MATH ON OLYMPIAD

A Guide to Hosting a Math On Olympiad Competition

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Math On Olympiad 2010-2011

Math On Olympiad is an opportunity for middle school students in our schools to grow and excel in their mathematical thinking. Students will experience a sense of teamwork and enjoyment while engaging in stimulating mathematical challenges.

This is a competition for students who are willing to work together and who enjoy problem solving.

We hope that your school will embrace the idea and have a successful event.

MATH ON!!!

Math On Olympiad Outline

The Math On Olympiad is a competition for grades 7, 8, and 9 students.

SCHOOL TEAMS

- Each school must enter a school team consisting of 4 students per grade level
- Each grade level consists of two teams: Team A with 2 students and Team B with 2 students
- Total for each school team: 6 teams, 12 students

COMPETITION FORMAT

Round 1

All grade 7 teams compete. 1st, 2nd, & 3rd place is awarded to the first 3 teams who successfully answer all five questions within the 25 minute time limit. Diamond place is awarded to the team finishing within 25 minutes who retain the most tags.

Round 2

All grade 8 teams compete. Same format as the grade 7 competition.

Round 3

All grade 9 teams compete. Same format as the grade 7 & 8 competition.

RACE FORMAT

The object of the competition is to correctly answer five questions within 25 minutes. To do this, each team must progress through a series of five problems.

Students move from one problem to the next by correctly answering each problem in sequence using one of their ten answer tags.

At the 5 minute mark, any teams still working on Problem 1 must forfeit that problem and move on to Problem 2.

At the 10 minute mark, any teams still working on Problem 2 must forfeit that problem and move on to Problem 3.

At the 15 minute mark, any teams still working on Problem 3 must forfeit that problem and move on to Problem 4.

At the 20 minute mark, any teams still working on Problem 4 must forfeit that problem and move on to Problem 5.

Teams will not be permitted at any time during the competition to revisit any previously unanswered problems.

RANKING CRITERIA

The following will determine team standings, listed in order of importance:

1. The number of problems answered correctly.

2. The fastest time.

3. The least number of answer tags used.

Teams are awarded point values according to their finishing position (i.e., First place = 1 point, Second place = 2 points, Third place = 3 points, etc.)

ZONE SCHOOL WINNER

The top Zone school is determined by combining the awarded point values for all 6 teams of the school. The lowest combined total school score will be awarded the first place banner. The Zone school winner will have their time sent to the Provincial adjudicators to see if they qualify for the Provincial Competition.

ZONE SCHOOL WINNER

Grade level winners are determined by combining the awarded point values of both grade level teams. The lowest combined total grade level score will be awarded the first place grade level ribbon. Grade level winners will have their times sent to the Provincial adjudicators to see if they qualify for the Provincial Competition. The top 6 individual grade level teams will be invited.

ANSWER TAGS

Each team is supplied with 10 answer tags. Team members must write the answer to each problem as it is solved on a tag and pass it back to their checker. Teams may use more than one tag to answer a problem but must be careful not to use up all tags before completing all five questions.

POSTER PROBLEMS (ZONE COMPETITION ONLY)

While some teams are competing, students are encouraged to try to solve poster problems. These are problems that are placed on the wall of the gymnasium, away from the competition. Each team is provided with an ANSWER ticket. Students are encouraged to try to solve the problem and place their answer in a container for a draw. The first correct answer drawn wins a prize.

ZONE SCHEDULE

Math On Zone Olympiad 2011

DATE: March 29, 2011
Time: 8:30am—12:00pm
Place: _____

Schedule:

