

***SAINT MONICA  
CATHOLIC ACADEMY'S  
ELEMENTARY SCHOOL SCIENCE  
OLYMPIAD PROGRAM HANDBOOK***



*Exploring the World of Science*

*at SMCA since 2016*

## Table of Contents:

- STEP 1: Choose a date – September
- STEP 2: Book the Digital Dome (if using) - ASAP
- STEP 3: Do the math - December
- STEP 4: Create the teams - December
- STEP 5: Plan the games - January
- STEP 6: Plan the team colors/Order Shirts – Jan/Mar
- STEP 7: Order the Awards - March
- STEP 8: Practice with event coordinators (ie Eighth Graders) – January through May
- STEP 9: Make the schedule/game sheets - March
- STEP 10: Make the SCOREBOARD - April
- STEP 11: Team Week – The week before the event
- STEP 12: The Big Event – May
- STEP 13: Tally Results
- STEP 14: Award Ceremony
- STEP 15: Take a Picture

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## STEP 1: CHOOSE A DATE

I do this right at the beginning of the year so that it's on the calendar. I like to do ours the Tuesday and Wednesday before Memorial Day with the Award Ceremony on either Thursday or Friday. Doing it on a Tuesday/Wednesday gives me a weekend to resolve any scheduling issues and then I have that Monday prior to iron them out with any students affected.

When using the Digital Dome in conjunction with the Olympiad, I would have it come on Monday for Grades Pre-K to 3, and 8<sup>th</sup> (since they can't go during the Olympiad) and then use it as an event during the Olympiad for the students in grades 4-7.

## STEP 2: BOOK THE DIGITAL DOME (if using)

This is best done ASAP as there are many school's finding out about this gem and booking it for their own Olympiads.

If using it as an event I book it for the Monday and Tuesday of Game week. If using as a team building activity, I book it on the Tuesday and Wednesday of Team Week.

## STEP 3: DO THE MATH – December

Two numbers play a factor in deciding how many teams I need:  
The number of students in grades 4-7  
The number of Eighth Graders

With more eighth graders, I can run more games at one time so that would mean that I have fewer teams with more kids on each team (since there are more places for them to go)

With fewer eighth graders, I can run fewer games simultaneously (I make sure I have at least 2 eighth graders (3 if possible – and some games, like Pentathlon, require even more) at each event). With fewer places to go, I need more teams so the teams can have smaller numbers.

#### STEP 5: CREATE THE TEAMS – December

I divide the students in Grades 4-7 so as to make all the teams fair keeping in mind the following concerns: each team needs a sampling from each grade, each team needs at least one student strong in science skills as well as one student strong in math skills, I separate siblings and any personality conflicts, I look at past Olympiads to make sure that students are not on the same teams as in past years (that they at least have some different teammates than in the past and they are not paired with the same students from their own class as in the past).

Once I have the tentative teams established, I circulate the proposal among the other 4-7 teachers, asking them to suggest any changes as they see fit. The teams stay confidential until the Monday of Team Week when they come to school to see the teams posted on the bulletin board on the second-floor hall.

#### STEP 5 – PLAN THE GAMES - January

I do this by having meetings with my eighth graders (after lunch, during library, or during the last 10 minutes of Science class). They each choose two or three games that they would like to plan and run. There is a bin for each game with all the materials, directions, and information they need to run each game. From this point, they are responsible for, obtaining a copy of the direction sheet (always returning the original to the

envelope in the bin). Planning the game at home. Example: Calculator Contest – they create a new game sheet/answer sheet (using last year’s game and the direction sheet as a guide); Science Jeopardy - I have the blank game on a flash drive. They take the flash drive home and add their own questions. I am always available to help if they need it. Some games require more “homework” than others. They choose the games that they feel comfortable planning. I even give them the option to choose a game from the ESSOP inventory that has not been played in the past or “invent their own” game if they’re so inclined and we add it to our inventory for future years.

They are responsible for making sure that everything they need for their game is “ready to go” in their bin for game day or letting me know what is needed if there is something missing. They are also responsible for packing it all up after the event to get it ready for the next year.

