Hours of Sport Played by students in grade 8 to 11 each week
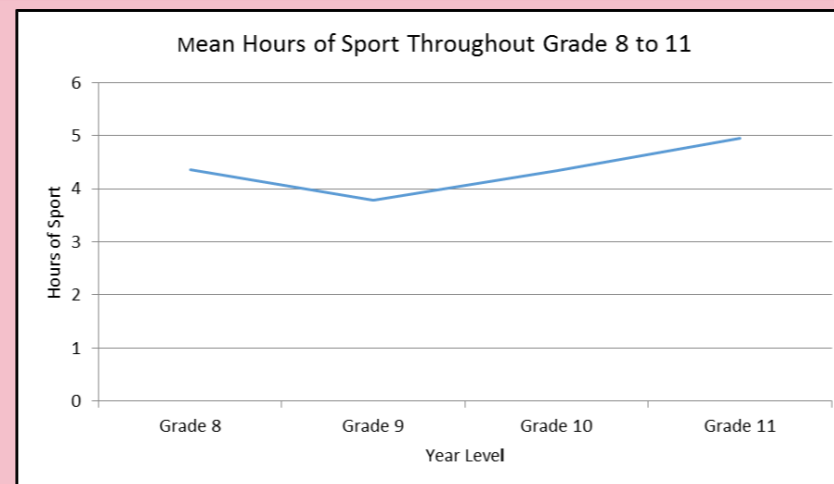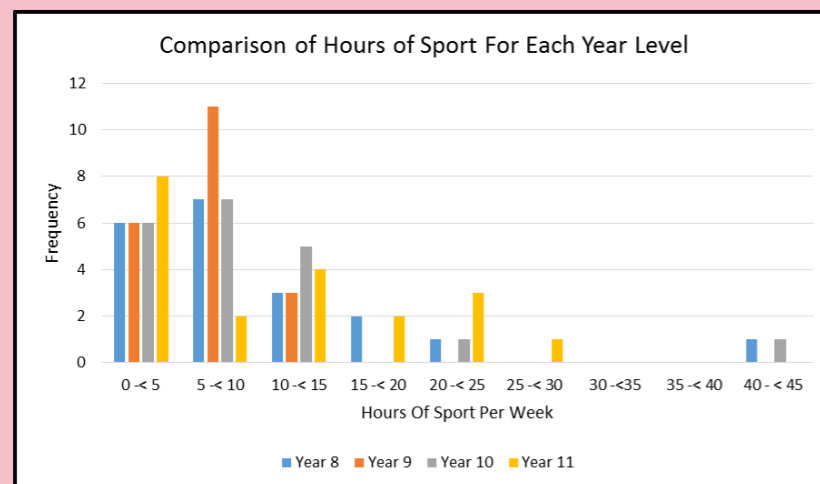
Hypothesis

This poster will explore whether or not Queensland students in grade 8 to 11 in 2014 participated in less hours of sport each week as they became older. We hypothesise that the students will participate in less hours of sport each week as they become older and have more school work to do and more responsibilities at home. The results that will support our hypothesis are decreasing amounts throughout the year levels in the amount of sport they do every week. This will be shown by the means of the hours of sport done each week per year level decreasing throughout the year levels. Results that will contradict our hypothesis are increasing means of hours of sport played each week throughout the year levels and means that are about the same all throughout the year levels.

Data and How It Was Collected

The data for this project was collected at Census at School with a random sampler, which makes the data unbiased, as long as the children have entered accurate information. The data we have retrieved from this website is 20 sets of data from each year level showing how many hours of sport they do each week in 2014. We have taken out all of the blanks in the retrieved data because this data shows that the person did not enter anything, rather than not playing any sport every week, because this is not very likely to be the case. We have decided to leave in possible outliers of 40 hours of sport played each week because this can possibly occur. But this may have just been students messing around and typing in something random. Furthermore, there was not enough data for grade 12 students for us to retrieve it from the website, as not enough grade 12 students answered the survey. Consequently, there is no data to use for them. To display the data we will use statistics showing the measures of central tendency, mean and mode, the range of data, bar graphs, line graph of the means of hours of sport played per week in each year level, and frequency tables.

The URL for the Census at School website - http://www.abs.gov.au/censusatschool

Graphs

Comparison of Hours of Sport For Each Year Level

Mean Hours of Sport Throughout Grade 8 to 11

Measure of Central Tendency and Range

	Mean	Median	Mode	Range
Grade 8	4.37	5	5	40
Grade 9	3.78	6	6 and 10	10
Grade 10	4.34	8	3,6 and 8	40
Grade 11	4.95	9.5	3 and 10	26

Analysis of Data

The mean of the hours of sport for grade 8's in 2014 is 4.37 hours. In grade 9, the mean decreases to 3.78 hours of sport, but in grade 10 the mean increases to 4.34 and then increases even more in grade 11 to 4.95 hours of sport per week. The mean hours of sport for each year level clearly contradict our hypothesis, because it predicted that the hours of sport played per week will decrease from grade 8 to 11, and instead they drop and then increase. The median hours of sport played increase all throughout the year levels from 5 hours of sport in grade 8 to 9.5 hours of sport in grade 11. This also contradicts our hypothesis. The mode in grade 8 is 5 hours of sport and in grade 9 the mode increases to 6 and 10 hours of sport per week. In grade 10, the mode hours of sport played per week stays relatively the same, being 3, 6 and 8 hours of sport per week. And in grade 11, the mode is 3 and 10 hours of sport per week. The average of the modes still increases from grade 8 to 11. The range of data in grade 8 is 40, which then decreases to 10 in grade 9 and then increases to 40 in grade 10, and then the range drops again to 26 in grade 11. Therefore, the data clearly contradicts our hypothesis, by decreasing and then increasing throughout grade 8 to 11.

Conclusion

Our data contradicts our hypothesis as we believed that the higher grades would have a decrease in the amount of exercise they participate in due to the increase in school work and having responsibilities at home and work, compared to junior high students.
Our data is not biased as we gathered this data from a website called Census at School. This data would be considered unbiased unless some students corrupted the data. Furthermore, we used a random sampler on the Census at School website making the data unbiased.
The data shows that in grade 9 there is a sudden decrease in the hours of sport played. The grade 10's mean increases to approximately the same amount as the grade 8's mean. The grade 11's mean goes completely against our hypothesis as it increases above the grade 8's mean. This contradicts our hypothesis. In conclusion, the data clearly contradicts our hypothesis.