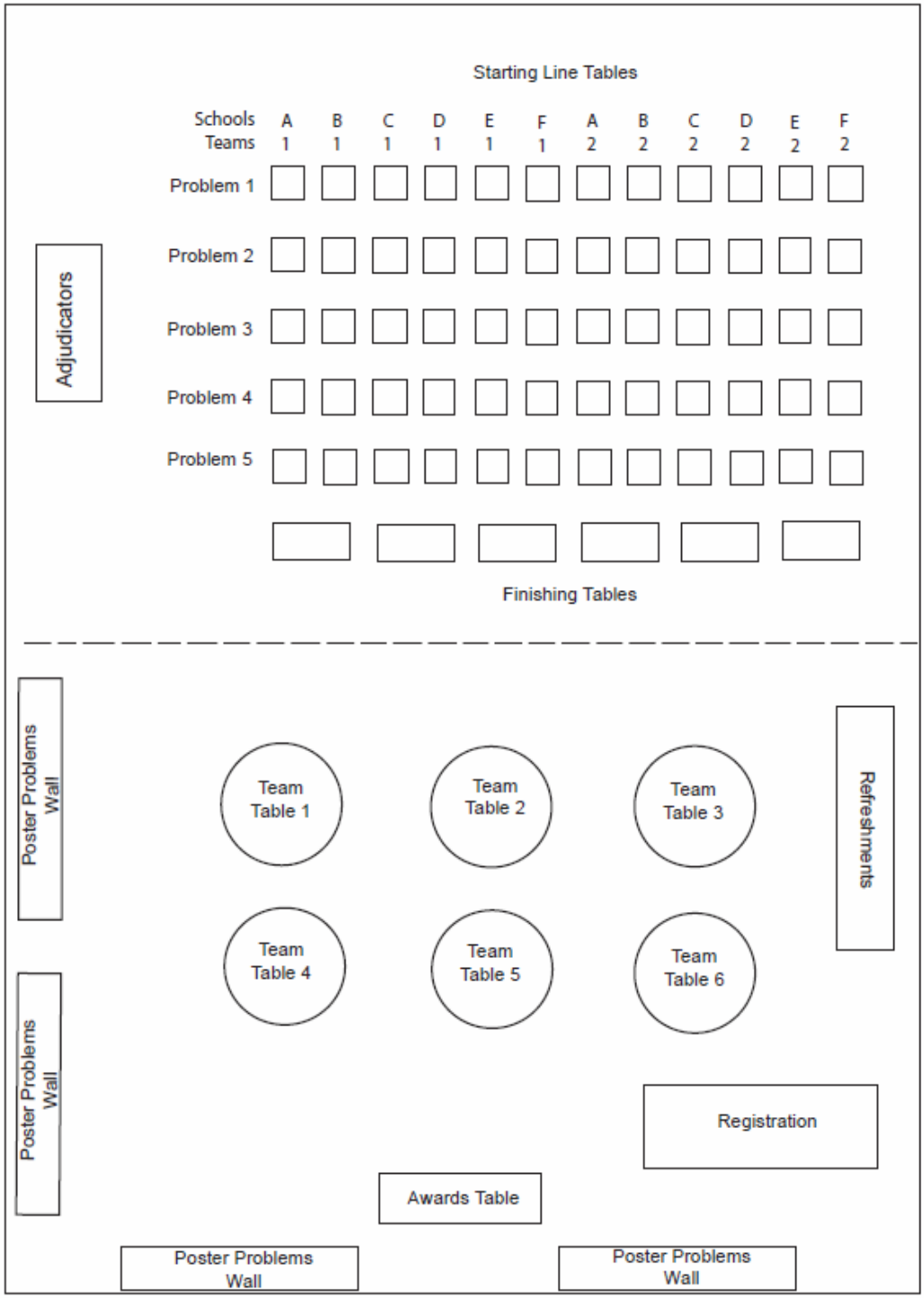
8:30-8:50	Team Registration
8:50-9:00	Welcome & Opening Address
9:00-9:10	Set up for Grade 7 competition
9:10-9:35	Grade 7 Competition
9:35-9:45	Set up for Grade 8 competition
9:45-10:10	Grade 8 Competition
10:10-10:20	Set up for Grade 9 competition
10:20-10:45	Grade 9 Competition
10:55-11:20	Final Address

- Grade Level Team Winners
  - 3rd, 2nd, and 1st place ribbons
- Diamond Grade Level Winners
  - 3rd, 2nd, and 1st place ribbons
- Poster Problem Winners
- Participation Certificates
- Banner Presentation to Zone Champion

The **1st place school** will have time sent to provincial adjudicators and may qualify for the Provincial Competition on Saturday, May 7, 2011 at 8:30am at the Sexton Memorial Gym, Dalhousie University.

Top individuals from each grade level will have times sent to provincial adjudicators and may qualify for the Provincial Competition on Saturday, May 7, 2011 at 8:30am at the Sexton Memorial Gym, Dalhousie University.

MATH ON OLYMPIAD GYMNASIUM FLOOR PLAN



HOW TO SET UP A MATH ON ZONE COMPETITION

1. Support from your school board. Make sure that the school board is aware that you are interested in hosting a Zone Competition that will invite 2—5 other schools, in addition to your own school.
2. Support from your school. Ask your school principal for support. Book the gymnasium for a full morning on Tuesday, March 29, 2011. Students will run the event (checkers/timers/hosts/MCs) so at least 25-30 students will have to be excused from regular classes. You will need at least 72 single desks and 24 chairs for the race, a table for judges, 6 large tables for school teams (12 students + teacher leader).
3. Contact the schools in your board that will want to send a school team, consisting of 4 grade 7 students, 4 grade 8 students, and 4 grade 9 students.
4. Update schools in preparation for the event. Share access to the website for practice problems **www.math-on.ednet.ns.ca**, encourage math teachers to try Math On questions in the classroom, encourage schools to hold tryouts for the school team.
5. Collect registration fees ($75.00 per school).
6. Arrange for refreshments (water, apples, healthy treats).
7. Have a PA system in place for the MC.
8. Provide music for competition race.
9. Supply stopwatches (12 plus an extra).
10. Enlist parent/teacher/other support for adjudicators and recorders (5 people needed).

