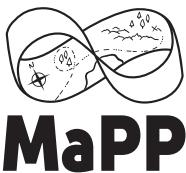


MaPP

MaPP Challenge Overview

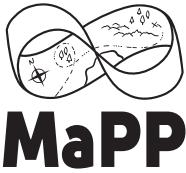
Mathematical Puzzle Programs



MaPP Challenge Overview

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MaPP Challenge Overview

Campus Guidelines

Here are some guidelines for local campuses on how to prepare for and run the event.

Schedule Template

- 0:00 - Staff arrives
- 0:15 - Team check-in
- 0:45 - Orientation
- 1:00 - Game Begins
- 4:00 - Game Ends
- 4:15 - Wrap-Up and Awards
- 4:30 - Dismissal

Volunteers

Only a handful of volunteers are required to run Game Control. We recommend having 2-5 volunteers depending on the number of participating teams.

Classroom Space

A large **lecture hall** is recommended for running Check-in, Orientation, and the Wrap-Up. Game Control can be stationed there during the game as well, or another nearby classroom.

Each team should be given a separate **classroom** so that they may openly collaborate with teammates without spoiling puzzles for other teams. It is useful to affix **printed signs** on each classroom and Game Control to help players navigate your space, as well as any additional signage required to get around.

Team Supplies

Scissors and tape should be provided in each classroom. In addition, **chalk or whiteboard markers** should be provided if teams will have access to chalkboards or whiteboards in their room. Some campuses provide **pencils and notepads** to players. We recommend **inviting teams to bring additional supplies**, such as graph paper or colored pencils.

Note that teams may also choose to bring laptops, cameras, and so on, and must provide their own **smart phones/devices** unless your campus provides them instead. We discourage campuses from banning the use of computers or the internet, since a phone can be used to perform the same tasks, but also do not suggest to explicitly recommend such items as they aren't required to enjoy or be competitive in this game. The puzzles are designed so that they generally cannot be solved using Google or brute force methods.

Copies

Generally, each game is designed to only require a printed copy of the game book PDF and the ClueKeeper app. The PDF is designed to be printed/copied in **grayscale**, both for the convenience of campuses and for accessibility by players. It is recommended to print **at least one stapled, single-sided copy of the game book per player, plus extras** on your access to last-minute copying.

An alternative version of the PDF that includes flavortext from the app and other useful information on the game will also be provided. We recommend printing **one copy per volunteer** in a binder. **One or more copies of this document** may also be useful.

Registration and Check-in

In the weeks before your event, you should offer **online registration** for participating schools, perhaps via Google Forms. You may choose to collect a registration fee to offset costs to run the game locally.

Schools may not know exactly which or how many students will play the game, so it's important to have a **check-in process** on the day of the event to determine which students will play on which teams.

At check-in, **distribute printed player PDF “Game Books”** - these puzzles cannot be solved until the game is started in the app. Each team should have access to **one or more devices with the ClueKeeper app** (often the players' phones). Using a **Hunt Code** purchased from ClueKeeper, one device for each team can download the hunt, and then add teammate devices by using their chosen ClueKeeper username, or Guest-XYZ username.

Each team is assigned a **Headquarters/HQ**, a classroom to use as the home base for solving puzzles.

Some campuses also choose to distribute other giveaways/swag/brochures at registration. Many bookstores are willing to provide branded disposable bags to help distribute materials.

Orientation

At an Orientation gathering of all participating players, the rules should be reviewed, and any questions from players should be answered. In particular, boundaries for where players might need to travel during the game (if GPS is used) should be established.

Once everyone is ready, present teams with the Start Code that will allow them to begin solving puzzles and start the game timer. Teams should be instructed to wait to enter it until they are settled in their HQ and ready to start solving.

Gameplay

As clues are unlocked in ClueKeeper, players will be able to solve puzzles and input their solutions into ClueKeeper, earning points. Progress may be monitored at ClueKeeper.com.

