Divide the deck of cards evenly between the players.
- Each player will put out two cards from the top of his/her deck and add them together and say the sum.
- > Whoever has the highest sum will take all cards. The objective is to take the whole deck.

12 - First to 100

Players:	Whole Class
Materials:	A Pair of Dice, Paper and Pencil
Торіс:	Addition/probability
Grade Level:	3 - 6
Procedure:	



- Players take turns rolling two dice.
- On a turn, a player may roll the dice as many times as he or she wants, mentally keeping a running total of the sums that come up. When the player stops rolling, he or she records the total and adds it to the scores from previous rounds.
- If a 1 comes up on one of the dice before the player decides to stop rolling, the player scores
 0 for that round and it's the next player's turn.
- If a 1 comes up on both dice, not only does the turn end, but the player's entire accumulated total returns to 0.
- > The winner is the first player to reach 100.

13 – The Teens Game

Players:2 - 3Materials:Counters, Teens Board, A Pack of 18 Cards numbered 11 - 19.Topic:AdditionGrade Level:1 - 3

Procedure:

- Each player has 20 counters and a board.
- The game is played with a set of cards numbered 11 19 (at least 3 copies of each number from 11 - 19 must be in a set of cards).
- The players sit with their boards in front of them and their pile of 20 counters beside the board. The pack of numbered cards is put face down in front of the players.
- The first player takes a card and reads the number on it. He/she then makes that number with two counters placed on the numbers on his/her board. For example, if 16 had been picked, then a counter would be put on a square marked '10' and one marked '6'.
- > The next player then does the same.
- > If the number on the card cannot be made then the player cannot go and misses a turn.
- > When all the cards in the centre have been used they are shuffled and used over again.
- The game continues until one player has put all his/her counters onto his/her board. This player is the winner.



Teen Board 1

10	5	10	2
9	10	I	10
10	6	10	3
4	10	7	10
10	2	10	9
8	10	5	10

Teen board 2

5	10	3	10
10	8	10	2
4	10	7	10
10	9	10	5
3	10	I	10
10	6	10	8

14 - Cross-out Sum

Players:Whole ClassMaterials:A Die, Paper and PencilTopic:AdditionGrade Level:2 - 4

Procedure:

- Draw four circles on a sheet of paper. Select any 4 numbers between 3 and 18 and write one in each of the circles. Roll a die 3 times and add together the 3 numbers that you get.
- If the sum is one of the numbers in the circle, cross it out. The first person to cross out all their circles wins.

I5 – Card and Dice Multiplication

Players:	2 - 6
Materials:	Playing Cards from I – I0, a Die
Topic:	Addition, Multiplication
Grade Level:	3 - 6

Procedure:

- > Each player should take the same number of cards.
- One player will go first and turn over one of his/her cards and say the number on it. The player should also roll the die and multiply the numbers on the card and the die. If the product is correct he/she records it on his/her score sheet.
- > After 5 rounds the player with the highest sum of all the products wins.

16 - Card Fun 21

Players:4Material:Deck of Playing Cards from I-10: use Queen for 0Topic:AdditionGrade Level:2 - 3Procedure:

- > Each player is given 2 cards to begin the game.
- Place the remaining deck of cards face down.
- Players take turns to select a card from the pack and see if it can be added to some or all of the other cards in their hands to give a sum of 21.
- If a player chooses a card that can make 21 then he/she removes those cards from his/her hand and puts them aside. The player is allowed to pick another card to see if he/she can make 21 again.
- If however, a player cannot make 21 then he/she keeps the card taken from the pack and the next player is allowed to play.
- After the pack is finished the winner is the person with the greatest number of sums of 21.

Example of 21:



17 - Even Odds

Players:2 - 4Material:Hundred Board and a DieTopic:Addition, SubtractionGrade Level:2 - 5

Procedure:

- > Each player starts by putting his /her counter on 50.
- Roll a die. If the number is even, move forward according to the number on the die; if it is odd move backwards according to the number on the die.
- If you land on a multiple of 5 that is an even number move 10 places forward; however, if you land on a multiple of 5 that is an odd number move 10 places backward.
- > The first person to reach 1 or 100 wins.

18 - Make 12

Players:	Whole Class
Materials:	Deck of Cards using 1-10.
Торіс:	Basic Addition Skills up to 12
Grade Level:	1-2
Procedure:	

- Each student takes turns laying out 10 cards from the deck and puts them face up.
- When a student lays out his/her 10 cards he/she must look at all the combinations of numbers and remove any that add up to 12.
- Players put the unused cards aside.
- The next player then goes.
- Play continues until all cards have been used up.
- Whoever gets the most combinations in a round wins.

