**CyberFirst** Adventurers

**Sports**

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| Lesson Plan - Sports  |
| Preparation |
| Teacher will need a projector with sounds to present the video and PowerPoint Presentation. Students will need access to the student worksheet, video tutorials and .xls file. They will need a device with Excel installed in order to complete the activities. Students will need headphone to listen to the tutorials. |
| Learning Objectives |
| * Understand how cyber can be used in sport
* Understand the role of a data analyst
* Use data analytics and logical thinking to help interpret data
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| Key Vocabulary  |
| Data Analytics, Trend Analysis |
| Structure | **Resources** |
| Starter (Suggested time 2 minutes)Show starter video to introduce how technology plays a role in sport.Introduction (Suggested time 10 minutes) This module is all about how computing relates to sport, either directly or indirectly. Before you begin the module ask students the questions on the slide; firstly ask what sports they’re interested in, either through playing or watching. Then using some of those examples (if any), ask what examples can they think of data in sport. They will hopefully come up with some examples like sports statistics (average goals scored per game/games won/percentage of game played in which area of pitch/existing sports records/lap or sprint times, etc.). Discuss where this information could be used, for example, trend analysis on components in an F1 car to help the team make decisions how to tweak the car for the next race, or knowing where an opponent has placed their last few penalties in order to help a ‘keeper save the shot, or knowing where a particular team is weak during the Tour de France in order to gain an advantage, or even (age-dependent) discuss betting, or choose something safer like the Premier League’s Fantasy Football game for a bit of fun – knowing that Harry Kane doesn’t score in August could help with some much needed points for people, etc. Explain that the use of data in sport has grown exponentially over the last few decades, many sports have embraced the use of data and technology to aid the development of their sport and the competitors within that sport.Module Objectives (Suggested time 2 minutes)Explain the objectives and aims of this moduleModule Overview (Suggested time 4 minutes)There has been an increase in the popularity of the game Quidditch, made famous in the Harry Potter series of books. There are national regulatory bodies in both the UK and the USA who produce the rulebooks and train officials. Due to the rapid increase in funding owing to recognition by schools and universities for this niche competitive sport, many people are looking to create or join a local Quidditch team to compete in the newly formed Quidditch Premier League (QPL). Data analysts have been busy creating a dataset of statistics for a large number of players who are new to the game and are attempting to catch a manager’s eye.As a manager it is imperative to pick the best players possible, whilst also considering the players’ best position given their skillset.Task (Suggested time 30 minutes)In their pairs, or in small teams if they wish, choose the best seven players for their Quidditch team from the limited dataset (200 records) found the dataset.xlsx file in their Module 4 folder. Using the Student guide as a reference and the video tutorials to help them, they need to select based upon the skills they feel are applicable to each position. Summary (Suggested time 5 minutes)Once the time has elapsed, this slide can be shown and a discussion held. Make sure all laptops are closed then ask them how could we take this further? Maybe consider psychology within sport, consider how a player’s temperament may change depending on position chosen, external factors such as family, winning/losing streaks, etc. Maybe consider that although a player has a preferred position, they may be better suited to another position depending on their skills, how could that affect the team selection? Remind them that data analysis within sport is a massive growth area, including sports in games – for example the statistics gathered by data analysts working for the Football Manager [first image] series of games was used during the recent Sky Sports coverage of the transfer window to help clarify stats and to help the public understand a football club’s decision to sign or sometimes to release a player.Technology is being used more and more to help gather statistics and data on player’s movements, either for motion capture for games/films, or for development purposes for that player or other players [second image]. Also consider that the data is only as good as the source of that data. For example if the scout used to collect the Quidditch data in the demo was having a bad day, or wasn’t particularly good at their job, the data is already flawed and potentially useless.Model Answer (Suggested time 2 minutes) The model answer that has been selected. This is extremely subjective and it should be pointed out that this selection this based on the skills of each player, not their preferred position. Use this as a discussion point to introduce human factors in sport, sports psychology etc.Plenary/Homework- Careers (Suggested time 5 minutes)Describe the careers relating to this module and review the skills that have been learnt in a class discussion.Cyber Careers, over the modules you have been introduced to the skills related to those needed in Cyber. Research one of the careers and create a presentation/poster or webpage that fully explains the job. Include the following: -* + Job Description
	+ Skills Required
	+ Pay Scale

Possible jobs you could consider researching (there are so many more that we haven’t mentioned):* Cyber Crime Analyst
* Data Miner
* IT Auditor
* Database Admin
* SOC Analyst
* Cyber Crime Investigator
* Incident Analyst
* Information Security Manager
* Web Developer
* e-commerce Business Manager
* Senior Marketing Manager
* SQL Developer
* Website Vulnerability Analyst
* Graphic Designer
* Pen Tester
* Sports Journalist
* Data Analyst
* Data Scientist
* Senior Database Administrator
* Senior Merchandiser
* Digital Project Manager
* Senior Marketing Manager
* Network Manager
* Forensic Scientist
* Language analyst
* Cyber Security
* Cryptographer
 | Teacher Presentation Slide 2Innovation in Sport.mp4Teacher Presentation Slide 3-5Teacher Presentation Slide 6Teacher Presentation Slide 7Teacher Presentation Slide 8Teacher Presentation Slide 9Teacher Presentation Slide 10Teacher Presentation Slide 11-12 |