Campuses using Cluekeeper's GPS will have players traveling to locations on campus to unlock Main Puzzles and Cryptic Puzzles. A campus map should be provided mapping the numbers 000 to 999 to various locations on campus (e.g. 000-049 is Building A, 050-099 is Building B, etc.). GPS enforcement can be turned off in case of inclement weather, in which case the three digit code may be entered from any location. An example of this map for the University of South Alabama is included in this document; smaller campuses may use less locations for a wider range of three-digit codes.

A volunteer should be available in a room (“Game Control”) to provide support to teams and review any human-graded solutions. Another volunteer might stand at the door of this room to ensure at most one team is allowed in at all times, to avoid accidental spoiling of puzzle information between teams.

When the game includes a human-graded Bonus Puzzle, each team is allowed three submissions. The puzzle should be judged by Game Control in front of the players to confirm the validity of the submission. Players should be told to bring their app to Game Control to confirm their game has not expired.

Food

Campuses that will be running the event through lunchtime are encouraged to provide a **pizza lunch** for players. This lunch should not interrupt the game; rather, players should be able to grab a bite to eat to have while they continue to solve puzzles. In addition, **snacks** (fruit, granola bars, etc.) and **drinks** (bottled water) are nice for players to have access to during the game. Don't forget to provide appropriate **plates, cutlery, napkins, and trashbags**.

This food can be distributed at a **central location near Game Control** (but not inside Game Control's room where puzzles will be discussed).

Wrap-Up and Awards

At the end of the game, teams should straighten up their classrooms before returning to Game Control for the Wrap-Up. **Trash bags** may be provided for this purpose.

Teams should line up outside Game Control until results have been tabulated. Once all results have been determined, teams may be seated inside Game Control.

Solutions need not be reviewed together; MaPP will provide video content outlining the puzzle content to be viewed after the event.

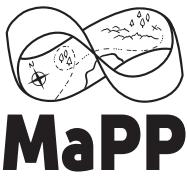
Certificates might be distributed in random or alphabetical order to all teams placing below 3rd place. A **3rd Place Certificate/Trophy** is then awarded. After reminding the 1st place team to be respectful, a **2nd Place Certificate/Trophy** is then awarded, followed by the **1st Place Certificate/Trophy**.

Alternatively, **Certificates of Participation vs Completion** might be distributed depending on whether each team completed the story of the event by solving the final metapuzzle.

Opportunities for photographs might be allowed during this process and after dismissal. After recognitions are done, teams may be dismissed.

Social Media

Players/teachers/volunteers can be encouraged to tag @MaPPmath on Twitter with non-spoiler posts/media during and after the event. Everyone should be reminded that the game is played at multiple locations across the country, and we do not want to spoil future players on what's in store.



MaPP Challenge Overview

How to Play

Rules

Game Books and ClueKeeper

Each team has received multiple **Game Books**. However, there is not enough information in this packet to begin solving any puzzles.

Once the game begins, clues will become available in the **ClueKeeper** app that will allow players to begin solving puzzles in the packet. Once a puzzle is solved, its solution can be submitted via the app. As time progresses, hints for unsolved puzzles will unlock, helping teams who are stuck. The game ends when your time in ClueKeeper has expired.

Main Puzzles

Once the game begins, you'll be presented with four **Main Puzzles**. Each Main Puzzle can be solved directly using mathematical modeling and problem-solving abilities. Once the solution for the puzzle has been entered into ClueKeeper, **Points** will be awarded.

Cryptic Puzzles

After solving each Main Puzzle, an additional **Cryptic Puzzle** will become available to solve. The way to solve these puzzles is left, well, cryptic. However, your team should still be able to use your critical thinking to extract a hidden word or phrase. Correct solutions are worth **Points**.

Bonus Puzzle

Eventually a Bonus Puzzle may become unlocked in ClueKeeper. If so, your team will be asked to optimize a certain task, and present your solution to Game Control in person, which will be graded and awarded **Points**.

