CENTRAL TEXAS
SPRING-O
Scout ORIENTEERING Challenge

A Leader's Guide to

7x7 Maze-O

A Fun Orienteering Activity

for

Scout Meetings or Camp-o-ree

Leader Guide Download

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Revision 1
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1

Maze-Orienteering

A race against the clock!
https://www.centraltexasspringo.org/maze-o/

What is Maze-O?

The Maze-O is a short, fun Orienteering course where the runners orient themselves on a map in a 60-ft square MAZE. They follow a course from point to point through the MAZE and punch/scan the markers at each control point. It's a fun race against the clock. There are several different difficulty levels that range from White (basic), to Yellow, Orange and Green (advanced). This is a fun activity for Scout meetings and introduces Scouts to Orienteering in a small, manageable area.

White Course:

Follow the course from point to point until the finish. This is much like a traditional point-to-point course, only in a small Maze.
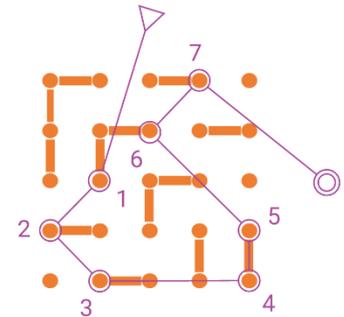
Yellow Course:

Similar to the White course, however the course is NOT drawn on the map, follow the instructions to navigate from point to point using a list of Cardinal Directions (go 2 South, then 2 East)

1. 2 S, 2 E
2. 1 NW, 3 W
3. 2 SE
4. 1 S, 2 W
5. 3 E, 1 SW
6. 1 E
7. 2 N
8. 2 N, 1 SE, 2 S
Finish: 1 N, 1 E
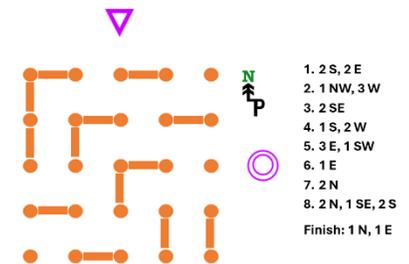
Orange Course:

The course becomes more difficult as you are given partial squares of the map to get from one control to the next.
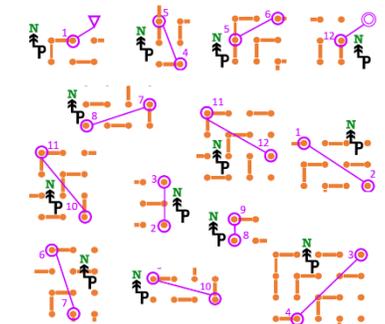
Green/Red Course:

This map is shown in oddly cut shapes that show puzzle-like pieces of the map that are rotated off north. Find the piece that shows your current location and the next control and visit all of them as quickly as you can.

2

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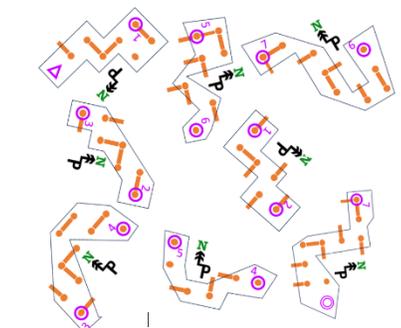
Maze-O 7x7 Set-up (see website for smaller 5x5 grid)

The Maze is built on a 7x7 grid of garden stakes, cones, buckets, large rocks (or whatever you have), 8ft apart for a total of 48ft square (or whatever size you like). Some courses are sensitive to North (see the set-up diagram for North).

- Stake the first corner 101
- Connect a 100ft tape measure to the first stake, use a compass to align 143 stake due South
- Install a stake every 8 ft (adjust as needed)
- Rotate tape measure from 101 due east to 107
- Install a stake every 8 ft
- Repeat 102 to 103, 104, 105 to 106 etc until the entire grid is complete
- Tie neon construction tape or rope to make MAZE WALLS as shown in the diagram
  - the maze walls are not required; however they make the grid look more interesting and create some restriction of movement to the runners

- Install START (north of 105) and FINISH stakes (east of 121)
- Install control markers on each garden stake (clothespin a card to the stake, if you are using buckets or cones, just tape the markers...see Appendix)
  - Marker should display the control code (e.g "CC-125") and include either a pin punch or a code for scouts to write down, or barcode if you are using scanners
    - If you would like to use a wireless barcode scanner, they are ~ $30 on Amazon; email orienteering@troop8787.org for the free program used to record and score your runners on a PC. The Maze-O program is made to work with Symcode 2D Wireless Barcode Scanner and we usually run with 4 at a time. You could start with one.
- Set a table for your officials, NE of 107, convenient to start and finish makers

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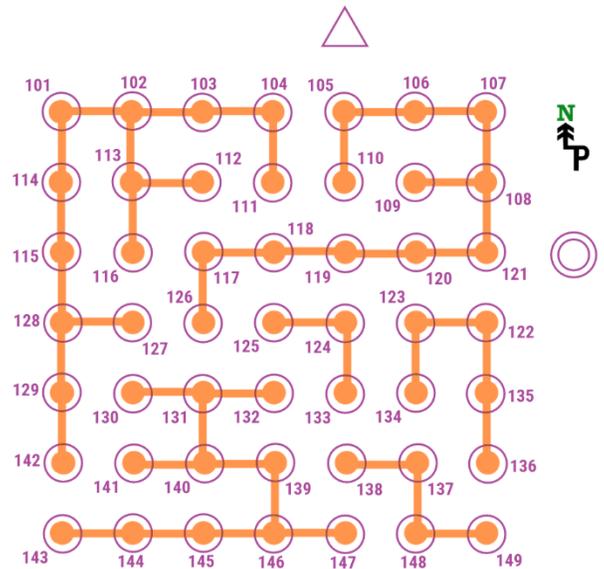
Maze-O Operation

Check-in table Supplies
- Table & Chair for the Official
- Maps (2-3 each course, in zip lock bags or laminated)
- If you are using punches or handwriting codes, you will need index cards for runners to write codes or punch and the official needs a "key" to score each runner (see appendix)
- Timer, if you care, and if you're NOT using the wireless barcode scanners
- If you are using a wireless barcode scanner, you need the scanner(s) and a PC to record results

At START:
- Provide instructions:
  - Choose the course to run, get a map
    - There are easy courses that follow a straightforward path through the maze
    - More difficult courses show partial sections of the maze
    - The most difficult courses show partial sections which are rotated off of north
  - Explain that the runner will be following the map to visit markers in the maze in a race for the fastest time
  - Point out the Start and Finish Markers
  - If using wireless scanners:
    - the runner must clear scanner data and then scan the selected course (these are barcodes on the map)
    - Runner must scan the barcode at the Start Triangle to begin timer
    - Runner must scan the barcode at the Finish Marker to stop timer
    - Runner must return the barcode scanner to get their time/score registered
- Provide the Map and record the start time

At FINISH:
- Record the finish time and score the runners card against the key
- If using barcode scanners:
  - take scanner from runner
  - make sure spreadsheet is in first column of next empty row
  - scan the "Upload Data" barcode
  - all of the runner's scans will transfer and be evaluated for time and correct scans
  - the Finish scan will show total time and "OK" or "DQ"
    - duplicate scans are ignored, any scan out of order will DQ runner
    - Type runner's name on the FINISH row if they want to be listed on the lead-board
  - There is a second tab in spreadsheet that summarizes top times by course (it refreshes every 2 minutes)

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Maze-O Courses

Print these for your orienteers to run the courses

Note that only the first course shows the Control Code numbers at each point. This is to add difficulty and opportunity for runners to scan the wrong point if they are off track.

