



Exploring the World of Science

Elementary Head Coach Information Meeting

October 24, 2022
Clinton Macomb Public Library

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Agenda

We will cover

- Available Resources
- Open House Kits
- Workshop Priorities
- 2023 Event Details
- Tournament Schedule
- Registering a Second Team
- Quick Start Kits
- Season Calendar
- Utica Practice Event Format Change
- Practice Tournament Results
- Volunteers
- Managing COVID
- Resolving Possible Tournament Concerns
- Door Prizes
- Q & A

We will not cover

- How to select team members
 - How to read the tournament schedule and assign students to events
 - Where to find event coaches
 - How to build support & commitment
- [These important topics and more were covered at the New Head Coach Workshop, Oct 18 - - look for the virtual version on the Head Coach webpage]

Season Headlines

- Each team may still register up to 17 students
- New Demo event: Codebusters is event #18
- We have a rebuilt website!
- Quick Start Kit ordering will open soon
- We want a normal season but will not ignore COVID
- Welcome back to the Rookie teams

Available Resources

- **MSO Website Resources** www.macombso.org/elementary
 - **For Head Coaches**
 - **Head Coach Handbook**
 - Covers many topics, from *Roles and Responsibilities of the Head Coach* to *Season Schedule and Milestones*
 - **Monthly Tips (also an event coach version)**
 - An injection of advice on what you, your event coaches and your students should be doing at the current point in the season
 - **Presentations and memos you might have missed or misplaced**
 - **For Event Coaches**
 - **Study guides, training videos, old test archive**
 - **FAQs**
 - Answers to a question about specific events which clarify the rules.
- **Event Coach Training (Jan 14, 2023) Virtual**
 - An opportunity for your event coaches to hear from the actual event supervisor, and to ask questions
- **Quick Start Kits**
 - Available for 7 of the 17 events
- **Open House**
 - If you need help building interest in your school, we can help with hands-on displays that help make Science Olympiad tangible

Open House Kits (Now – January)

- **What:**

- Posterboard displays, corresponding to each event (see the example display)
 - Rules, example materials, outline of topics to coach, sample test questions, etc.
- PowerPoint presentation
 - Can be the kickoff, or can be playing on a loop

- **How** you might use it:

- Generate interest among students and families in your school at conference night, or for an event specifically targeted to specific grades
- Create excitement among the students and families at the first team meeting. Get parents to commit to serve as event coaches.

- **Reservations:**

- Experienced Coaches: sign up for a traveling kit
- New Teams & Rookie Coaches: sign up for an Open House supported by MSO
- There are 2 kits; contact Kathy Deckert to see if the one in your area is available esosecretary@macombso.org

Workshop Priorities

- What event workshops to run for students and event coaches?
- You were given 3 “voting aids” on your way in
 - Please raise your hand if your school didn’t get a set
- You will get to vote on your way out
 - There are cups in the back of the room with event names marked on them
- Factors that you might consider:
 - What events have changed (we will discuss in a moment)
 - What events would help your team the most
 - What workshop videos we already have posted online
- Events which are **not** available for you to choose today

Workshops are already planned

- Amazing Arthropods
- Wildlife Safari
- Rock Hound
- Starry, Starry Night

2023 Event Details

Major Change

- A is for Anatomy
- Codebusters (demo)
- Mystery Architecture
- Wildlife Safari

Moderate Change

- Amazing Arthropods
- Code Warriors
- Rock Hound
- Starry, Starry Night
- Weather or Not

Small or No Change

- Crash Car Eggspert
- Crime Busters
- Charged Up
- Grasp a Graph
- Precision Ping Pong Propulsion
- Reflection Relay
- Simple Machines
- Water Rockets
- Zowie Estimation

Event rules are available on the website:

- [All events](#) (on the HC page)
- Specific events: see the button on each event page

When reading the rules: **Bold text** = changed from last year

A is for Anatomy

Students will identify anatomical structures of the human muscular, skeletal, and **cardiovascular** systems.

