

## Round Robin Scheduling Made Easy

So teams are dropping from your field or signing up at the last minute, and your exquisitely-crafted schedule is now absolutely unusable. How do you prevent major delays?

Here is your guide for making a round-robin schedule in literally five minutes.

### ODD NUMBER OF TEAMS

YOU WILL NEED: A chalkboard and some chalk, or a whiteboard and some markers.

This schedule operates on the principle of “one to the left, one to the right.” What this means is that after each game, one team will move to the room to the left, and the other will move to the room to the right.

EXAMPLE: Let’s say you have 11 teams. Start by listing the five rooms you have, and in the column right below it, list the teams in order from 1-11.

Room 1	Room 2	Room 3	Room 4	Room 5	BYE
1,2	3,4	5,6	7,8	9,10	11

Now, you move each team to a new room. If the team was on the left side in the previous round, they move one room to the left and stay on the left side. If the team was on the right side in the previous round, they move one room to the right and stay on the right side. The BYE team always moves to the left side of the rightmost room.

The only other tricky part is what to do with Room 1, which has one team coming in from Room 2 and one team that can’t go to another room to the left. The team coming from Room 2 is now on the left side of Room 1, and the team that was on the left side of Room 1 moves to the right side of Room 1.

Room 1	Room 2	Room 3	Room 4	Room 5	BYE
1,2	3,4	5,6	7,8	9,10	11
3,1	5,2	7,4	9,6	11,8	10

Above is what your schedule should look like for the first two rounds.

Continue this pattern until every team has a bye.

Room 1	Room 2	Room 3	Room 4	Room 5	BYE
1,2	3,4	5,6	7,8	9,10	11
3,1	5,2	7,4	9,6	11,8	10
5,3	7,1	9,2	11,4	10,6	8
7,5	9,3	11,1	10,2	8,4	6
9,7	11,5	10,3	8,1	6,2	4
11,9	10,7	8,5	6,3	4,1	2
10,11	8,9	6,7	4,5	2,3	1
8,10	6,11	4,9	2,7	1,5	3
6,8	4,10	2,11	1,9	3,7	5
4,6	2,8	1,10	3,11	5,9	7
2,4	1,6	3,8	5,10	7,11	9

If you do this right, you should be able to get back to the original Round 1 setup by doing the same “one to the left, one to the right” strategy. You will also notice that no team should ever be in the same room more than twice.

Finally, assign a number to each one of the actual teams that are waiting around.

If you're confused, here's a restatement of how this works in slightly different terms: Each scheduling box contains two numbers, corresponding to the teams playing in that room during that round. The number on the left moves one box down and to the left; the number on the right moves one box down and to the right. If a number is on the left side of a box, it stays on the left side of each successive box until it reaches the leftmost room and can't go left; it then goes on the right side of the leftmost box. If a number is on the right side of a box, it stays on the right side of each successive box until it reaches the "BYE" box, which has only one number in it; it then goes to the left side of the rightmost room's box.

## EVEN NUMBER OF TEAMS

YOU WILL NEED: A chalkboard and some chalk, or a whiteboard and some markers, an eraser.

Create a schedule for the number of teams minus one, and then tack on the last team to the “BYE” room. For instance, if you had 12 teams, you would create the 11-team schedule above, then insert the 12th team:

Room 1	Room 2	Room 3	Room 4	Room 5	Room 6
1,2	3,4	5,6	7,8	9,10	11,12
3,1	5,2	7,4	9,6	11,8	10,12
5,3	7,1	9,2	11,4	10,6	8,12
7,5	9,3	11,1	10,2	8,4	6,12
9,7	11,5	10,3	8,1	6,2	4,12
11,9	10,7	8,5	6,3	4,1	2,12
10,11	8,9	6,7	4,5	2,3	1,12
8,10	6,11	4,9	2,7	1,5	3,12
6,8	4,10	2,11	1,9	3,7	5,12
4,6	2,8	1,10	3,11	5,9	7,12
2,4	1,6	3,8	5,10	7,11	9,12

This is obviously not an ideal schedule, since Team 12 is in the same room all the time. Therefore, use the eraser and switch some rooms. There isn't a great protocol for how to do this (you can usually get a perfect schedule with *lots* of trial and error, and you won't have the time to do it), so just move things around until you get a reasonable approximation of a room-balanced schedule. For instance, a schedule whipped up with a minimum of switching is:

Room 1	Room 2	Room 3	Room 4	Room 5	Room 6
1,2	3,4	5,6	7,8	11,12	9,10
3,1	10,12	7,4	9,6	11,8	5,2
5,3	8,12	9,2	11,4	10,6	7,1
6,12	9,3	11,1	10,2	8,4	7,5
9,7	11,5	10,3	8,1	6,2	4,12
11,9	10,7	8,5	6,3	2,12	4,1
10,11	8,9	1,12	4,5	2,3	6,7
8,10	6,11	4,9	2,7	1,5	3,12
6,8	4,10	5,12	1,9	3,7	2,11
4,6	2,8	1,10	7,12	5,9	3,11
2,4	1,6	3,8	9,12	7,11	5,10

Obviously, this isn't an ideal solution (for instance, Team 7 is now in both Room 4 and Room 6 three times), but it's close enough that no team is going to be unfairly burdened by a bad moderator. (For up to 16 teams, “perfect” even-team round robin schedules solved by trial and error can be found [here](#))

## BRACKETED ROUND ROBINS

For bracketed preliminary rounds, divide teams into roughly-equal brackets of roughly the same number of teams. If the brackets don't have the same number of teams, the highest number of teams in any given bracket should be even, with the rest of the brackets having either that number of teams or one fewer team. Then, write down the even-team and/or odd-team schedule, as appropriate. You only need to do this once for each formula as long as you let the teams know what number they are in their particular bracket.