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Start at the Triangle, visit each point circled on your course (in order).

Do NOT step over/under the maze walls (tape/rope)

1. Clear your scanner data
2. Scan your course selection
3. Scan at START TRIANGLE to start timer
4. ***Run the course!***
5. Scan at FINISH sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE - 71

▷	**START--**
1	CC-112
2	CC-115
3	CC-142
4	CC-126
5	CC-106
6	CC-119
7	CC-139
8	CC-147
◎	**FINISH-**

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WHITE Course 2

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Start at the Triangle, visit each point circled on your course (in order).

Do NOT step over/under the maze walls (tape/rope)
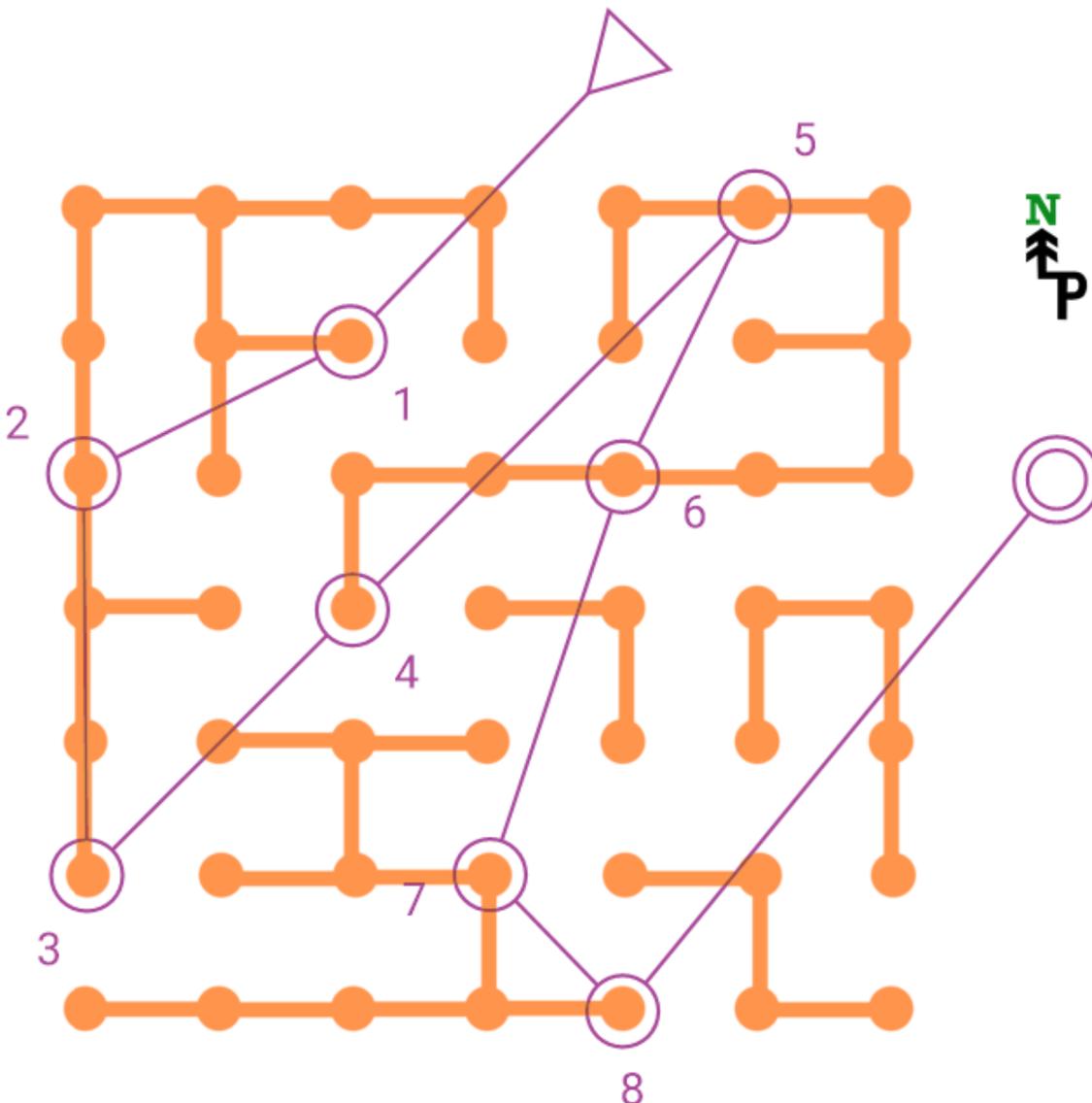
1. <u>Clear</u> your scanner data
2. <u>Scan your course</u> selection
3. <u>Scan at START</u> TRIANGLE to start timer
4. ***Run the course!***
5. <u>Scan at FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE-76

△	START--
1	CC--101
2	CC--145
3	CC--131
4	CC--117
5	CC--148
6	CC--136
7	CC--119
8	CC--113
9	CC--102
10	CC--110
◎	FINISH

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YELLOW Course

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Start at the Triangle, visit each point circled on your course (in order).