- Each of the stations will have models or pictures of anatomical structures
- The teams will move around the room, one team per station, answering the multiple questions at each station as they go. Students will use a provided ZipGrade answer sheet.
- These major systems will be in scope (see the rules for more details):

– Muscular

- Face and Neck
- Abdomen, back and chest
- Shoulder and arm
- Pelvis and leg



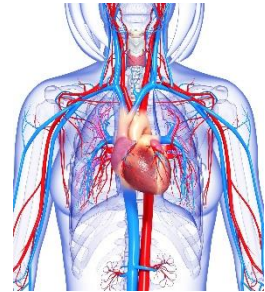
- Skeletal

- Skull
- Ribs and Hyoid
- Vertebrae
- Upper Extremity
- Lower Extremity



- **Cardiovascular**

- **Heart chambers**
- **Heart Valves**
- **Heart Tissues**
- **Arteries and veins**
- **Path of blood**



Scoring:

- The team with the highest point total will be the winner.
- There will be four multiple choice questions at each of the 21 stations, worth 1 or 2 points.
- Ties will be broken by the four questions at station #22. These questions will be open-ended (not multiple choice) and require the correct spelling of scientific names.

Codebusters

Students will be tested on their ability to decode encrypted messages using cryptanalysis and show skills with ciphers by decrypting a series of messages.

Provided: a resource sheet with English letter frequencies, Atbash and Vigenère tables.

Name	a.k.a.	Details
Atbash		A decryption table will be provided.
Caesar	Shift	A shift of no more than 5 characters in either direction
Aristocrat		No letter can ever decrypt to itself. A hint may be provided depending on the level of difficulty
Vigenère		A key and decryption table will be provided.
Pig Pen	Masonic	Students must know how to create the decryption table.
Tap Code		Students must know how to create the decryption table.

Scoring:

High score wins. Points assigned based on question difficulty, which will be stated. Each correct letter in a cypher will be scored. Bonus points for cyphers that are 100% correct.

Ties are broken by: 1) the # of problems that are 100% correct; 2) # of points awarded on the more difficult problems

Mystery Architecture

Students use a set of unspecified materials to build the tallest freestanding tower to support a tennis ball at its top.

- Resources: unspecified building materials, which could include: straight pins, paper cups, drinking straws, paper clips, tape, string, paper, etc.
- Build Time: a maximum of 20 minutes.
- Students may bring scissors, a ruler, a pair of pliers, a tennis ball for testing
- **Students will not be required to move their tower; they will be measured where built.**
- The tower must be completely free standing.
- The height of the tower and width of base will be measured first. Students will then place on top the tennis ball provided by the Event Supervisor. The tower must remain standing long enough to be measured.

Scoring:

- The tallest tower wins. The tennis ball is considered to be the highest point of the tower.
- Towers which hold the ball are ranked above those that do not.
- Width of the base is used as a tie breaker (narrower is better).

Wildlife Safari

Students will identify Michigan **mammals** and answer questions from the ***Mammals of Michigan Field Guide***.

Teams will rotate between stations where they may view **photographs or biofacts of mammals, furs, tracks, skulls and/or photographs of habitats**.

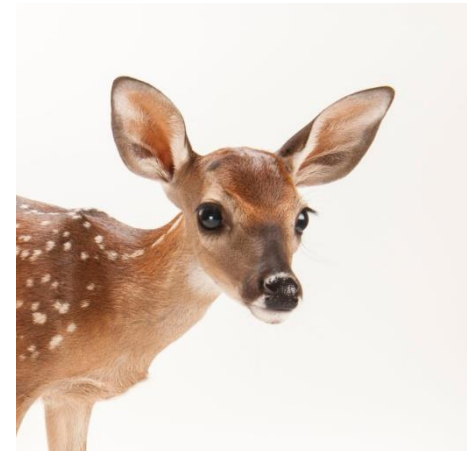
- Questions will vary in degree of difficulty and will be assigned points accordingly. Question format will be multiple choice, and true/false.

Resources allowed:

- Each student may each bring one field guide, of either variety:
 - ***Mammals of Michigan Field Guide*** (Adventure Publications).
 - A student-created field guide
- Students may write or highlight in the field guide. No loose paper.

Scoring:

- Each correct answer will be worth between 1 and 4 points.
- The tie breaker will be based on the number of difficult questions answered correctly.



Moderate Change Events

Amazing Arthropods

- Students will demonstrate an understanding of the major arthropod groups and assemble a collection of arthropod specimens or photographs. Some of the named species focus on the orders **Odonata** and **Orthoptera**.



Code Warriors

- Students are tested on the concepts of computer science and computational mathematics. The programming language is Python.
- **Added Part 3 Interactive Challenge:** An online, interactive challenge or puzzle, which is based on the coding concepts in Part 1.



