

Chapter 1 : Top Sports Quizzes, Trivia, Questions & Answers - ProProfs Quizzes

*The Answer Book of Sports: Answers to Hundreds of Questions About the World of Sports [Bill Mazer] on calendrierdelascience.com *FREE* shipping on qualifying offers. Answers to questions about the history, players, and games of baseball, football, basketball, boxing, hockey, golf.*

For some the appeal is the close friendships that come with being part of a team. Some revel in the joy of victory and lessons of defeat. For some, the personal fitness is so important that exercise becomes a daily need. And still others desire the feeling of achievement, that feeling of measurable improvement that comes with dedication to a sport. Explain to your counselor the most likely hazards you may encounter while playing sports, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards. Show that you know first aid for injuries or illnesses that could occur while participating in sports, including sprains, strains, contusions, abrasions, fractures, blisters, muscle cramps, injured teeth, dehydration, heat and cold reactions, and concussions or other suspected injuries to the head, neck, and back. Explain the importance of the following: Maintaining good health habits, especially during training c. Maintaining a healthy diet Discuss the following: The importance of warming up and cooling down b. The importance of weight training c. What an amateur athlete is and the differences between an amateur and a professional athlete d. The attributes qualities of a good sport, the importance of sportsmanship, and the traits of a good team leader and player who exhibits Scout spirit on and off the playing field With guidance from your counselor, establish a personal training program suited to the activities you choose for requirement 5. Then do the following: Create a chart and use it to track your training, practice, and development in these sports for one season or four months. Demonstrate proper technique for your two chosen sports c. At the end of the season, share your completed chart with your counselor and discuss how your participation in the sports you chose has affected you mentally and physically. Take part for one season or four months as a competitive individual or as a member of an organized team in TWO of the following sports: Your counselor may approve in advance other recognized sports, but not any sport that is restricted and not authorized by the Boy Scouts of America. Then with your chosen sports do the following: Give the rules and etiquette for the two sports you picked. List the equipment needed for the two sports you chose. Describe the protective equipment and appropriate clothing if any and explain why it is needed. Draw diagrams of the playing areas for your two sports. The official source for the information shown in this article or section is: The text of these requirements may be locked. In that case, they can only be edited by an administrator.

Chapter 2 : Sports - MeritBadgeDotOrg

The answer book of sports; answers to hundreds of questions about the world of sports.. [Bill Mazer] -- Answers to questions about the history, players, and games of baseball, football, basketball, boxing, hockey, golf, track and field, and tennis.

Introduction Sports in America is both big business and democracy in action. Baseball, football, and basketball have become writ large, with games on television and cable television generating huge sums of money that goes into the American economy. But sports are also a mechanism whereby American children learn the values of fair play, hard effort, and the meaning of friendship. The first areas where people think about mathematics being applied are in the sciences and engineering. Yet mathematics plays a large role in the efficiency of sports. Coaches constantly try to find ways to get the most out of their athletes, and sometimes they turn to mathematics for help. This help may include the best batting order for a team to maximize the number of runs it can score or the putting together of a program for an Olympic skater so that the jumps the skater makes take advantage of the scoring bonus when these jumps are performed later in a program when tiredness starts to set in. There are also mathematical issues involved in scoring systems for some of the complex and subjective aspects of scoring sports events. However, the sheer magnitude of the number of games that must be played in league sports creates a large domain for mathematics to assist in the efficient operation of sports. This runs the gamut from "intellectual" sports such as bridge, whist, and chess, to sports such as baseball, football, basketball, soccer, and cricket. Here I will limit myself to some of the fascinating mathematics of sports scheduling and some related fairness and optimization questions that use relatively elementary or quick starting methods. One way of getting insight into a complex environment is to classify what one sees and study the objects in each of the categories separately as a way of simplifying things. In fact there are many types of tournaments: In this idea losers in the various rounds of elimination play against each other and, thus, a later series of victories can lead to a final victory. In a single round robin tournament SRRT each team must play exactly one game against every other team. We will devote what follows mostly to single round robin tournaments. Many questions arise where mathematics provides insight. First, there is the issue of scheduling. If there are 8 teams, what is an efficient way to schedule the matches that must take place? Another question, about which there is a huge literature but which will not be treated here, is how to decide on the winner based on the results or scores that the players attain. For example, if one has 8 teams, could the number of wins of the eight teams in decreasing order be 6, 5, 5, 4, 4, 2, 2, 0? Questions about rankings for teams in tournaments are closely related to the issues of ranking candidates in an election or ranking choices for economic policy. Graph theory helps schedule tournaments Graph theory, a branch of combinatorics which draws heavily on geometrical ideas, uses diagrams consisting of dots and lines to help get insight into a variety of mathematical problems. The complete graph on n vertices has exactly one edge between every pair of vertices. Figure 2 In each case the vertices of the graph are labeled with the names of the people or teams involved in the "tournament" or competition. Think of the vertices dots of a complete graph as representing the teams in a tournament and think of an edge joining two teams as being a match played by those two teams. Note that in the graph K_n each vertex has $n-1$ edges at each vertex. The number of edges at a vertex of a graph is known as its degree or valence. Consider first the case where there are 4 teams that must play each other. These matches could be played in 6 time slots, say one a week for 6 weeks. However, it might be desirable if venues rooms; playing fields for the matches are available to have several matches per time slot and the games be completed over a shorter period of time. When I use the phrase "time slot," there are various possibilities as to how the matches are actually played. Note that two matches per time slot might mean that there would be two games at exactly the same time or that the games be played in the morning and afternoon on the same "court" of a single day. There are a variety of terms used other than time slots, and a common one is "rounds," which I will use interchangeably with time slots and Event Window. Figure 3 shows the details of how the scheduling could work. Figure 3 Edges in the graph that have the same color would occur during one time slot. Thus, for Event Window 1 shown in blue there would be matches between team 0 and team 3 and team 1