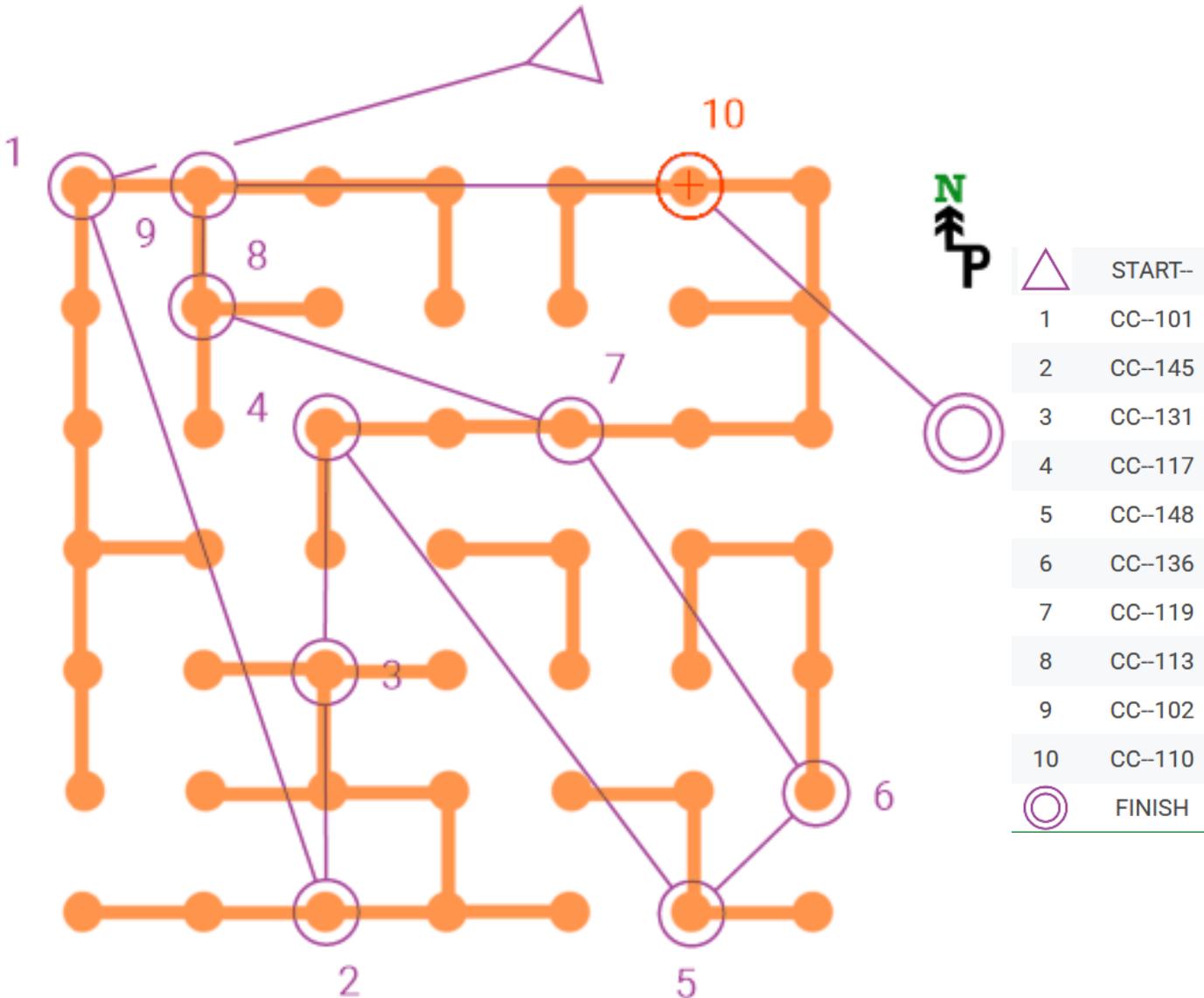Do NOT step over/under the maze walls (tape/rope)
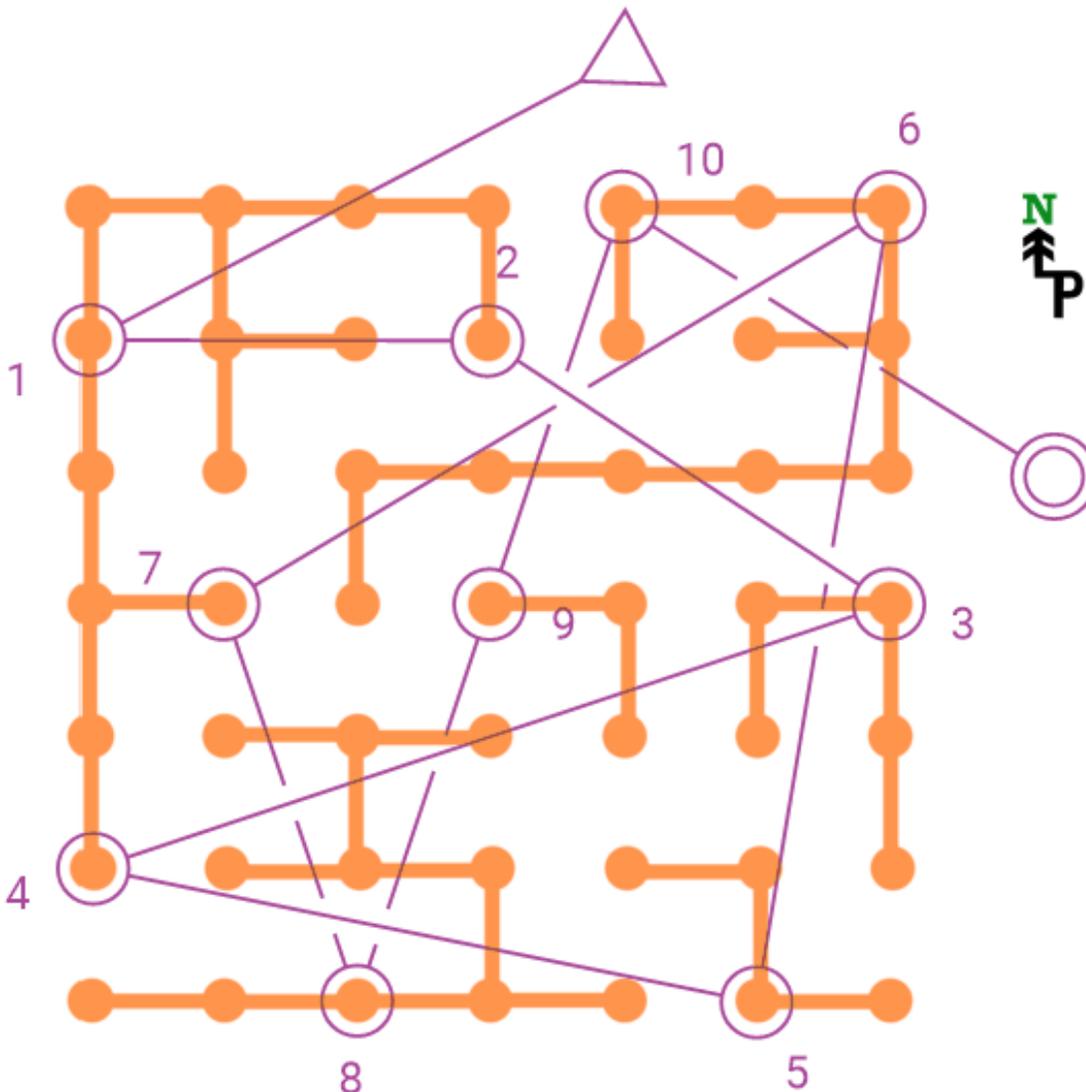
1. <u>Clear</u> your scanner data
2. <u>Scan your course</u> selection
3. <u>Scan at START</u> TRIANGLE to start timer
4. ***Run the course!***
5. <u>Scan at FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE-72

△	START--
1	CC--114
2	CC--111
3	CC--122
4	CC--142
5	CC--148
6	CC--107
7	CC--127
8	CC--145
9	CC--125
10	CC--105
◎	FINISH

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ORANGE Course

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Scout ORIENTEERING Challenge

Start at the Triangle and visit all control points in order, by using the list of cardinal directions (2 S, 2 E means go south 2 points and then east 2 points).

Do NOT step over/under the maze walls (tape/rope)

1. Clear your scanner data
2. Scan your course selection
3. Scan at START TRIANGLE to start timer
4. ***Run the course!***
5. Scan at FINISH sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE - 73

N

P

1. 3 S, 2 W
2. 1 NE, 3 E
3. 3 W, 5S
4. 3 NW, 2 S
5. 4 N, 1 E
6. 3 S, 1 E
7. 3E, 2 S
8. 3 N, 2 W

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Start at the Triangle, find the piece of the map below that shows your current location and the next control, then get there as quickly as you can until you visit all controls. Be careful to orientent each piece to North.

Do NOT step over/under the maze walls (tape/rope)
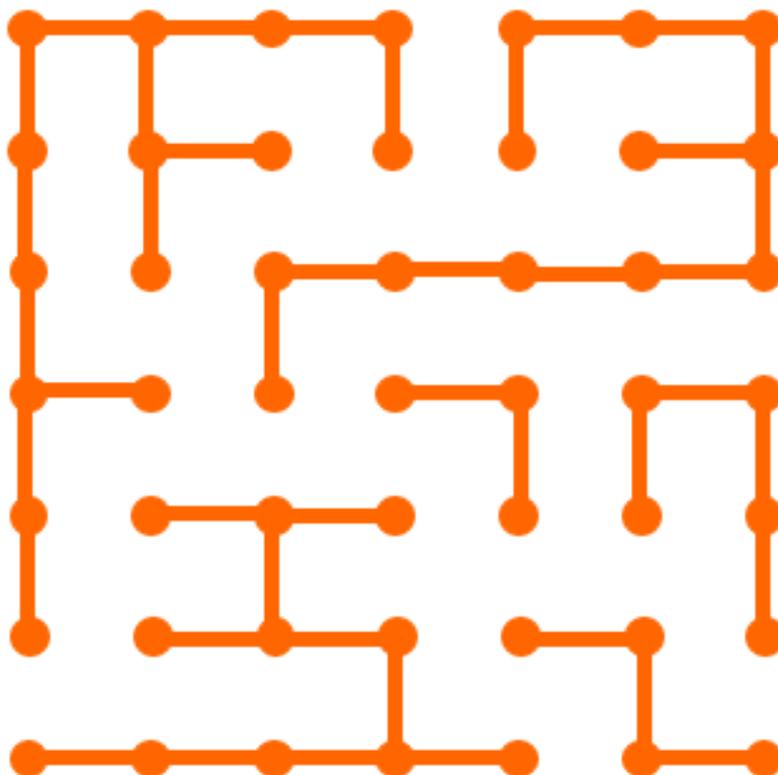
1. <u>Clear</u> your scanner data
2. <u>Scan your course</u> selection
3. <u>Scan at START</u> TRIANGLE to start timer
4. ***Run the course!***
5. <u>Scan at FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