Rock Hound

- Students will identify and answer questions about various rock and mineral specimens. The emphasis is **Sedimentary** rocks and minerals.



Starry, Starry Night

- Tests students' knowledge of astronomical facts and concepts relating to the earth, moon, solar system, celestial sphere, stars and constellations. The scope will include questions on **galaxies, nebulae, and telescopes**.



Weather or Not

- Students will be tested on their knowledge of meteorology. The scope will include an emphasis on **clouds, precipitation, and atmospheric processes**.



Small Change or No Change Events

Small Change

Crash Car Eggspert

- Passenger Egg scoring

Ping Pong Propulsion

- Start Line is gone; only Launch Line

Reflection Relay

- More explicit process & implications for observer poor behavior

Water Rockets

- Pressure vessel = **clear** plastic

No Change

Crime Busters

Charged Up

Grasp a Graph

Simple Machines

Zowie Estimation

Tournament Schedule

- All teams have virtually the same event conflicts among 12 events
 - Also pay attention to the Crash Car Eggspert build sessions!
- Six events will be scheduled in April, and are guaranteed to not conflict
 - Codebusters, Crash Car Eggspert, Mystery Architecture, Ping Pong Propulsion, Reflection Relay, Water Rockets

Conflicts to Avoid	
Stars	Graphs
Anatomy	Crime Busters
Machines	Wildlife
Charged Up	Code Warriors
Weather	Zowie
Rocks	Arthropods

May 13, 2023 Schedule

EVENTS	ROOM	9:00-9:30	9:40-10:10	10:20-10:50	11:00-11:30	11:40-12:10	12:20-12:50	1:00-1:30	1:40-2:10
A is for Anatomy	TBD	45-66	67-88	1-22	23-44				
Amazing Arthropods	TBD	Collection Impound Scheduled by Head Coach			71-88	1-18	49-66	31-48	19-30 67-70
Charged Up	TBD	33-44	1-12	49-60	13-20 45-48	75-88	21-32	61-74	
Codebusters (demonstration event)	TBD	As scheduled by the Head Coach							
Code Warriors	TBD	33-44	1-12	49-60	13-20 45-48	75-88	21-32	61-74	
Crash Car Eggspert	TBD	Build time: 9:00 or 9:40 as scheduled by the Head Coach			Test your vehicle at a predetermined time, as scheduled by the Head Coach				
Crime Busters	TBD	45-66	67-88	1-22	23-44				
Grasp a Graph	TBD	1-30	31-60	61-88					
Mystery Architecture	TBD	As scheduled by the Head Coach							

Registering a Second Team

- We will allow schools to register a 2nd team, as capacity allows (88 teams) on a first-come basis
 - There will not be a capacity issue this season
- Registration begins at **6:00pm on November 5**
- The registration fee is \$75
- Awards*
 - They compete in the Second Team Division, not with K5 or K6 teams
 - They receive participation medals and compete for place medals; no trophies

*Awards policies may be changed depending on the number of Second teams registered

If you have changed your mind, contact me so that I may assign your team number

Quick Start Kits & Supplies

Available Kits

- Crime Busters kits (complete and replenishment)
- Reflection Relay (Deluxe or mirrors only)
- Reflection Relay protractor, and 2D paper
- Crash Car Eggspert kit (single or double)
- Pinewood cars
- Charged Up
- Ping Pong Propulsion (full kit or balls only)
- Mystery Architecture assorted materials kit
- Pins for insect specimens
- Glass vials for insect specimens