## **STEP 6: PLAN THE TEAM COLORS/ORDER T-SHIRTS – January/March**

The eighth graders do this during our event meetings. They have a great time with this! In the past, they’ve done: all primary colors, all pastels, all shades of blue, and all neon. Last year, when the theme was all neon, the 8<sup>th</sup> graders decided that they wanted their shirts to be tie-dyed in all the neon colors that they had chosen for the teams so, I ordered them white and we had a great time tie-dying our t-shirts.

Once the colors are chosen, I get everyone’s shirt sizes and order a t-shirt for each student in their size and team color. (After ordering the t-shirts it gets trickier if I have to move

students from one team to another, I have to make sure swaps are only done between students with the same shirt sizes). I also order shirts (in a different color) for all the teachers who help. The teachers in grades 4-8 all help as well as our lunch staff, secretary, art teacher, principal, and several retired teachers who love coming back to help each year.

We are very fortunate to have the grandfather of some of our students who owns a printing business who gives us a great price on the shirts. We also have some benefactors who donate money each year to help with the expense of t-shirts and awards. The other way I fund this is by the sale of Earth Day shirts: I receive a flyer from earthdayshirts.com each year and their shirts are always beautiful. They charge about \$7 a shirt and add our school name to the sleeve. I sell them for \$12 and our principal allows anyone with an Earth Day shirt, past or present, to wear jeans with it on Earth Day. I have parent who place large orders for their families and everyone seems to love the idea. It seems funny to sell t-shirts to buy t-shirts but it's been working!

## STEP 7: ORDER THE AWARDS - March

I give:

- A small 1<sup>st</sup> and 2<sup>nd</sup> place medals with ribbons to the first and second place winners for each event
- Larger Gold, Silver, Bronze, Participation medals with ribbons for each 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> etc. place student. Every student gets one, depending on where they place
- Star Performer medal with ribbons for the one team that shows the best sportsmanship for the duration of the event from the start of team week.
- I also give a medal with ribbon to each of my eighth graders for their help in running the event.

Again, this is funded by my Earth Day t-shirt sale, as well as our outside benefactors. I have used Crown Awards and have been happy with them.

#### STEP 8: PRACTICE WITH 8<sup>TH</sup> GRADE: January – May

I give each 8<sup>th</sup> grader a date and time to have their game ready and we play it in class that day with the other 8<sup>th</sup> graders as participants. We firm up any problems and questions they have about running their game.

#### STEP 9: MAKE THE SCHEDULE – March

This is probably the most difficult part of the whole thing. I create a schedule keeping in mind, what rooms are available, what games need (ie: a lot of space, outdoors, proximity to a sink, light/dark, etc.), how many players each game requires, which eighth graders are running which games, all this as well as being sure there are the correct amount of game spaces for the teams to divide themselves. To best understand this, I am including a sample schedule:

As you can see the schedule also shows the name of the eighth grader in charge – listed in green, the eighth graders assisting – listed in blue, as well as the teacher in the room at the time – listed in red.

This schedule is from a year where I used the Planetarium in conjunction with the Olympiad. I break my event down into 1 hour time slots, for simplicity sake.

**TUESDAY, MAY 15, 2018**

	GAME	GAME	GAME	PLANETARIUM
8:40-9:40	RUBBER BAND CANNONS PLAYGROUND Alex, Henry, Kayden, Brad Ms. Romano	COOL-IT SCIENCE LAB Harris, Amelia, Bryson, Elijah Mrs. McCullough	BRIDGE BUILDING MRS. VILLA'S ROOM Addison, Seraphina, Neil Mrs. Villa	PLANETARIUM - GYM Reed Mrs. McCann
9:40-10:40	ALL PARTICIPANTS TO CAFETERIA FOR ACTIVITY - EIGHTH GRADERS BREAK DOWN/SET UP NEXT EVENT Mrs. Borghi, Mrs McCracken. and Mrs. McCann			PRE-K TO PLANETARIUM Reed
10:40-11:40	WIND RACERS MS. ROMANO'S ROOM/ 2ND FLOOR HALLWAY Kayden, Henry, Neil Ms. Romano	REFLECTION RELAY GYM/STAGE Amelia, Alex, Elijah, Harris Mrs. McCann	CALCULATOR CONTEST SCIENCE LAB Seraphina, Addison, Brad, Bryson Mrs. Villa	PLANETARIUM - GYM Reed Mrs. Borghi
11:40-12:40	LUNCH FOR ALL PARTICIPANTS - EIGHT GRADE BREAK DOWN/SET UP BEFORE EATING Mrs. Villa and Ms. Romano			LUNCH
12:40-1:40	HOT WHEELS PLAYGROUND Henry, Kayden, Seraphina Ms. McCann	FOAM TOWERS SCIENCE LAB Amelia, Harris, Bryson, Brad, Alex Mrs. Borgi	GRAB-A-GRAM MRS. MCCULLOUGH'S ROOM Elijah, Addison, Neil Mrs. McCullough	PLANETARIUM - GYM Reed Mrs. Villa