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Clear Data

MAZE - 74

Maze-Orienteering

RED Course

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Start at the Triangle, find the piece of the map below that shows your current location and the next control, then get there as quickly as you can until you visit all controls. Be careful to orientent each piece to North.
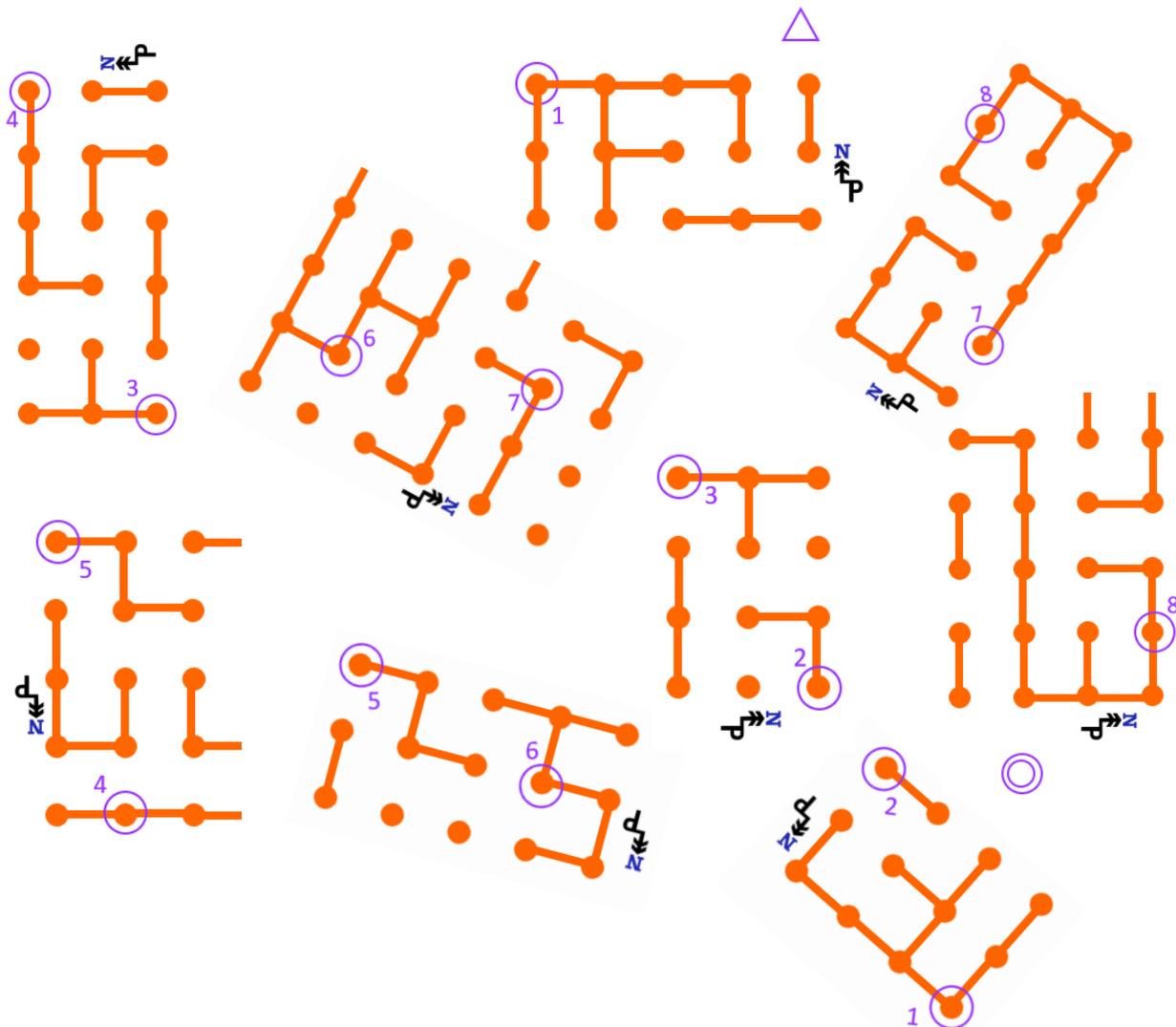
Do NOT step over/under the maze walls (tape/rope)

1. <u>Clear</u> your scanner data
2. <u>Scan your course</u> selection
3. <u>Scan at START</u> TRIANGLE to start timer
4. ***Run the course!***
5. <u>Scan at FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE - 75
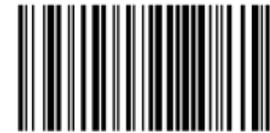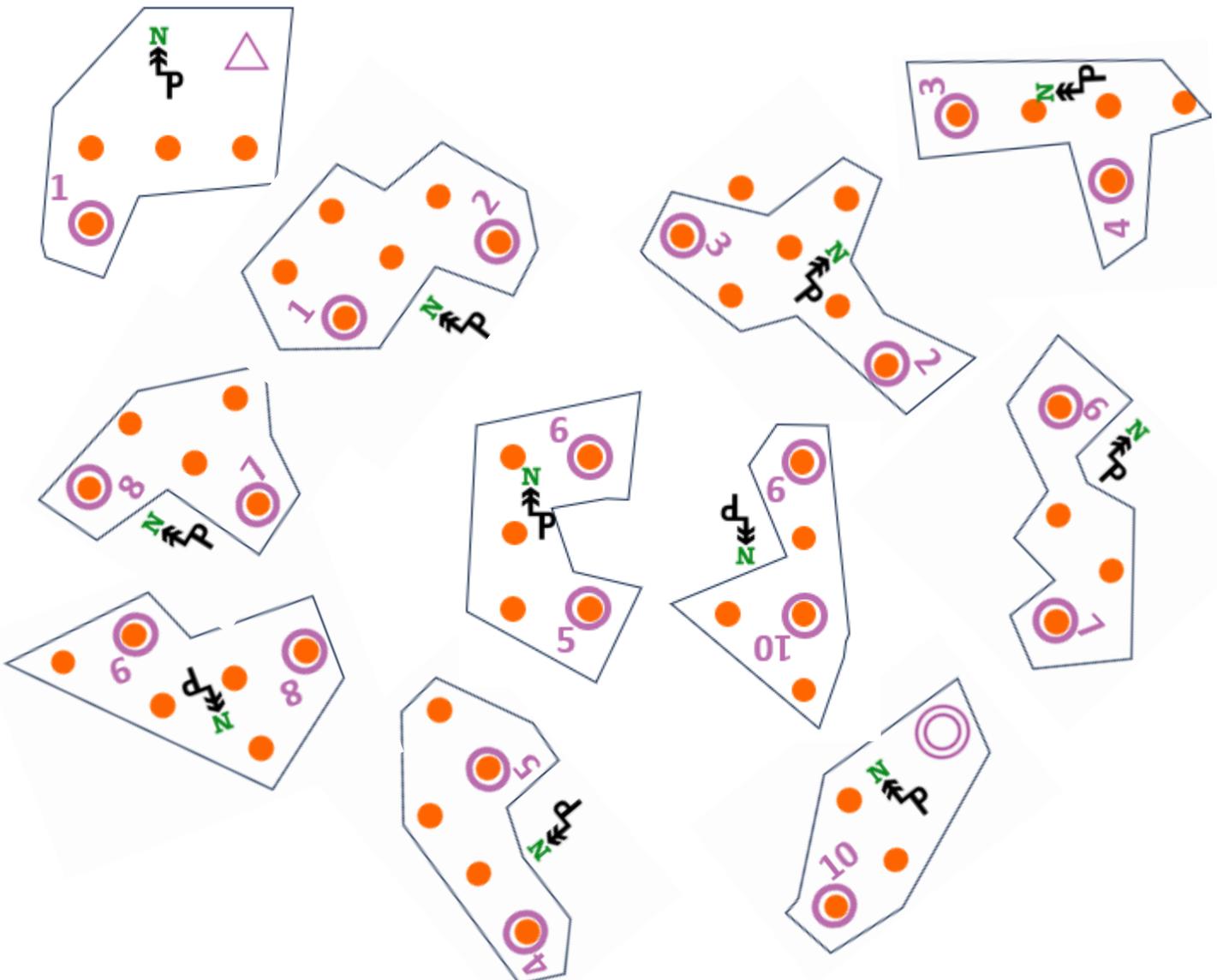
APPENDIX