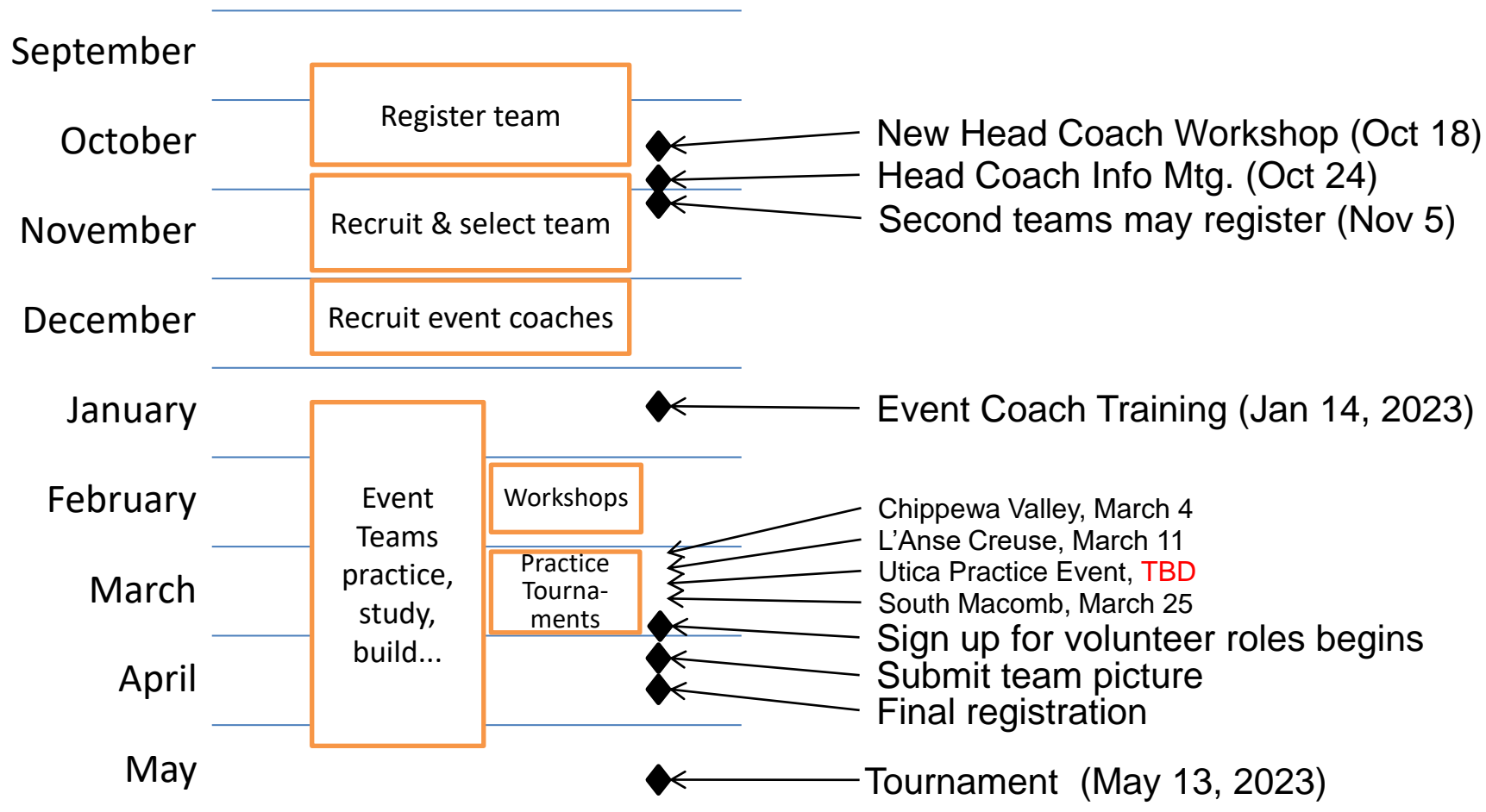


Important Details

- Rock Hound kits will no longer be provided
 - We will publish a list of possible sources
 - Our remaining inventory will be sold, first come

When you order, you will be contacted promptly about pickup or delivery

Season Calendar



Utica Practice Event Format Change

- The format will have more in common with other tournaments
 - The schedule conflicts will match the Macomb schedule
 - Each team will have a specific time to compete, 30 minutes per session
 - Scoring will be handled and reported by MSO
- The schedule will spread across 2 evenings
 - Half of the events on day 1, half on day 2
 - Some students will need to attend both
 - Date is TBD; likely 3rd week of March
- The location may change
 - We are investigating locations that are more central in the district
 - Maybe Utica High School?

What questions do you have?