You may submit up to three solutions throughout the game (including any disqualified submissions), and your best solution of the three will be counted toward your score. You must bring a device with the ClueKeeper app with you to submit an answer before time in the app expires.

Metapuzzle

Once your team has several Puzzles, the final **Metapuzzle** becomes available. Somehow, you'll be able to use the solutions to other puzzles to solve this "meta". Good luck!

Hints

Hints may be available to you via the ClueKeeper app. Sometimes these hints are unlocked for free, or they may deduct points from the value of that Puzzle if used. (No points are lost for using a Hint on a Puzzle you never solve.)

Your campus may also offer hints in person by visiting Game Control. If so, be sure to send the player who knows the most about the puzzle you're asking a hint about, and bring the ClueKeeper app as well. Game Control's hint will be based upon your current understanding of the puzzle, and how much time has been spent on the puzzle (with stronger hints being given after more time has elapsed).

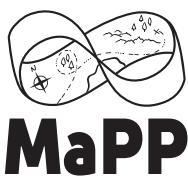
Winning the Game

Each team can “beat the game” today by solving the Metapuzzle and completing today’s story.

If your campus is offering trophies for teams competing to earn the most Points before time expires, ties will be broken based on how earned their final Point first according to the ClueKeeper app.

Additional Rules/Advice

- Players should not do anything which would interfere with other teams solving puzzles. Be a good sport!
- Submissions for each non-Bonus puzzle are unlimited, but ClueKeeper will temporarily block submissions if too many are attempted in a short time. Every submission for the Bonus Puzzle will be carefully graded by Game Control, so only three submissions are allowed.
- Before visiting Game Control to ask for a hint or clarification, make sure you’ve read all the material accompanying the puzzle in the app and on paper! Often your question will be answered there.
- Teachers and chaperones are not allowed to help teams solve puzzles if they are competing against other teams to earn more points.
- Teams may use any supplies they’ve brought and even look things up online to solve puzzles, but players should not receive any direct assistance from outside their team (e.g. you can’t phone a friend).
- Players must remain within any physical boundaries set by both Game Control and their teacher/chaperone at all times, and must always travel with a teammate when leaving their headquarters.
- Teachers/chaperones are responsible for their students at all times.
- Since this game will be played at different campuses on different days, please do not spoil any of today’s puzzles or solutions online until the game book is released publicly by MaPP!
- Contact Game Control immediately in the case of emergency or any issues with these rules.



MaPP Challenge Overview

Game Resources

Code Sheet

Letter	Decimal	Binary	Morse	Braille
A	1	00001	-	⠄⠄⠄⠄⠄
B	2	00010	-...-	⠄⠄⠄⠄⠄⠄
C	3	00011	-.-.	⠄⠄⠄⠄⠄⠄⠄
D	4	00100	-..-	⠄⠄⠄⠄⠄⠄⠄
E	5	00101	.	⠄⠄⠄⠄⠄⠄⠄
F	6	00110	...-.	⠄⠄⠄⠄⠄⠄⠄
G	7	00111	--.	⠄⠄⠄⠄⠄⠄⠄⠄
H	8	01000	⠄⠄⠄⠄⠄⠄⠄⠄
I	9	01001	..	⠄⠄⠄⠄⠄⠄⠄⠄
J	10	01010	.---	⠄⠄⠄⠄⠄⠄⠄⠄⠄
K	11	01011	-.-	⠄⠄⠄⠄⠄⠄⠄⠄⠄
L	12	01100	-..-	⠄⠄⠄⠄⠄⠄⠄⠄⠄
M	13	01101	--	⠄⠄⠄⠄⠄⠄⠄⠄⠄⠄