Maze-Orienteering

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Control Point Markers

Cut out and attach to each control point, runners either write down the letter code or scan the barcode to record that they made it to the correct control

7x7 marker printing (click link for printable to be used to staple to stakes)

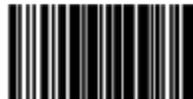|	
CC--101 Write this: **X12**	CC--102 Write this: **X46**
CC--103 Write this: **X52**	CC--104 Write this: **X29**
CC--105 Write this: **X43**	CC--106 Write this: **X42**
CC--107 Write this: **X54**	CC--114 Write this: **X31**
CC--113 Write this: **X51**	CC--112 Write this: **X18**

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Blank Cards

For events using handwritten codes (without punches or barcodes)
Runners write the code they find at the corresponding control point.

Course:					
1	2	3	4	5	6
7	8	9	10	11	12

Course:					
1	2	3	4	5	6
7	8	9	10	11	12

Course:					
1	2	3	4	5	6
7	8	9	10	11	12

Course:					
1	2	3	4	5	6
7	8	9	10	11	12

Course:					
1	2	3	4	5	6
7	8	9	10	11	12

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Control Code Answer Key

The codes starting with letter "X" are intended for runners to write on their card if not using the barcode scanner

WHITE Course 1

MAZE-71	0	△	START--	n/a
MAZE-71	1	1	CC--112	X18
MAZE-71	2	2	CC--115	X35
MAZE-71	3	3	CC--142	X38
MAZE-71	4	4	CC--126	X37
MAZE-71	5	5	CC--106	X42
MAZE-71	6	6	CC--119	X39
MAZE-71	7	7	CC--139	X17
MAZE-71	8	8	CC--147	X45
MAZE-71	9	◎	FINISH	n/a

WHITE Course 2

MAZE-76	0	△	START--	n/a
MAZE-76	1	1	CC--101	X12
MAZE-76	2	2	CC--145	X19
MAZE-76	3	3	CC--131	X28
MAZE-76	4	4	CC--117	X55
MAZE-76	5	5	CC--148	X50
MAZE-76	6	6	CC--136	X11
MAZE-76	7	7	CC--119	X39
MAZE-76	8	8	CC--113	X51
MAZE-76	9	9	CC--102	X46
MAZE-76	10	10	CC--110	X49
MAZE-76	11	◎	FINISH	n/a

YELLOW Course

MAZE-72	0	△	START--	n/a
MAZE-72	1	1	CC--114	X31
MAZE-72	2	2	CC--111	X14
MAZE-72	3	3	CC--122	X15
MAZE-72	4	4	CC--142	X38
MAZE-72	5	5	CC--148	X50
MAZE-72	6	6	CC--107	X54
MAZE-72	7	7	CC--127	X26
MAZE-72	8	8	CC--145	X19
MAZE-72	9	9	CC--125	X53
MAZE-72	10	10	CC--105	X43
MAZE-72	11	◎	FINISH	n/a

ORANGE Course

MAZE-73	0	△	START--	n/a
MAZE-73	1	1	CC--117	X55
MAZE-73	2	2	CC--108	X56
MAZE-73	3	3	CC--146	X24
MAZE-73	4	4	CC--142	X38
MAZE-73	5	5	CC--113	X51
MAZE-73	6	6	CC--131	X28
MAZE-73	7	7	CC--148	X50
MAZE-73	8	8	CC--125	X53
MAZE-73	9	◎	FINISH	n/a

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GREEN Course

MAZE-74	0	△	START--	n/a
MAZE-74	1	1	CC--101	**X12**
MAZE-74	2	2	CC--118	**X13**
MAZE-74	3	3	CC--129	**X25**
MAZE-74	4	4	CC--120	**X48**
MAZE-74	5	5	CC--149	**X36**
MAZE-74	6	6	CC--139	**X17**
MAZE-74	7	7	CC--117	**X55**
MAZE-74	8	8	CC--106	**X42**
MAZE-74	9	◎	FINISH	n/a

RED Course

MAZE-75	0	△	START--	n/a
MAZE-75	1	1	CC--112	**X18**
MAZE-75	2	2	CC--119	**X39**
MAZE-75	3	3	CC--127	**X26**
MAZE-75	4	4	CC--142	**X38**
MAZE-75	5	5	CC--145	**X19**
MAZE-75	6	6	CC--131	**X28**
MAZE-75	7	7	CC--147	**X45**
MAZE-75	8	8	CC--132	**X57**
MAZE-75	9	9	CC--137	**X33**
MAZE-75	10	10	CC--123	**X20**
MAZE-75	11	◎	FINISH	n/a