Extension: For more advanced students, consider using the game to practise multiplication, or have them look for sums greater than or equal to 20.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

19 – Subtraction by Chance

Players:	2 - 5
Materials:	Playing Cards, Paper and Pencil
Торіс:	Subtraction
Grade Level:	4 - 6

Procedure:



- The aim of the game is to use 5 randomly selected digits to create a subtraction problem that produces the smallest difference.
- > One person who is not playing is needed to select 5 cards from the deck and call them out.
- > For the game, you will need one of each of the following cards from the deck:
 - ✓ Number cards 2 9
 - ✓ Ace to represent I
 - ✓ Queen to represent 0
- Remove all other face cards.
- For this game, each player will need to draw the template shown of a subtraction problem in which a two-digit number is being subtracted from a three-digit number.
- The caller selects a card from the deck and calls it out. Each person decides in which box to place the digit; players must write a digit after it has been called and cannot wait to hear the other digits. Once written, the digit cannot be placed somewhere else.
- The caller selects and calls 4 more digits a total of 5. After each digit is called, the players place it in a box in the template.
- After the boxes have been filled up, each person performs his/her subtraction problem and the winner is the person who has the smallest difference.

Extension:

Alternatively, the rule could be changed so that the answer closest to the largest difference wins. Instead of subtracting, a template could be created for multiplication, addition or even division.

20 – Thirty Up!

Players:2Materials:3 x 3 Playing Card, Number Cut-outsTopic:AdditionGrade Level:4 - 6

Procedure:

- For this game you will need a 3 by 3 playing board as shown in the diagram and nine cards numbered 2, 4, 6, 8, 10, 12, 14, 16, and 18.
- The aim of the game is to make a line of three cards (vertical, horizontal or diagonal) which totals 30.
- > Shuffle all the cards and place the deck face down on the table.
- > Taking turns, each player takes the top card and places that card anywhere on the grid.
- > The first person to complete a line which totals 30 is the winner!

Possible solution

8	18	14
6	10	14
16	2	12

21 – Hidden Sum

Players:2Materials:Pocket Chart with Sums and AddendsTopic:Addition of two-digit NumbersGrade Level:3 - 5

Procedure:

- > Each player takes turns to remove a pre-prepared question from the pocket chart.
- > The player performs the addition and then identifies its answer on the chart.
- > If the player is correct, he/she keeps the card.
- If the player is incorrect and the other player calculates correctly, he/she takes the card without losing his turn.
- > Play continues until all cards have been used.
- > The player with most cards wins.

78	21	45	23	
100	97	42	56	
123	88	89	25	
241	76	67	112	
Pocket with Addition Questions				

22 - How many equations can we make?

Players:	4 - 6
Materials:	Playing Cards from I – 10, Paper and Pencil
Торіс:	Addition, Subtraction, Multiplication, Division
Grade Level:	3 - 6

Procedure:

- Give each player a piece of paper and a pencil. Use the cards from 1 to 9.
- Deal out 6 cards with the numbers showing.
- Players should try to make as many equations as possible using some or all 6 cards and a choice of any combination of addition, subtraction, multiplication and division.
- Players get one point for each correct equation they can make. A player can put 2 cards together to make a two-digit number. For example, 2 and 3 can make 23 or 32.
- The player with the most points is the winner.

23 – Zero Hero

Players:2 - 4Materials:100 Chart for each player, 2 DiceTopic:SubtractionGrade Level:3 - 6

Procedure:

- Each player marks 100 on the 100 chart.
- The first player rolls both dice and subtracts the sum from 100.
- Players take turns rolling the dice and subtracting the sum from the number that their marker is on.
- The winner is the first person to reach zero. When a player is down to a number between 0-9, he/she may roll a single die.

Modification: Start at zero and add the sum of the numbers on the rolled dice to their charts. The winner is the first person to reach 100.

24 – Number Difference

Players:	In Pairs
Materials:	A Die, Paper and Pencil
Торіс:	Subtraction
Grade Level:	I-3



Procedure:

- > Taking turns, each child chooses a number between 1 and 12 and writes it down.
- > Player I rolls the die and writes down the uppermost number.
- The player finds the difference between the number he/she had chosen and the number on the die. For example, the player may have chosen 7, and then when he/she rolled the dice he/ she got 2, so the difference between the numbers is 5.
- After each person has had 5 chances (a different number is chosen each time), the differences should be added.
- The person with the smallest difference wins.

Modification: For smaller children you may use counters or a number line to help with the calculations. For older children you may choose to find the product of the numbers.