HRSB MATH ON TEAM WILL PROVIDE:

1. A meeting to review procedures and logistics of the event
2. Problems for the competition (will need to be photocopied before the day of the race)
3. Two poster problems (ready to use)
4. Banner for the winning school
5. 2nd and 3rd place certificates
6. Math On ribbons for winners
7. Math On Certificate of Participation template (must be photocopied)

MATH ON OLYMPIAD ZONE CHECKLIST:

Physical structure:
-gym
-race lane tables :60 (10 per school)
-team chairs:24 (4 per school)
-adjudicator tables:3
-adjudicator chairs:3
-team benches:6 (1 per school)
-refreshment tables:2
-registration tables:4
-registration chairs:4
-large team tables (seats 14 per table) with school place cards (6) chairs: (84)
- individual school welcome posters

Maintenance:
-caretaker staff:1(gym clean, set up of tables and chairs, dismantle at closing)

Staff/Volunteers:
Music (student) -1
Video Recording (students)- 2
Hosts (student)- 1
Registration officers (students)-4
(check schools off list, collect registration forms & check for changes)
Student checkers-12 plus two spare
(responsible for checking team answers and guiding team from one table to the next)
Teacher supervision: math teachers (general guidance of competition)
Adjudicators (adults)-3
(responsible for team scores, times and placement)
Finish Line Judge (adult) – 1, Referee Consultant (adult) – 1
Timers (students)- 6
Refreshments (students)-2

MATH ON OLYMPIAD ZONE CHECKLIST:

Materials needed:

- 12 stopwatches (plus 2 extra) for timers
- pencils, calculators, scrap paper for 72 students
- individual name tags
- Math On sign or banner
- checker folders with record sheet, problems, answers, and tags
- adjudicators recording and results sheets
- posters (2) with challenge questions, ballots, and boxes

Awards:

- Participant certificates: 72
- 1st place ribbons (6 — 2 for each grade level)
- 2nd place ribbons (6 — 2 for each grade level)
- 3rd place ribbons (6 — 2 for each grade level)
- Diamond ribbons (6 — 2 for each grade level)
- Winning school banner
- 2nd and 3rd place certificates
- 4 poster prizes (school's responsibility)

MATH ON ADJUDICATOR & FINISHING TABLE Adult Volunteer's Duties

Adjudicators #1/#2/#3 :Results Table

#1 Folder Verifier

verifies time (checks stop watch and verified recorded time in folder)

verifies used and unused tags for a total of ten

gives watch back to checker

reads information from folders to #2 Recorder

the number of correctly answered problems

the time

the number of unused tags

school name

team A or B

finish placement

time

unused tags

#2 Recorder

Fills out record sheet (results read by verifier)

#3 Folder Controller

-**takes folder** from Verifier

-removes used answer key

-places **folders in order**

-**holds on to folders** until next round

Finishing Tables Volunteers #4 / #5

#4 Finish Line Judge

- **to check** that time is accurately recorded in folder. (make sure checker brings folder to finishing desk and timer records time in folder)

#5 Referee Consultant

-**consults** to make sure that there is no dispute about time

CHECKER GUIDELINES

1. Checker places 2 sheets of scrap paper on each desk.
2. Checker gets **PROBLEM SETS** from adjudicator's desk.
3. Checker places problems on desks starting with problem #2 on the second desk, problem #3 on the third desk…etc…

   PROBLEM #1 WILL BE IN THE CHECKER'S FOLDER!!!!!!
4. Checker picks up **CHECKER'S FOLDER** from adjudicator's desk.
5. Ensure your team has calculators and pencils.
6. Please make the team feel at ease before the competition by saying "Good Luck" or "Best of Luck" to them.
7. Pass Problem #1 to your team as soon as the race begins –MATH ON!
8. Do not open the answer key in checker folder until the MC has started the race.
9. Stand behind the team so they don't see the answer key and you don't make eye contact. It is very important you keep your distance, as the judge will be watching for fairness in the checkers. You really are operating as robots to a certain extent.
10. Do not show facial expressions when looking at answers from your team.
11. Please keep your voice loud enough for the team to hear as it will be noisy in the room and there may be background music.
12. Team passes answer tag to checker.