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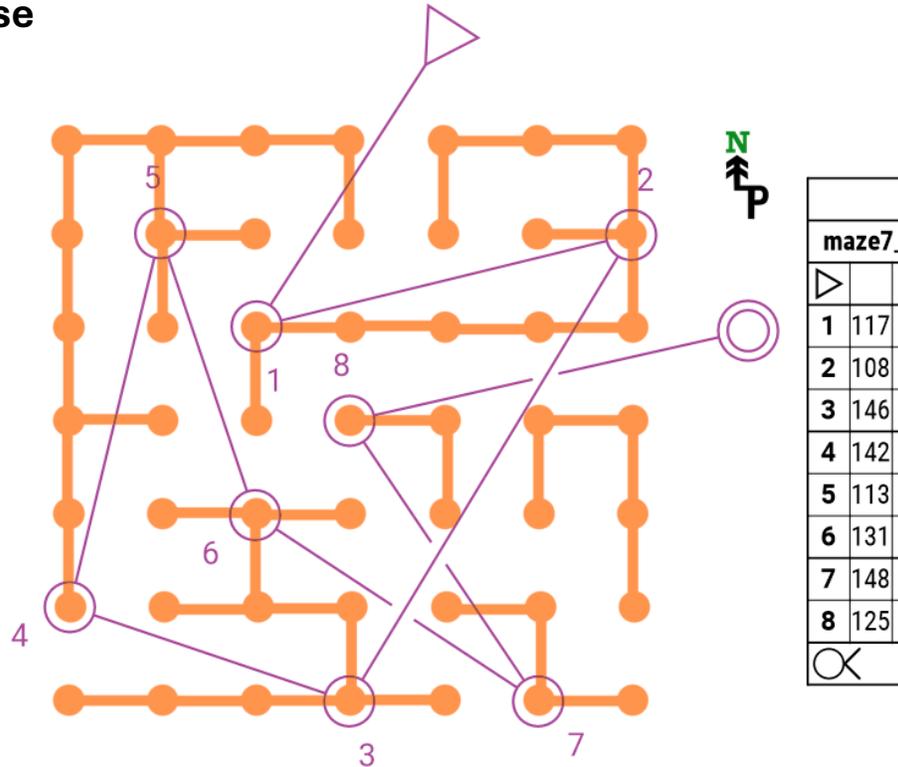
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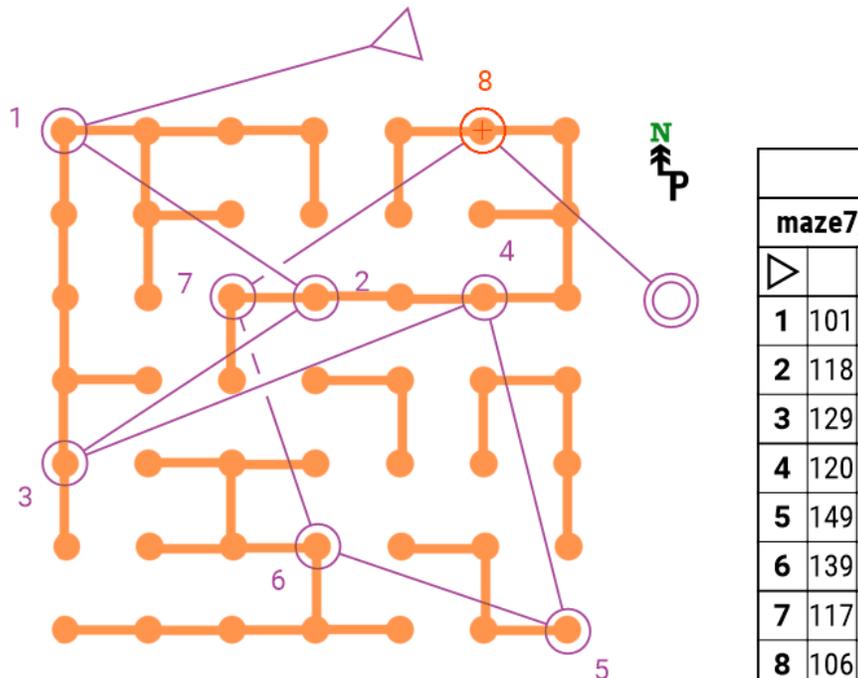
Course Maps

This is what the courses would look like if the path were drawn directly on the map:
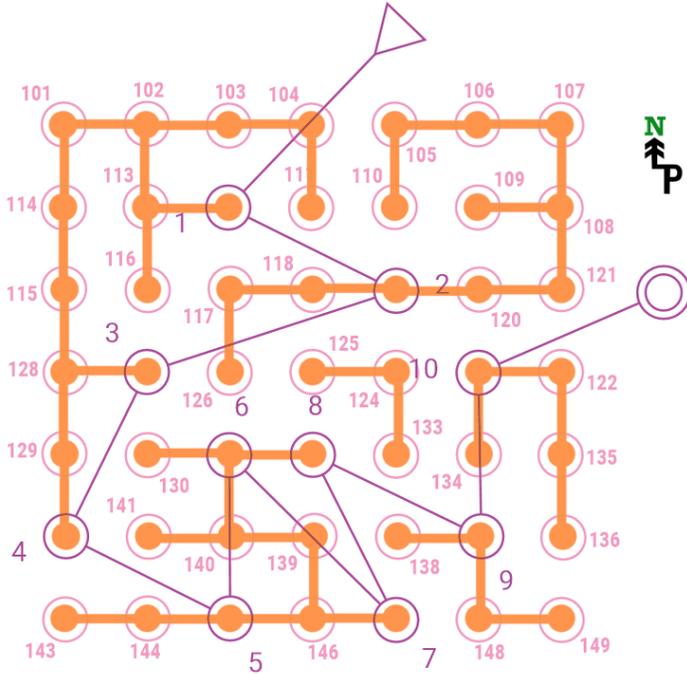
7x7 ORANGE Course

maze7_	
▷	
1	117
2	108
3	146
4	142
5	113
6	131
7	148
8	125
⊗	

7x7 GREEN Course

maze7_	
▷	
1	101
2	118
3	129
4	120
5	149
6	139
7	117
8	106

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7x7 RED Course

maze7	
▷	
1	112
2	119
3	127
4	142
5	145
6	131
7	147
8	132
9	137
10	123
✕	

Links to Test Sheets

5x5 scan test sheet

7x7 scan test sheet

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Gear List

- 27 stakes (or similar e.g. cones, buckets, rocks, etc)
- 27 markers (print them on waterproof paper/labels if area is damp)
    - 25 for the maze plus one for start and one for finish
    - staple, tape or clothespin the markers in place)
- Construction tape or rope/string (to make the optional maze walls)
- Tape Measure (long enough to string an entire side of the maze)
- Pen/paper for participants to record each marker they visit
- If using barcode scanners vs pen/paper:
    - Wireless Barcode scanner(s), these go on sale from time to time
    - Computer with access to internet
    - Google sheets template to track time and check runner (email orienteering@troop8787.org)
- Table/chair for official

Control Markers can be printed on paper or stickers (see photo) and stapled to a stake or taped to a cone, bucket, rock or other item you use to make the 5x5 maze.

- Use the barcode with a scanner or...
- Use the handwritten code so runners can record that they found the correct control point

Scanner Operation

Summary
- While you can run this event without scanners (having scouts hand-write the codes at each control), if you use bar-code scanners it is easier to keep track of time and the leaderboard.
- The bar-code scanners are used in "Storage Mode" so they do not need to be connected to a PC while the scouts run the course and when they finish, their scans are uploaded into the PC for automatic scoring.

Barcode set-up
- The Maze Scoresheet is made to work with scanners from Symcode with the following settings
- Sound/vibration ON
- Set sleep for 5 minutes so it doesn't turn off in the middle of a longer run
- Activate "Storage Mode"
- Set up for date/time to append to the end of scan data (suffix). The correct time doesn't really matter since the scoring is calculated by the difference between start and end time.

Course set-up
- Set up the course the same way as described earlier
- We have set up two print options for control markers: one is intended to print on sticker/label blanks and the other is intended to print on standard 8.5x11 paper
  - Sticker template printable here; purchase waterproof sticker blanks
  - Cut/staple template here; (regular paper is fine, weatherproof is better)

Testing
- Before you physically set up the course, you can test your set-up by with the master scan sheet (it is organized the same as the course (5x5, 7x7) This way you can 'run' a course while sitting in front of your PC. This allows you to make sure that the scanners are set up correctly and the scoring sheet is working ok.
  - The easiest way is to look at the control table on the map and scan them in order from the master scan sheet.
- After you set up the course, it is best to have someone run them to check proper placement of the markers.