25 – Divide and Conquer

Players:In 2 TeamsMaterials:Card with the numbers 1, 2, 5, 6, 7, 8, 9Topic:DivisionGrade Level:3

Procedure:

- Each team will be divided into groups of 3.
- Each team will be given 9 cards: two 2's, one 1, one 7, one 6, two 5's, one 9 and one 8.
- They will be asked to arrange the cards so that each member of the team will have 3 cards that have the same sum.
- > The team that finishes first is the winner.

Modification: In other rounds, other cards may be used that will require players to give a sum other than that mentioned above.

26 – Timed Prime

Players:	Individually/ In Pairs or Teams
Materials:	Stopwatch, Chalk/Dry Erase Marker
Торіс:	Prime Numbers
Grade Level:	4 - 6
Procedure:	

- Select two numbers between I and I00 that are at least 50 apart.
- > Write these 2 numbers on the board and set a timer for 2 minutes.
- Students must determine all the prime numbers within this grouping before the timer goes off.
- > The person, pair or team with the most correct answers will be the winner.

Extension: There can be a rule that the person, pair or team that gives an incorrect answer loses a point. This can also be done with composite numbers.

27 – Multiplication Roll 'Em

Players:In PairsMaterials:DiceTopic:MultiplicationGrade Level:3 - 4



- Player I rolls two dice.
- He/she finds the product of the 2 numbers.
- Player 2 does the same.
- > Circle the mathematics fact with the highest total. That player now has I point.
- Play 18 rounds.

Procedure:

> The player with the greater number of points after 18 rounds wins.

28 – Dice Bingo

Players:	Whole Class
Materials:	Bingo Cards, a pair of Dice
Торіс:	Multiplication
Grade Level:	3 - 6
Procedure:	

- > Each player should have their own Bingo card or cards.
- Place only one of the following numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 18, 20, 24, 25, 30, 36, in each square. Numbers can be placed in any order and no number should be repeated.
- > The game should have a "caller" who will roll the dice, call both numbers and say the product of the number (the caller can also allow the group to say the product).
- Players who have the product on their card will mark it. If the product is already called then the sum of the numbers should be used (a record should be kept of the numbers played).
- Before the start of the game, players should agree on the type of Bingo to be played. For example, Straight Line Bingo (4 in a row), Four Corner, Four Middle Squares, and Full House (all numbers on the card should be played).
- The first person to get the numbers in the particular order wins the game. Then the markers should be removed and a new game can start.

29 – Zip – Zap – Zum

Players:Whole ClassTopic:MultiplesGrade Level:3 - 6

Procedure:

- > Players will stand in a straight line or in a circle.
- The first player will say 'one', followed by the next player who will say 'two', and so on, continuing to the end of the line or the last person in the circle.
- After that is complete, players will count again starting at 1. All the players with numbers that are multiples of three will say 'zip', those with numbers that are multiples of four 'zap' and for a multiple of 5, the player will say 'zum'.
- If a number is both a multiple of three and four the player should say 'zip, zap', and likewise for any other combinations.
- A player will be eliminated from the game when he/she says the wrong word or calls the number when the word is required. Additionally, if a player takes too long to continue counting and thus breaks the counting rhythm, that player is also eliminated.
- After a player is eliminated another round may be begin by selecting a random player to be number one (the game does not have to restart at one after each round).
- > The winner is the last player standing.



30 – Multiplication and Factors Game

Players:	Whole Class
Materials:	Bingo Cards, Box, Cut-Out Multiplication Table
Торіс:	Multiplication, Factors
Grade Level:	4 - 6

Procedure:

- Print and cut out each number from the 1 12 multiplication table. These numbers will be placed in a bag or box.
- > Allow students to make their own Bingo cards. They can select any number from I I2 they want to use in the top row or first column.
- The game will need a caller. The caller will select and call a number from the bag/box and pull a number and call it.
- If the players have the factors on their cards they will mark it. They can only mark one pair of factors each time a number is called. For example, if a player selected the numbers shown in the following diagram, and the number 12 is called he/she could either place a marker under the column with 3 and row with 4 or under the column with 6 and the row with 2.
- The first player to get 4 in a row is the winner.

Extension: Rather than playing Straight Line Bingo, the class could also play L, Full House or Four Corner Bingo. This must be agreed on before the start of the game.

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

*	3	5	6	2
2				
4				
I				
8				

31 – Number Search

Players:4 - 6Materials:Number CardsTopic:MultiplesGrade Level:3 - 6

Procedure:

- > Numbers will be written on cards and placed on walls or anywhere in a room.
- > The teacher or a selected player will ask the group to find different numbers from the set displayed. For example, find a multiple of 5.
- Players will try to find this number as quickly as possible and return it to the instructor. The last person to return will be eliminated (providing the others who returned before are correct).
- The game continues with different clues until one player remains. This player will be declared the winner.