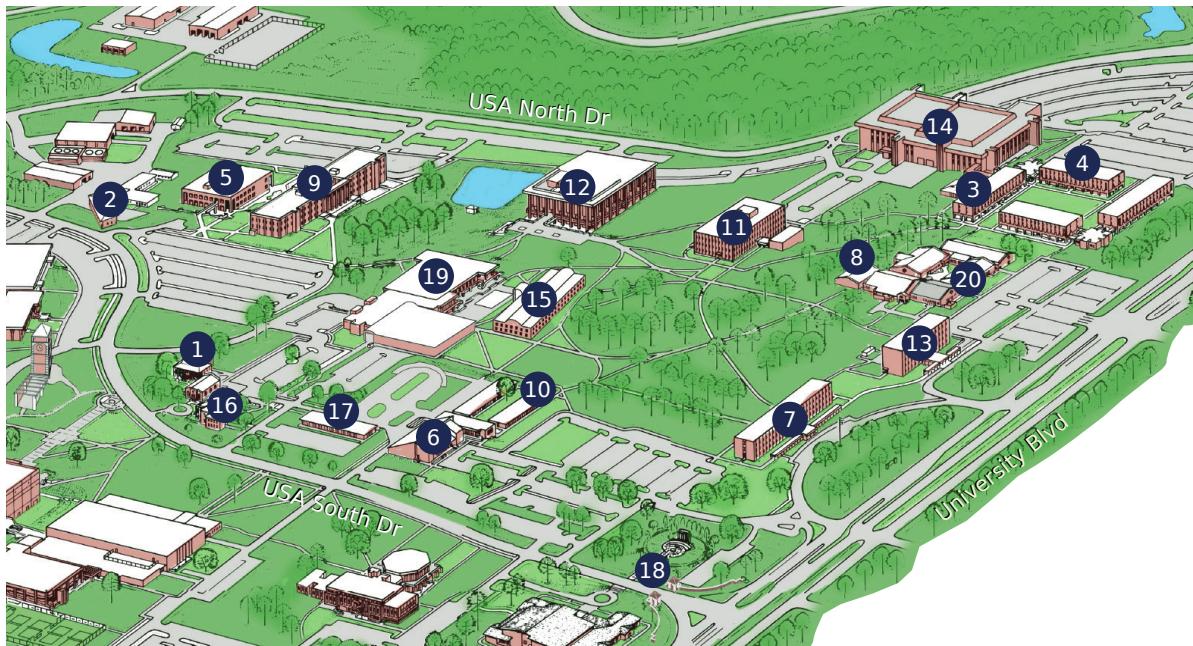


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MaPP Challenge Overview

Game Resources

Campus Map - University of South Alabama



- 1. Alumni Hall (Codes 000-049)
- 2. Archaeology Museum (Codes 050-099)
- 3. Central Services Admin Building (Codes 100-149)
- 4. Charles M. Baugh Biomedical Library (Codes 150-199)
- 5. Chemistry Building (Codes 200-249)
- 6. Computer Services Center (Codes 250-299)
- 7. F.P. Whiddon Administration Building (Codes 300-349)
- 8. Glass Arts Building (Codes 350-399)
- 9. Humanities Building (Codes 400-449)
- 10. Innovation in Learning Center (Codes 450-499)
- 11. Life Sciences Building (Codes 500-549)
- 12. Marx Library (Codes 550-599)
- 13. Mathematical Sciences and Physics Building (Codes 600-649)
- 14. Medical Sciences Building (Codes 650-699)
- 15. Meisler Hall (Codes 700-749)
- 16. Mobile Townhouse (Codes 750-799)
- 17. Student Health Center (Codes 800-849)
- 18. Tholos of Delphi Replica (Codes 850-899)
- 19. USA Student Center (Codes 900-949)
- 20. Visual Arts Complex (Codes 950-999)

To enter a Start Code that unlocks a Main Puzzle or Cryptic Puzzle, your device's GPS must detect that you are near the front door of the location corresponding to the code. For example, to enter the Start Code 123, you will need to visit Central Services Admin Building, since $100 \leq 123 \leq 149$.

Players will not need to cross USA South Dr, USA North Dr, or University Blvd.