<b>WEDNESDAY, MAY 16, 2018</b>				
	GAME	GAME	GAME	PLANETARIUM
8:40-9:40	WRITE IT/DO IT MRS. MCCANN'S ROOM/ MRS. MCCULLOUGH'S ROOM Henry, Neil, Kayden Ms. McCann	MISSION POSSIBLE SCIENCE LAB Alex, Bryson, Seraphina, Amelia, Brad Mrs. McCullough	GUNK CAFETERIA Elijah, Harris, Addison Mrs. Villa	PLANETARIUM - GYM Reed Ms. Romano
9:40-10:40	ALL PARTICIPANTS TO CAFETERIA FOR ACTIVITY - EIGHTH GRADERS BREAK DOWN/SET UP NEXT EVENT Mrs. Borghi, Mrs. McCracken, and Ms. Romano			PRE-K TO PLANETARIUM
10:40-11:40	WATER ROCKETS MS. ROMANO'S ROOM/PARK Kayden, Elijah, Amelia, Alex Ms. Romano	PICTURE THIS MRS. VILLA'S ROOM Neil, Bryson, Brad, Addison Mrs. Borghi	BARGE BUILDING SCIENCE LAB Harris, Henry, Seraphina Mrs. McCullough	PLANETARIUM - GYM NO ONE Reed - Collect and Score Manipulations - in Cafeteria
11:40-12:40	LUNCH FOR ALL PARTICIPANTS - EIGHT GRADE BREAK DOWN/SET UP BEFORE EATING Mrs. McCann and Mrs. McCullough			LUNCH
12:40-1:40	SCAVENGER HUNT OUTSIDE Seraphina, Alex, Bryson Ms. Romano, Mrs. Borghi, Mr. Diamond, Mrs. Catanzarite	SCIENCE JEOPARDY SCIENCE LAB Amelia, Neil, Brad Mrs. McCullough	STRAW EGG DROP MRS. VILLA'S ROOM/ MAIN STAIRWELL Addison, Henry, Harris Mrs. Villa	AERODYNAMICS STAGE/GYM Elijah, Kayden, Reed Mrs. McCann

## STEP 10: Make the SCOREBOARD – April

Once all of the games are etched in stone, I tape about three large poster boards together and draw a scoreboard on it with columns for the team names, that will be added during Team Week, and a row for each game (in the order they will be played) of the event and a TOTAL. As the games are completed, I put a point value for each team in each event.

Points are scored as follows: It is based on the number of teams we have playing but, if there are 4 teams, the first place team in an event would be awarded 4 points, second place 3, third place 2, and 4<sup>th</sup> place 1. (if there are 5 teams the scores would go 5, 4, 3, 2 1). The winning team for Gold would then be the highest scoring team, etc. for Silver, Bronze, and Participation.

It's fun to see how good the students' addition skills get as they try and see how their teams are doing as the events go by.

**STEP 11: TEAM WEEK – the week before the event**

Monday: The teams are announced by posting them on the hall bulletin board to see as they come in that morning. For the next two weeks they will sit with their teams, instead of their classmates at lunch. Each day, for about an hour after lunch (the afternoon teachers don't seem to mind this much in May – and they adjust their schedules accordingly), I keep the kids (Grades 4 – 8) with me to prepare for the games and do some team building activities.

On Monday – Each team chooses a team name. I pass out their shirts and, once the name is approved, they add it to the backs of their shirts using fabric markers. They can also sign the back of their teammates t-shirts. They are told that they will need to wear these shirts for three days next week: Tuesday and Wednesday during the Olympiad and Thursday or Friday for the award ceremony.