Extension: This game could be modified to include various concepts and may also be played in pairs or small groups. Players may also be asked to find more than one number.

32 – Guess the Factors

Players:	2 - 4
Materials:	Cards numbered 0 to 9
Торіс:	Factors
Grade Level:	3 - 6

Procedure:

- > The teacher or a selected student will pick 2 cards from the set of numbered cards.
- The product of the 2 numbers will be told to the class and students will attempt to tell the two numbers which were chosen.
- > Points will be awarded for each successful attempt.

Modification: Students may also attempt to guess the addends if they are told the sum.

33 - "I Have... Who Has..."

Players:Whole ClassMaterials:"I Have" Cards (See information below.)Topic:MultiplicationGrade Level:4 - 6

Procedure:

- Distribute the cards randomly to your students. Some students may get more than one card.
- Select a student to begin by reading his/her card aloud, for example, "I have 25. Who has 6 x 6?"
- The child whose card has the correct answer, will then read their card for example, "I have 36. Who has 9 x 3?", and so on.
- > Students must listen for their turn and try not to break the chain.
- > When the chain circles around to the first student, the game is over.
- > See if they can 'beat the timer'. Set a timer for 2 minutes, 5 minutes, and so on..

"I Have" cards (place one of the lines of information below on each card):

I have 40.Who has 4 x 3?	I have 12.Who has 10 x 5?	I have 50.Who has 4 x 8?
I have 32.Who has 9 x 5?	l have 45.Who has 7 x 7?	l have 49.Who has 9 x 2?
I have 18.Who has 12 x 3?	l have 36.Who has 4 x 4?	I have 16.Who has 8 x 3?
l have 24.Who has 7 x 5?	l have 35.Who has 5 x 5?	l have 25.Who has 3 x 5?
I have 15.Who has 7 x 6?	I have 42.Who has 6 x 6?	I have 36.Who has 5 x 6?
I have 30.Who has 8 x 1?	I have 8. Who has 8 x 7?	I have 56.Who has 9 x 6?
l have 54.Who has 8 x 9?	I have 72.Who has 12 x 5?	I have 60.Who has 9 x 10?
I have 90.Who has II x 5?	l have 55.Who has 9 x 7?	I have 63.Who has 7 x 4?
l have 28.Who has 8 x 0?	I have 0.Who has 10 x 4?	

34 – Multiplication Mathematics War

Players:In PairsMaterials:Deck of CardsTopic:MultiplicationGrade Level:4 - 6Procedure:

- > The class should be divided into pairs, and each pair gets a deck of cards.
- Explain that face cards have values: a Jack is worth 11, a Queen is worth 12 and an Ace is worth 1. All Kings are removed from the packs.
- > The deck is shuffled and each player gets half the deck.
- Players flip over two cards at a time. Each player multiplies his or her own cards, and whoever has the higher product wins all the cards in that round.
- > The player in each pair with the most cards at the end of all the rounds wins.

Extension: Game maybe timed and can be used for addition and subtraction.

Players:	In Pairs
Materials:	Deck of Cards
Торіс:	Computation
Grade Level:	2 - 4

35 – Ring Sum

Procedure:

- > Spread twelve cards face down in a circle in front of the two players.
- Each player takes turns picking up two cards and completing the computation as assigned by the teacher.
- For example, if students are practising addition, they may choose two cards, a 3 and 4. The sum would be 7, so the student receives 7 points.
- A running total is kept for each player.
- The Ace is valued at 1, the Jack 11, the Queen 12. The King is removed. The player with the most points at the end of the game wins.

36 – The Difference Game

Players:Whole ClassMaterials:2 Dice, Game Board, CountersTopic:Single Digit MultiplicationGrade Level:I

Procedure:

- Players put their counters on 'Start' and then take turns throwing the dice.
- They work out the difference between the numbers on the two dice and say it. For example, 'The difference between 2 and 5 is 3'.
- If both the number and the language are correct the player moves to the next square along the track showing that number.
- > The winner is the first to reach the end.

37 - Trip to the Stars

Players:	2
Materials:	Game Board, Two Coloured
	Counters, A Die
Topic:	Even and Odd Numbers

Grade Level: Grade 3

Procedure:

- Players shake the die and put a counter on an evennumbered star if they get 'Even' and a counter on an odd-numbered star if they get 'Odd'.
- The number of rounds will be determined by the players but they should not exceed 13.
- > A star can only be covered once.
- The winner is the one whose counters cover the most stars at the end of the game.