CHECKER GUIDELINES

13. If answer is **WRONG**:
    Checker says "**TRY AGAIN**", **collects tag** in folder and **records x** on sheet in folder.
14. If answer is **CORRECT**:
    Checker says "**MATH ON**", **collects tag** in folder and **records √** on sheet in folder.
15. Checkers should make sure balloon moves with team during the race.
16. When your team has finished, the timekeeper will record time in checker's folder.
17. The checker then takes the folder to the adjudicators' desk.
18. After you have passed in your team's folder you should:
    - Return to your lane and gather up all used papers and put in the blue bins
    - Ensure that there are two pieces of scrap paper on each table.
    - Use the washroom, get a drink, etc. as needed, at this time, however you should return to the adjudicator's table 10 minutes before the start of the next race to pick up your question set.

APPENDIX

1. Checker's Recording Sheet
2. Timer's Recording Sheet
3. Scoring Key
4. Welcome Teacher Leaders Page

All other recording sheets will be E-mailed to host schools as PDF files.

School: _____ Time: _____

Grade Level: 7 or 8 or 9 Team: A or B

Name: _____

Name: _____

CORRECT TAGS ✓	INCORRECT TAGS ×
Problem # 1:	Problem # 1:
Problem # 2:	Problem # 2:
Problem # 3:	Problem # 3:
Problem # 4:	Problem # 4:
Problem # 5:	Problem # 5:
STAPLE USED TAGS HERE	**STAPLE UNUSED TAGES HERE**

Timer's Recording Sheet Lane: ____

School: _____

Grade Level Rounds Team:

Circle: 7 8 9

Circle: A B

Question Number	Time
1	
2	
3	
4	
5	

FINISH TIME: _____

Scoring Key

POINT SYSTEM

- First place 1 point
- Second place 2 points
- 12th place 12 points

In the event of ties beyond fourth place, tied teams will be awarded the same point value. For example: If there is a 3-way tie for fifth place and a 2-way tie for ninth place, points would be awarded as follows:

1st place —> 1 point, 2nd place —> 2 points, 3rd place —> 3 points, 4th place —> 4 points, 5th place —> 5 points, 5th place —> 5 points, 5th place —> 5 points, 8th place —> 8 points, 9th place —> 9 points, 9th place —> 9 points, 11th place —> 11 points, 12th place —> 12 points.

TEAM PLACEMENTS

TO DETERMINE PLACINGS IN EACH RACE, IN ORDER OF PRIORITY…

1) The team with **the most correct answers** is first
2) **If there is still a tie**, the team with the most correct answers and the fastest time is first (NOTE: **Teams that run out of answer tags will automatically receive a time of 25 minutes**)
3) **If there is still a tie**, the team with the most correct answers, the fastest time, and the least number of tags used is first
4) **If there is still a tie** between any of the first five teams ONLY, then the team with the most correct answers, the fastest time, the least number of tags used, and is first getting to problem 5 is first.
5) **If there is still a tie, there is a tie!**

GRADE LEVEL PLACINGS

The grade level winners are teams (A and B) that place first, second, and third. The team in each grade level competition with the most unanswered tags wins the Diamond award.

OVERALL SCHOOL PLACINGS

Tally up the points for all three grade levels, A & B teams (**ALL SIX TEAMS**). The school with the lowest overall score wins first place, the second lowest scoring school wins second place, etc. **IN CASE OF A TIE FOR FIRST PLACE ONLY. THE SCHOOL WITH THE MOST FIRST PLACE WINNERS WINS**.

Welcome Teacher Leaders!

Olympiad Grade Level Competitions:

- Please refer to your program for start times for each race and ensure that your teams go to the start line when called and that they are prepared with calculators and pencils
- Upon completion of each competition, teacher leaders may pick up competition problem sets and answer keys from the refreshment table. We encourage you to review problems and answers with your students as needed

POSTER PROBLEMS:

- In your envelope, you will find answer tickets for the poster problems—one set per team
- Students may work on these problems at any time
- Students may enter their results, 1 answer per problem per team, by giving you, THE TEACHER LEADER, their completed answer ticket
- Teacher leaders should initial the tickets in the space provided and then put the answer tickets in to the designated box

ONLY TEACHER LEADERS ARE PERMITTED TO PUT ANSWER TICKETS IN THE DRAW BOXES!
(This will avoid misusing tickets).

The winning school may be invited to the Provincial Competition on
Saturday, May 7, 2011
at the at the Sexton Memorial Gym, Dalhousie University.

MATH ON!