and team 2; for Event Window 2 shown in black we would pair team 0 and team 1 and team 2 and team 3; and for Event Window 3 shown in red we would pair team 0 and team 2 and team 1 and team 3. In attempting to use the ideas above we come to a complication when we try to extend what we have done from 4 teams to 5 teams. Since 5 is an odd number we can not merely have all the teams play in pairs during an Event Window. There is a natural way to handle this problem. If one has 5 teams, there are 10 matches games that must be carried out for a round robin tournament where each team plays every other. Thus, in five Event Windows we can schedule the whole tournament. You can see the way a schedule for the five Event Windows can be constructed and see the team which has a bye in each Event Window by consulting Figure 4. Figure 4 The edges in different colors signify which teams play in an Event Window. For example, the two yellow edges tell one can have teams 0 and 3 and 1 and 2 play each other in a single Event Window; for that event window team 4 would get a bye. The other pairings for each Event Window can be similarly handled. Note that there is considerable flexibility in the arrangement of the colors into the five Event Windows. If a collection of edges are disjoint from each other it is called a matching. If a graph G has a matching M which includes all of the vertices of the graph, then M is said to be a perfect matching. A necessary condition for a perfect matching is that the number of vertices of the graph be even. K_4 has a perfect matching while K_5 does not. However, it is not difficult to find examples, such as the one in Figure 5, which has an even number of vertices, every vertex of valence 3 e. Figure 5 A pioneer in using graph theory as a tool for solving scheduling problems has been Dominique De Werra , who has spent much of his career at the Polytechnic University of Lausanne. During that time he has made a variety of contributions to sports scheduling and operations research in general. Interest in this subject has grown so large that there is now an online discussion group devoted to sports scheduling issues from both practical and theoretical viewpoints. Another name for a perfect matching is a 1-factor. A k -factor one is a subgraph of the graph which includes all the vertices of the graph and where each vertex in the subgraph has the valence degree k . So when a graph has a 1-factor, we can think of the vertices as teams and the edges as games which the vertices teams joined by an edge play against each other. Returning to our sports scheduling situation, when we have a complete graph which has an even number of vertices, we can ask if it has a collection of 1-factors which include all of the edges of the graph. The coloring we found for K_4 in Figure 3 shows that this graph has a 1-factorization into three 1-factors. Because of the special way we drew K_4 it may not be clear that we can continue to find 1-factorizations of complete graphs with even numbers of vertices. To see the different in suggestiveness of different drawings, look at this drawing of K_4 Figure 6. Figure 6 In this version we can see that the edges of different colors can be interpreted as being in "parallel classes. One can, in fact, interpret this diagram as a finite affine plane with 4 points. Every line of the plane has two points on it. There are six lines and 3 lines through every point. Now we move up to round robin tournaments with 6 teams Figure 7. Fifteen matches are to be played. Figure 7 In light of what happened for four teams it is tempting to take a boundary edge 01 in Figure 7 of the regular hexagon shown, and construct a matching by using the edges that do not meet this edge that are parallel to it, as it were. If we do this we get the games: Proceeding around the boundary we get another two groups of matches: This seems to take us off to a good start. There are 6 edges remaining so our hope is to group these into two sets of size 3. However, unfortunately the six edges that remain form two disjoint triangles: Now since we can not pick two disjoint edges from either of these triangles we reach a dead end. There is no way we can take our initial group of teams for the first three time windows and extend the result to two more time windows! Although mathematicians love to reason by analogy and try to apply simple principles to solve a problem at hand, sometimes the analogy may not hold up, as we see in this case. However, we will not lose heart. Perhaps we can try some alternate systematic way to schedule 6 teams in a round robin tournament. Here is a method that works and generalizes. Here we number the teams from 1 to n rather than from 0 to n We will consider only the case with an even number of teams, since when there is an odd number of teams, as already explained we can add a fictional team and whenever a real team is asked to play the fictional team, the real team has a bye. Consider the case with 6 teams. Construct an initial table with the first half of the teams listed consecutively in the first row and the last half of the teams listed in reverse order in the next row. The teams that line up in the table will play in the first round.

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Chapter 5 : 42 (number) - Wikipedia

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