38 - Cross Divide

Players:Whole ClassMaterials:A Die, Paper and PencilTopic:Factors, MultipleGrade Level:4 - 5

Procedure:

> Each player chooses five of the following numbers and writes them on a piece of paper.

	5	6	8	9	16	15	20	21	24	4
--	---	---	---	---	----	----	----	----	----	---

- Players take turns rolling a die. If the number rolled divides exactly into one of the numbers without a remainder, the player crosses it out and passes the die to the next player. Players can only cross out one number at a time. For example, if a player rolls a 3 or 6, 24 can be crossed out if this number was chosen.
- If a player rolls a 1, he/she misses that turn. If a 6 is rolled, and the player has the multiple he/ she crosses it out and rolls again.
- > The first to cross out all five of their numbers wins.

39 – Odd and Even Number Relay

Players:	In 2 Teams
Materials:	Chalk or Dry Erase Marker, Chalkboard/Whiteboard
Торіс:	Odd and Even Numbers
Grade Level:	I - 2

Procedure:

- > Draw a vertical line down the centre of the board.
- > Write the word 'Odd' at the top of one column and the word 'Even' at the top of the other.
- Each team stands in a straight line about three to four feet away from the board facing their respective columns.
- Select a range of numbers within which the students should work, for example, 1-50. Then give the first student in each line a piece of chalk or dry erase marker and say 'go.'
- The students move quickly to the board to write an odd or even number in their respective columns and then move quickly back to the line and pass the marker or chalk to the next player. No number should be repeated.
- > The team that finishes first and has all their numbers in the correct column wins.

Extension: The game may also include other number patterns such as prime, composite, etc.

40 – Percentage Flash

Players: Whole Class/Multiple Players Materials: **Deck of Cards Topic: Percentages** Grade Level: 5 - 6

Procedure:

- Remove the face cards and shuffle the deck.
- Decide on a percentage to calculate.
- For easy play, use 50%, 10% or 1%. For more challenging play, use more difficult percentages.
- Turn over the top card.
- > The first player to give the correct answer to the agreed percentage wins the card. For example, if you are playing 50% and a 8 is turned over the first person to say 4 will win that card.
- The player with most cards at the end of the game wins. \succ

2

Materials:	Fraction Hop Chart/Board, Dice
Торіс	Equivalent fractions
Grade Level:	3 - 6

Procedure:

Players:

- Players place their markers on START to begin the game.
- Players take turns to roll both dice.
- The numbers on the dice should be used to form a fraction with the smaller number representing the numerator and the larger number representing the denominator.
- Players should give an equivalent fraction to that represented by the dice.
- If they are successful then they will move their marker; the number of spaces moved will be determined by the number used to represent the numerator (smaller number).
- If the player fails to give a correct equivalent fraction he/she loses a turn.
- \succ The first person to reach or pass the END square is the winner.





42 – Fraction Dominoes

Players:2 - 4Materials:Dominoes made from Cardboard or HardboardTopic:FractionsGrade Level:2 - 6

Procedure:

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- Print and cut out the dominoes as shown.
- > The game is played like regular dominoes.
- > For the first game the player with the largest double (three-fourths) plays it first.
- > The aim is to match like fractions. The first person to match all his/her dominoes is the winner.





Two thirds	6 9	$\frac{4}{8}$	$\frac{3}{4}$
	$\frac{3}{4}$	One Fourth	$\frac{3}{4}$
$\frac{1}{5}$	$\frac{6}{8}$		$\frac{3}{4}$
$\frac{4}{6}$	$\frac{3}{4}$	$\frac{3}{4}$	Three fourths



43 – Make One

Players: 2 - 4

Materials:	A Deck of 36 Cards				
	Two of each of the following:				
	1/2, 1/3, 2/3, 1/4, 2/4, 3/4, 1/6, 2/6, 3/6, 4/6, 5/6,1/8, 2/8, 3/8,				
	4/8, 5/8, 6/8, and 7/8.				
	One of each of the following eleven cards:				
	3/2, 4/3, 8/3, 6/5, 8/5, 8/7, 2, 3, 4, 6, and 8.				