Running the event with Scanners
- You can run this with a single scanner, but we find that 4 scanners/runners at once is manageable and allows for more opportunities to run.
- The runner chooses the course to run and the official gives them a barcode scanner.
- The Scout clears the scanner by scanning the "Clear Scanner" on their course map
- The Scout scans the Course on their course map so the scanner knows which course is selected

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- The Scout must scan the START marker in order to start the clock
- The Scout then runs the course, scanning each control on their map
- The Scout must scan the FINISH marker in order to stop the clock
- Then the runner turns in their scanner and map to the official.
- The official makes sure that the online scoresheet has the courser/selection in the next empty row in column A; then scan the "Upload Data" barcode
- All of the runner's scans will come into the sheet and be evaluated for the correct scan. It will also the accumulated time from each scan until Finish.
- Optional: Official enters the runners name/age in the Finish row. This will allow runners to see how they did on the leader board

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Scanner Set-up

Normal Mode

Storage Mode

Clear Data

Upload Data

Sound OFF

Sound ON

Vibration OFF(optional)

Vibration ON(optional)

Initialization Settings

Add Time as Suffix

5 min

Please let us know if you liked this activity! Feedback is collected at:

https://www.centraltexasspringo.org/maze-o/

For more Orienteering fun, check your local Orienteering Club.

In Central Texas it's Austin Orienteering Club

www.AustinOC.com

The annual Spring-O in Central Texas is a huge orienteering event with special activities focused on Scouts. www.CentralTexasSpringO.org

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Getting it square...

It is challenging to make this grid square in the field.

It is helpful if you have a loop of rope equal to the length of two sides plus hypotenuse.

Stake one corner and have two volunteers take their section West and South (use a real compass). Pull tight until each side is taught and the hypotenuse is taught. There should be markings on the rope for each post; plant the posts along the rope at the marked points. Then flip right angle to opposite corner to complete the outer posts

In our 7x7 course, we have a 163.9ft loop. Each corner is prominently marked and the points for each point are also marked. This makes for faster/easier setup of the posts.

If you set up 7x7 course with 8ft spacing, then each side is 6x8 = 48 ft and the hypotenuse is 67.9 ft so the loop is 48+48+67.9= 163.9 ft; use two pc of rope where hypotenuse is different color.

If you set up 5x5 course with 6ft spacing, then each side is 4x6 = 24 ft and the hypotenuse is 33.9 ft so the loop is 24+24+33.9 = 81.9 ft.

The following maps are just compact versions from previous pages

Course: WHITE - 1

Start at the TRIANGLE, visit each circled point in order

1. Clear your scanner data
2. Scan your course selection
3. Scan at the START TRIANGLE to start the timer
4. ***Run the course!***
5. Scan at the FINISH sign to stop timer
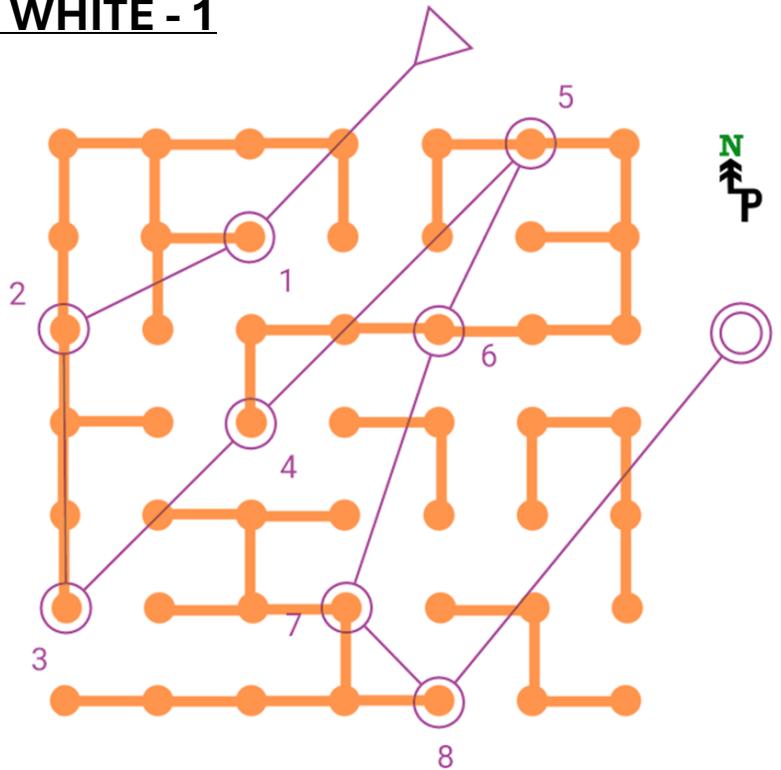6. Turn in your scanner to record your score/time

Clear Data

MAZE - 71

▷	START--
1	CC-112
2	CC-115
3	CC-142
4	CC-126
5	CC-106
6	CC-119
7	CC-139
8	CC-147
◎	FINISH-

Course: WHITE - 2

Start at the TRIANGLE, visit each circled point in order

1. Clear your scanner data
2. Scan your course selection
3. Scan at the START TRIANGLE to start the timer
4. ***Run the course!***
5. Scan at the FINISH sign to stop timer
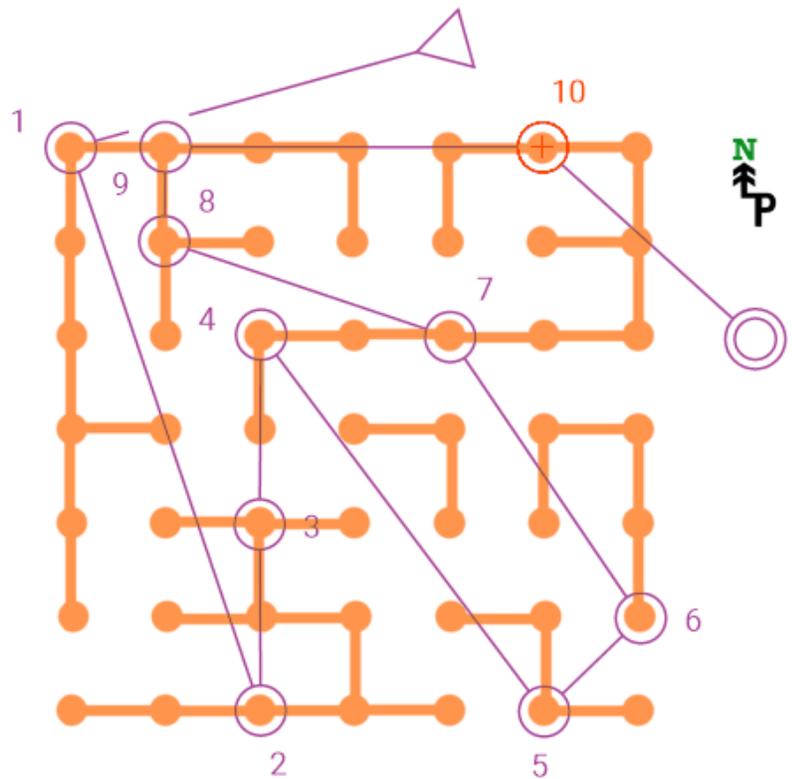6. Turn in your scanner to record your score/time