On Tuesday – The 8<sup>th</sup> Graders each tell the players about the games they oversee, describing how they are played and scored. Each team designates which students on their teams will be playing which games by adding a student's name to

each line on the sign up sheet and following these rules: Every bold line HAS to have a name. Every red dotted line CAN have a name. No student's name can be written twice in a given time slot. No student may attend the Planetarium (or whatever other standard event I have in place) more than once. Last year, I substituted a Religion Game for the Planetarium (Digital Dome) on Tuesday, and an Art Activity for the Planetarium on Wednesday because the Digital Dome was unavailable on the dates of my Olympiad. They are also instructed to try and be sensitive to who has already played what games in the past and give them something different. Usually, I put a responsible seventh grader from each team in charge of writing the names in and facilitating this procedure. I am adding a sample sign up sheet for you to see what that looks like:

There are at least 9 lines in each time slot as, this year, I had no more than 9 students on each time.

**TUESDAY**

	GAME	GAME	GAME	PLANETARIUM
8:40-9:40	RUBBER BAND CANNONS PLAYGROUND _____ _____ _____	COOL-IT SCIENCE LAB _____ _____	BRIDGE BUILDING MRS. VILLA'S ROOM _____ _____ _____	PLANETARIUM - GYM _____ _____ _____
9:40-10:40	ALL PARTICIPANTS TO CAFETERIA FOR ACTIVITY - EIGHTH GRADERS BREAK DOWN/SET UP NEXT EVENT			PRE-K TO PLANETARIUM
10:40-11:40	WIND RACERS MS. ROMANO'S ROOM/ 2ND FLOOR HALLWAY _____ _____	REFLECTION RELAY GYM/STAGE _____ _____ _____	CALCULATOR CONTEST SCIENCE LAB _____ _____ _____	PLANETARIUM - GYM _____ _____ _____
11:40-12:40	LUNCH FOR ALL PARTICIPANTS - EIGHT GRADE BREAK DOWN/SET UP BEFORE EATING			LUNCH
12:40-1:40	HOT WHEELS PLATGROUND _____ _____ _____	FOAM TOWERS SCIENCE LAB _____ _____ _____	GRAB-A-GRAM MRS. MCCULLOUGH'S ROOM _____ _____	PLANETARIUM - GYM _____ _____ _____

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<u>WEDNESDAY</u>				
	GAME	GAME	GAME	PLANETARIUM
8:40-9:40	WRITE IT/DO IT MRS. MCCANN'S ROOM/ MRS. MCCULLOUGH'S ROOM _____ _____	MISION POSSIBLE SCIENCE LAB _____ _____	GUNK CAFETERIA _____ _____	PLANETARIUM - GYM _____ _____ -----
9:40-10:40	ALL PARTICIPANTS TO CAFETERIA FOR ACTIVITY - EIGHTH GRADERS BREAK DOWN/SET UP NEXT EVENT			PRE-K TO PLANETARIUM
10:40-11:40	WATER ROCKETS MS. ROMANO'S ROOM/PARK _____ _____ -----	PICTURE THIS MRS. VILLA'S ROOM _____ _____ _____	BARGE BUILDING SCIENCE LAB _____ _____ _____	PLANETARIUM - GYM - -----
11:40-12:40	LUNCH FOR ALL PARTICIPANTS - EIGHT GRADE BREAK DOWN/SET UP BEFORE EATING			LUNCH
12:40-1:40	SCAVENGER HUNT OUTSIDE _____ _____ -----	SCIENCE JEOPARDY SCIENCE LAB _____ _____ -----	STRAW EGG DROP MRS. VILLA'S ROOM/ MAIN STAIRWELL _____ _____ _____	AERODYNAMICS STAGE/GYM _____ _____ _____

On Wednesday, Thursday, and Friday we do team building activities.