Topic: Fractions

Grade Level: 5 & 6

Procedure:

- Shuffle well and deal 5 cards face up to each player.
- The object of the game is to add, subtract, multiply, and divide the numbers on the 5 cards to 'make one' by using as many cards as possible. For example, if a player has a 1/2 and a 2/4 card, he may add them to 'make one'. This player earns 2 points because he/she used 2 cards to 'make one'. Another example: a player may have a 4/6, 1/3, 2/8, 2 and 8. He/she may play all 5 cards in this manner: (4/6 + 1/3) x [(8 x 2/8) / 2]. He/she would receive 5 points.
- Players should not announce their result until all players have had a reasonable time to 'make one'. At the end of each round, each player draws as many additional cards from the deck as he/she used to 'make one'. If a player cannot 'make one' by using his/her cards, and that is highly unlikely, the player may place any two cards from his/her hand at the bottom of the deck and draw two from the top of the deck. This can be done at the end of a round instead of 'making one'.
- Play continues in this manner until all the cards are gone from the deck. The winner is the player with the most points when the deck is gone.

Extension: As a variation, the winner can be the first player to score 23 points.



44 – Fraction Matching Game

Players:

Material:Fraction Cards (See diagram showing examples of cards.)Topic:Fractions

Grade Level: 3

Procedure:

Each player is dealt 6 cards.

2

- The rest of the cards are placed face down in a pile.
- Each player takes a card in turn, either unseen from the pack or the top card from the pile beside the pack.
- > The player compares the drawn card to his/her hand.
- > If the player can make a pair he/she uses it.
- If the player cannot make a pair he/she discards one card onto the pile beside the pack.
- At any time during the game players may remove pairs that represent the same fraction and place them on the table.
- These pairs can be added to if any other representation of the same fraction is picked up.
- The winner is the first to have no cards left.

\bigcirc	<u>1</u> 2	half
\bigcirc	$\frac{\frac{1}{2}}{\frac{1}{4}}$	half quarter

45 – Simplest Form

Players:2Materials:Deck of Cards, Paper with horizontal lineTopic:FractionsGrade Level:4 - 6

Procedure:

- Remove all the face cards from a deck of cards.
- Shuffle the deck and deal out all the cards face down before the two players, making two smaller decks.
- For the game board, use a piece of paper with a line drawn horizontally across the middle. This line represents the fraction bar.
- Simultaneously, each player draws 2 cards from his/her deck and places the first card face up above the line (for the numerator) and the second card below the line (for the denominator).
- The players now race to simplify their fraction, reducing it, turning it into a mixed fraction, or declaring it is already in its simplest form.
- The one who finishes faster wins the four cards. In the event of a tie, split the cards. At the end of the game, the winner is the one with the most cards.

Extension: Once simplified, players may compare their fractions. The player with the larger fraction will take all four cards.



46 - Shape Fishing

Players:

Materials:2D Shapes and Definitions Cards (See examples of cards below.)Topic:Shapes

Grade Level: 4

Procedure:

> Four students will sit in a circular fashion.

4

- > Each player will take two cards from the pack.
- > The deck of cards will then be put in the centre.
- Each player will take turns asking each other for a card shape that they need to make a pair. If the player gets a card, he/she makes the pair and puts it aside. If the player does not, he/ she is asked to 'go fishing' from the deck.
- > The game continues until all the cards are used.
- > The winner will be the person with the most cards.



A two-dimensional four sided shape with opposite sides that are parallel and with all the sides of the same length.

Two dimensional shape with 4 sides of the same length and 4 90° angles.



A two-dimensional shape with five straight sides and five angles.

A triangle which has a right angle (90°) in it.

A two-dimensional shape with four sides. One pair of sides is parallel with one side longer than the other.

A round flat two-dimensional shape.



A two-dimensional shape with 6 straight sides and 6 angles.



A two-dimensional shape with 8 straight sides and 8 angles.



A triangle with no sides equal in length and interior angles being different.



Two-dimensional shape with three straight sides and three angles.



A triangle with all sides and angles equal.



A triangle with two sides and angles equal.

47 – Shape Concentration

Players:4Materials:Sets of Cards containing pictures of shapes, as well as the
properties of the shapesTopic:Shape Recognition

Grade Level: 5 - 6

Procedure:

- Students will take turns to pick two cards and 'flip' them. The student may 'flip' a picture of a hexagon and a picture of a circle, which would render no match.
- When incorrect, the cards are turned face down again and play continues with the next player choosing two cards.
- When a student correctly matches the picture to the corresponding text, those cards are then removed from the board.
- > Play continues until the board is cleared.
- > The person with the most cards wins.

Extension: Can be used for other skill sets, such as recognizing numbers in different formats (written, numerical or symbolic representation), fractions or percentages.







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48 – Four-Corner Shape Game

Players:	Whole Class		
Materials:	4 Pre-cut Shapes		
Торіс:	Shapes		
Grade Level:	1-2		

Procedure:

- Place a paper cut-out of a shape in each corner of the classroom, for example, a circle, square, triangle or rectangle.
- Randomly choose a student to stand in the centre of the room. This student must cover his/ her eyes. The other students scramble to different corners of the classroom.
- > The student hiding his/her eyes will then shout out one of the four shapes.
- > The students that are in that corner are out of the game.
- Randomly choose another student (from those eliminated) to stand in the centre of the room.
- Students can change their positions to another shape if they wish.
- Repeat this game until one student is left.
- > The winner is the last person standing.