Clear Data

MAZE - 76

△	START--
1	CC–101
2	CC–145
3	CC–131
4	CC–117
5	CC–148
6	CC–136
7	CC–119
8	CC–113
9	CC–102
10	CC–110
◎	FINISH

Course: YELLOW

Start at the TRIANGLE, visit each circled point in order
1. Clear your scanner data
2. Scan your course selection
3. Scan at the START TRIANGLE to start the timer
4. ***Run the course!***
5. Scan at the FINISH sign to stop timer
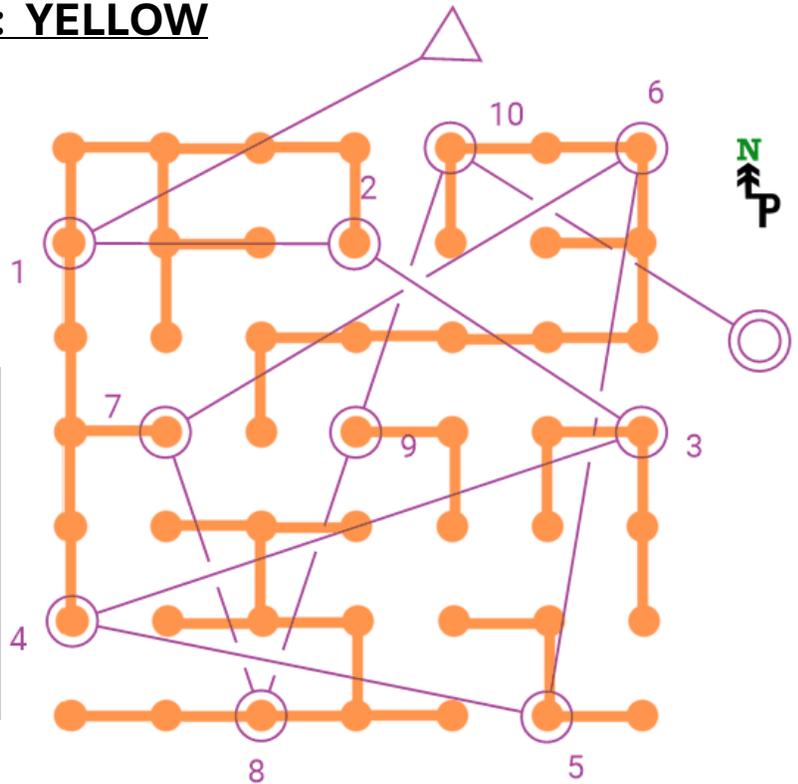6. Turn in your scanner to record your score/time

Clear Data

MAZE - 72

▷	START--
1	CC-112
2	CC-115
3	CC-142
4	CC-126
5	CC-106
6	CC-119
7	CC-139
8	CC-147
◎	FINISH-

Course: ORANGE

1. Clear your scanner data
2. Scan your course selection
3. Scan at the START TRIANGLE to start the timer
4. ***Run the course!***
5. Scan at the FINISH sign to stop timer
6. Turn in your scanner to record your score/time
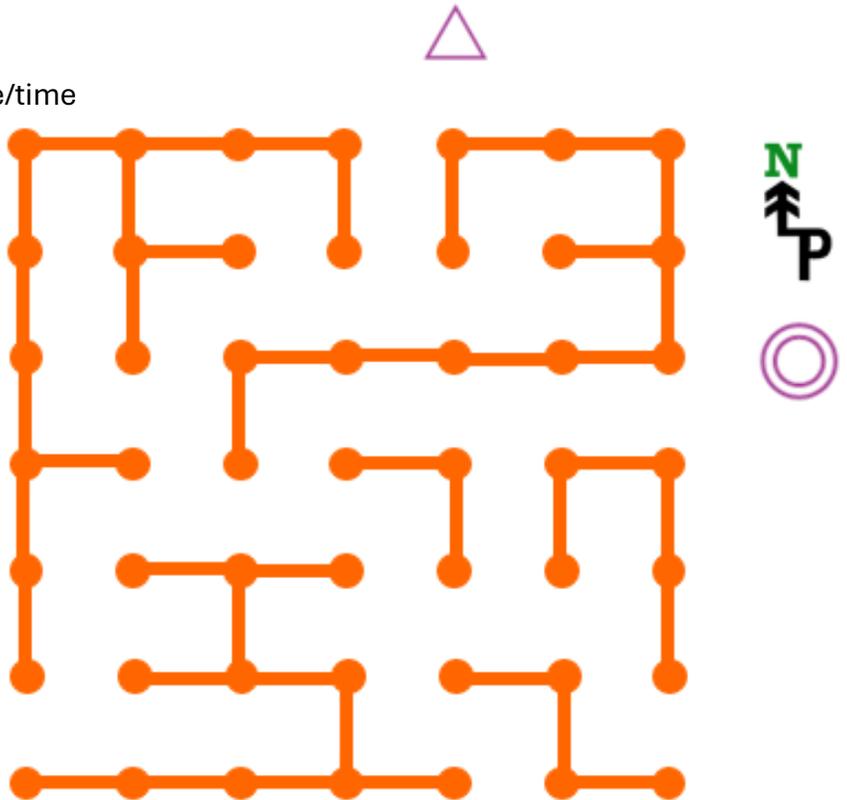

Clear Data

MAZE - 73

1. 3 S, 2 W
2. 1 NE, 3 E
3. 3 W, 5S
4. 3 NW, 2 S
5. 4 N, 1 E
6. 3 S, 1 E
7. 3E, 2 S
8. 3 N, 2 W

Course: GREEN
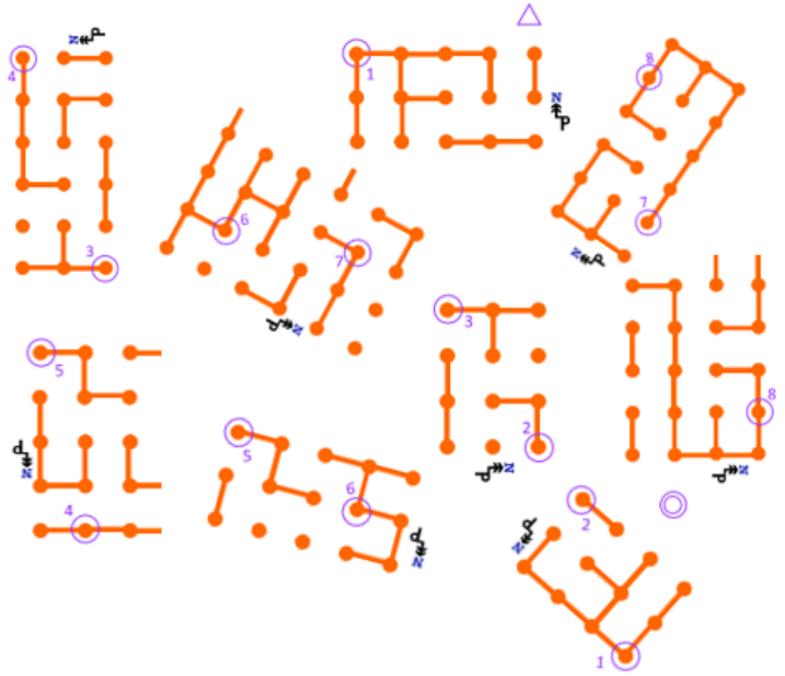
Start at the TRIANGLE, visit each circled point in order

1. <u>Clear your scanner</u> data
2. <u>Scan your course</u> selection
3. <u>Scan at the START TRIANGLE</u> to start the timer
4. ***Run the course!***
5. <u>Scan at the FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE-74

Course: RED

Start at the TRIANGLE, visit each circled point in order

1. <u>Clear your scanner</u> data
2. <u>Scan your course</u> selection
3. <u>Scan at the START TRIANGLE</u> to start the timer
4. ***Run the course!***
5. <u>Scan at the FINISH</u> sign to stop timer
6. Turn in your scanner to record your score/time

Clear Data

MAZE-75