## STEP 12: THE BIG EVENT – May

While running each game, the 8<sup>th</sup> grader in charge (referred to as the Event Coordinator) of each game is responsible for setting the game up, running the event, breaking it down, and putting it away after. There is time built into the schedule to facilitate that. The event coordinators are all given walkie talkies so that I can communicate with them from wherever I am at any time, and they can coordinate with each other if they need something. At the end of game play, they tally their scores and turn in an result sheet to me so that I can add the scores to the SCOREBOARD. I am attaching a few result sheets for you to see:

<https://drive.google.com/drive/folders/1wGU4kZDDl5kbMleJUvotnZ9ju0QLNAA5?usp=sharing>

### STRAW EGG DROP

Eggs that do not break are scored first, scoring is only done in the event that more than one egg stays in tact

Team Name	Egg broken or cracked before drop? Yes = 5    No =0	Cracked/broken during drop? Judge can give a score based on degrees of brokeness Unbroken=0 - Splattered=20	Points for distance: Touching center - 0 1st ring from center - 1 2nd ring from center - 2 3rd ring from center - 3 4th ring from center - 4 Outer ring - 5 Beyond outer ring - 5 + distance in centimeters	Total Lowest score wins	Place Finished	Olympiad Points earned for team: 1st = 4 pts; 2nd = 3 pts; 3rd = 2 pts,    4th = 1 pts

## HOT WHEELS

20 minutes for first build, first race (10 minutes), 15 minutes for design re-build, second race (10 minutes)  
Ties will be broken by best distance achieved by a team.

Team Name	Distance to where car stopped in centimeters	Loops successfully passed - score 100 points for each loop	Hills successfully passed - score 25 points for each hill	TOTAL SCORE RACE 1 Add first 3 columns

Time will be given for teams to modify/rebuild their racetrack

Team Name	Distance to where car stopped in centimeters	Loops successfully passed - score 100 points for each loop	Hills successfully passed - score 25 points for each hill	TOTAL SCORE RACE 2 Add previous 3 columns	TOTAL COMBINED SCORE FOR BOTH RACES	PLACE FINISHED	Olympiad Points earned for team: 1st = 5 pts; 2nd = 4 pts; 3rd = 3 pts, 4th = 2 pts; 5th = 1 pt.

## CLAY BOATS

Team Name	Paper Clips Held	Place Finished	Olympiad Points earned for team: 1st = 5 pts; 2nd = 4 pts; 3rd = 3 pts, 4th = 2 pts; 5th = 1 pt.

As you can see, some of my score sheets are simpler than others but, I feel having these makes the scoring process much simpler.

## STEP 13: TALLY RESULTS – During Event

As I receive the results, I add them to the SCOREBOARD in the hallway, as well as a smaller version that I carry with me



SCIENCE OLYMPIAD 2017 SCORES

Team Name	Rubber Band Cannons	Cool-Its	Circuit Wizardry	Aerodynamics	Water Bottle Sailboats	Write It/ Do It	Reflection Relay	Calculator Contest	Scavenger Hunt	Clay Boats	Grab-A-Gram	Gunk	Hot Wheels	Science Jeopardy	Bridge Building	Can Races	Water Rockets	Paddle Boats	Picture This	Mission Possible	Pentathlon	Foam Tower Architecture	Straw Egg Drop	TOTAL		
Pink																										
Lilac																										
Gold																										
Green																										

## STEP 14: AWARD CEREMONY – After the event.

We have all the students wear their shirts and we do this in the gym. The younger students in the building, as well as any parents who would like usually attend.

We start the ceremony with the eighth graders running the Olympic flag around the gym to the Olympic Fanfare music and a prayer (we're a Catholic School after all). After, each 8<sup>th</sup> grader, in turn, comes up to the microphone and gives a synopsis of his or her event. I announce the winning 2<sup>nd</sup> place, then first team, as well as the players from that team. When their name is announced, they come forward and receive their ribbons from the 8<sup>th</sup> graders.



At this point, everyone already knows who won what. The only thing here that is a surprise is the team that wins the coveted STAR PERFORMER award. This is determined by all of the 8<sup>th</sup> graders and adult helpers. I give them index cards in the team's colors with a smiley face sticker on one side at the start of team week. When they see acts of good sportsmanship, they are instructed to put a tally mark on the smiley faced side of the card. If they see students acting negatively, they put tallies on the reverse side of the card. I determine the winner of this ribbon based on the team with the most positive tallies (after I subtract out the negatives). I also use a little bit of my own discernment here.

#### STEP 14: TAKE A PICTURE!!

I forgot to do this the first year and I keep kicking myself over it. It's a very nice memory of each year to see all the smiling faces in their t-shirts sporting their medals!