49 – Throwing Game

Players: In Groups

Materials: Ruler, Paper Plane or other object for throwing, Recording Paper **Topic: Measurement - Length** 3 - 5

Grade Level:

Procedure:

- Take the students out to a football field.
- Arrange them in groups of 4 or 5.
- > Have all of the students stand on the goal line and take turns throwing an object (such as a paper plane or flying disc).
- Measure the length of the throw in cm/metres.
- Have a student recorder write down the length of each person's throw.
- When all members of the teams have thrown, the winning team will be the team with the highest score.

Extension:

- I. You also could extend this activity to include finding an average by allowing each child to throw three times and record the average distance for purposes of comparison.
- 2. Let students first estimate the distance at which their object falls, then measure it and find the difference. Each team member will record the difference. After each team member has thrown, the team with the smallest sum of the differences will be the winner.



50 – Dice Clock

Players:Whole ClassMaterials:Two Dice, Clock for each playerTopic:Telling TimeGrade Level:3



Procedure:

- > Each player starts by placing both the hour hand and the minute hand on 12.
- Players take turns to toss the dice. On each toss, players will move the minute hand on their clocks according to the sum of the numbers falling uppermost on the dice (the minute hand should only be placed on the numbers 1, 2, 3....12).
- After each movement of the minute hand, the player should tell the new time correctly or return the hand (s) of the clock to the original position.
- > The first player to get the hour hand on 6 or past 6 is the winner.

NOTE:

Players should remember that each time the minute hand lands on or passes 12, the hour hand should be on or past the next hour.

The game can begin or end on any hour.


51 - 10 Pairs to 100

Players:2Materials:Paper and PencilTopic:AlgebraGrade Level:3 - 6

Procedure:



- Each player draws 10 circles and writes a different two-digit number in each circle. You are not allowed to write a multiple of 10 (no 10, 20 30, etc.).
- Player A gives Player B one of his/her numbers. Player B is to determine what number is to be added to the number he/she has been given to make 100.
- If Player B cannot do that, then the number comes back to Player A, who then has the chance to give the answer.
- Whichever player gets the correct answer has the opportunity to write his/her initial above the number. If neither person is correct, then an X is drawn through the number.
- > Player B then offers Player A one of his/her numbers with the same challenge and conditions.
- > When all the numbers have been used, the player who has initialed most numbers wins.

52 – Add in a Flash

Players:	2
Material:	Playing Cards from 1 - 10
Торіс:	Addition, Algebra
Grade Level:	2 - 6



Procedure:

- Cut the deck in two and give half to each player. Ensure that each person shuffles his/her cards properly and that he/she holds the cards face down.
- The caller instructs each person to draw a card and, without looking at it, to place it on his/ her forehead so the other player can see it.
- The caller/judge will then add the two numbers together and call out the sum so that both individuals can hear. The player who can first give the number on the card that he/she has on his forehead wins that game and gets a point.
- Play 5 games and see who wins most often.

Modification: Instead of adding the numbers, the players can decide that they will multiply or even subtract the numbers.

53 – Knockout 20!

Players:2 - 3Materials:Counters, 3 Dice, Paper and PencilTopic:Algebra, AdditionGrade Level:3 - 6

Procedure:

- Each player will need a different set of 6 counters.
- Students should write the numbers from 2 to 17 on a sheet of paper. Each person does not need to write a different set of numbers; one set is sufficient. Write the numbers large enough to put counters or coins on them.
- Players take turns rolling 3 dice. Add the numbers on the 3 dice. Put a coin/counter on the number that when added to the sum of the numbers on the 3 dice gives 20. For example, if 6, 4 and 1 are rolled, then 6 + 4 + 1 = 11. Therefore, the number 9 should be covered on the paper.
- If someone else already has a counter on the number, take it up and replace it with your own!
- > The first person with counters on six different numbers wins.

Modification: Two dice may also be used, and the third number needed to give the required sum be covered. However, this time, the numbers from 8 to 18 should be used, if the sum is still 20.

54 – Missing Addend

Players:Whole ClassMaterials:A DieTopic:AlgebraGrade Level:I - 3



Procedure:

- Players, taking turns, roll a die. See how quickly the players can say the number that is needed to be added to the number on the die to make 10. For example, if a 4 is rolled, a 6 is needed to make 10. Therefore the first person to shout out 6 scores a point.
- > The first person who gets to a designated number of points is the winner.