Practice Tournament Results (in March)

- We will continue our policy of releasing the “category index” for select events after the last practice tournament
 - We do not release test materials.
 - You should expect to receive the actual score sheets at the practice tournament (or soon after) + the Stars score breakdown.
 - Head Coaches will receive an email with the remaining category indexes after the last practice tournament

Starry, Starry Night Practice Test

Score Breakdown

Category	Your Score	Possible Score
General Solar System	4	8
Mechanics	5	6
Seasons	2	7
Moon Phases	2	6
Eclipse	8	8
Celestial Sphere	4	5
Galaxy/Nebula	8	15
Life-cycle of stars	0	8
Planets	16	19
Constellations	6	23
Images	10	15
Total	83	120

Or

Name	Roberts Elementary	Date	
Class		Quiz	

Student ZipGrade ID
42

	A	B	C	D	E	A	B	C	D	E
1	○	○	○	○	○	●	○	○	○	○
2	○	○	○	○	○	○	○	○	○	○
3	○	○	○	○	○	○	○	○	○	○
4	○	○	○	○	○	○	○	○	○	○
5	○	○	○	○	○	○	○	○	○	○
6	○	○	○	○	○	○	○	○	○	○
7	○	○	○	○	○	○	○	○	○	○
8	○	○	○	○	○	○	○	○	○	○
9	○	○	○	○	○	○	○	○	○	○
0	○	○	○	○	○	○	○	○	○	○
1	○	○	○	○	○	○	○	○	○	○
2	○	○	○	○	○	○	○	○	○	○
3	○	○	○	○	○	○	○	○	○	○
4	○	○	○	○	○	○	○	○	○	○
5	○	○	○	○	○	○	○	○	○	○
6	○	○	○	○	○	○	○	○	○	○
7	○	○	○	○	○	○	○	○	○	○
8	○	○	○	○	○	○	○	○	○	○
9	○	○	○	○	○	○	○	○	○	○
10	○	○	○	○	○	○	○	○	○	○

+

#	Answer	Points	Category
1	B	2	Taxonomy
2	C	3	Species Specific
3	B	3	Anatomy
4	A	2	Anatomy
5	B	3	Anatomy
6	B	2	Anatomy
7	A	2	Anatomy
8	B	2	Anatomy
9	C	3	Species Specific
10	D	3	Species Specific
11	A	2	Species Specific
12	B	3	Species Specific
13	D	3	Metamorphosis
14	D	3	Myriapoda
15	D	3	Myriapoda
16	A	2	Myriapoda
17	A	2	Myriapoda
18	B	3	Arachnida
19	A	3	Arachnida
20	C	3	Arachnida
21	D	3	Arachnida
22	C	3	Taxonomy
23	D	3	Insecta
24	B	3	Coleoptera
25	B	3	Insecta

Volunteers

- Every team should expect to provide at least one adult volunteer
- Most roles may be related to event support
- Shifts may be longer than in the past
- We have not planned out the details of this yet, and will announce more in the future
- Online signup will be in March - April

Do you have any concerns at this point?

Managing COVID

If COVID conditions are similar to now

- Masks will be optional
- We might still allow individual Supervisors to require them

If COVID conditions become severe again, we may revisit 2022

- If we are forced back to “closed” tournaments, there would likely be more explicit rules regarding compliance.

What concerns or questions do you have?

Resolving Possible Tournament Concerns

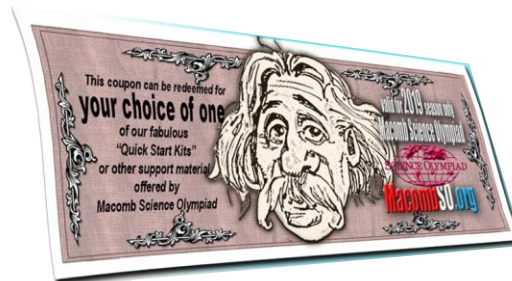
- It was great to have a normal tournament last May!
 - You and your families met our expectations for safety and consideration. Thank you.
- Food pre-order
 - Families and teams were able to pre-order and pick up lunch in the K Building.
 - What can be improved?
- Temperature
 - The Field House is supposed to have AC installed for this season.
- Team tables
 - As we approach 88 teams, we may run out of space.
 - If we only assigned tables based on request, would that be a problem?

Door Prizes

- We will draw 20 ticket numbers; winners will receive a free Quick Start Kit.
 - Today we will record your name. No paper vouchers.

When you are ready to order:

- Pick one kit you would like to get for free; place a separate order for that one kit online and choose “pay by check”.
 - We will mark your order as “paid”.
- Place your order for all other kits separately.



Questions & Answers

- What questions do you have?
- You may quietly leave if all of your questions have been answered

Thank you for coming!
Don't forget to vote for workshops!