Modifications:

- 1. The activity may be extended by deciding that the numbers should add up to 20, 50 or some other number other than 10, depending on the grade and level of the students.
 - 2. Two dice may also be used and the players required to tell the third number needed to give the required sum.



55 - What's my Number?

Players:2Materials:Paper and PencilTopic:AlgebraGrade Level:3 - 6

Procedure:



- Player A thinks of a number between 0 and 20 (ask him/her to write it down if you want to ensure honesty).
- Player B is allowed to ask any 5 questions in order to determine the number that Player A is thinking about.
- Examples of questions include (questions may vary depending on the age or readiness of the players):
 - ✓ Is it less than 10?
 - ✓ Is it an odd number?
 - ✓ Does it have a 5 in it?
 - \checkmark Is it a multiple of 5?
 - ✓ Does it have 2 digits?
 - ✓ Is there a 0 in it?
 - \checkmark Is there a 1 in it?
- Player A may answer only 'yes' or 'no' to each question. It should be agreed that some questions will not be asked such as 'Between which 2 numbers does the number fall?'
- If Player B cannot determine the correct number, then Player A wins that round and the roles are reversed.
- Play 3 5 rounds to get an overall winner.

Modification:

For an easier game, use numbers up to 10. For a harder game, use only 3 questions, or use bigger numbers.

56 - Secret Operation

Players:2Materials:Paper and PencilTopic:AlgebraGrade Level:4 - 6Procedure:



- Player A says a number, e.g. 43.
- Player B secretly does something to it (e.g. add 30), and says the answer, e.g. 73.
- Player A then says another number, e.g. 61.
- Player B does the same to that number and says the answer.
- Player A has to guess what Player B is doing to the number each time!
- > Then roles are reversed for another round of the game.
- > After 5 rounds, the person who guesses the most correct operations wins.

57 – Add it Dice

Players:Whole ClassMaterials:Counters, Dice, Game Strip with the numbers 2-12,
Recording SheetTopic:Addition, ProbabilityGrade Level:2 - 6Procedure:

- > Each player arranges 11 counters on the game strip and records the arrangement.
- > Once the counters are arranged, players take turns rolling the dice.
- > For each roll, the players will remove one counter if it is on the sum rolled.
- > The first player to clear his/her game strip wins.

58 - Rectangle Play Off

Players:2Materials:Dice, Grid/Geo PaperTopic:Probability, Multiplication, Geometry, AreaGrade Level:3 - 5Procedure:

- > Each player should have a separate but similar grid paper.
- Players take turns rolling two dice.
- Each player will use the numbers on the dice to trace a rectangle using the numbers on the dice to represent length and width.
- > They will write the multiplication sentence inside.
- The game is over when one player can't place a rectangle because there's no room on the grid.
- > The player with the most rectangles wins.

Extension: Students may eventually find the area or perimeter of the rectangles created. Whoever has the greatest perimeter or area for his/her rectangles wins.

59 – Probability Tally

Players:Whole ClassMaterials:Spinner, Recording SheetsTopic:Probability, TallyGrade Level:4 - 6

Procedure:

- Players will select a colour from the spinner. No two players may choose the same colour.
- > They take turns to spin the spinner.
- If the spinner stops on the colour of the player's choice he/she scores 2 points. If the spinner stops at any other colour, the person who chose that colour will get 1 point.
- \succ The person who gets to 10 points first wins the game.

Extension: After becoming familiar with the game, players may choose a combination of two colours. The spinner could also be unevenly divided for example, $1/_8$, $1/_2$, $1/_4$, with different points being allocated for each section; for example, $1/_8 = 4$ pts, $1/_4 = 2$ points and $1/_2 = 1$ pt.



60 – Money Wheel

Players:Whole ClassMaterial:Probability WheelTopic:ProbabilityGrade Level:4 - 6

Procedure:

- > Players will take turns to spin the wheel.
- > They will keep a running total of the numbers on which the wheel stops.
- > The first person to get to 3000 wins.

Extension: When a student spins the wheel and it stops on a number he/she has to give an equation that will equal that number before he/she can claim and record that number.





61 – Scrambled Mathematics Words

Players:In GroupsMaterials:Chalk/White Board, Chalk/Dry MarkerTopic:Mathematics VocabularyGrade Level:3 - 6

Procedure:

- > Place students in small groups that will compete against each other.
- Scramble mathematics words (one at a time) and write them on the board. The first group to unscramble the word will get a point (clues may be given if players have difficulty unscrambling the words).
- > The group with the highest number of points wins the game.

