

Your task is to create an informative poster presentation based on the collection and interpretation of data towards addressing a practical research question for the topic: **OUR CLASS.**

The poster will be completed in a small group of 2-3 people and all posters will be entered into a national competition. You are to create a poster (up to 84cm by 59cm) on a topic of your own choice. The poster may be presented in either a hard copy or a digital copy. It should be readable from 2 metres away. Your posters will be presented to the class before being sent away for judging in the SSAI competition.

### **Task Procedure**

1. Choose a research question that you will prove or answer using data you have collected.
2. Write a plan of action. Use the attached planning document as a guide and follow it until your project is complete.
3. State your aim and give some background information about the topic.
4. Collect the data you require. You MUST use ONLY primary data (no researched data).
5. Produce the data in a table of results.
6. Display your data in appropriate graphical forms. (e.g. pie graph, column graph, stem and leaf plot, dot plot or histogram).
7. Analyse the data using appropriate techniques (e.g. mean, mode, median, range).
8. Talk about the findings of your data analysis outlining any possible issues with your data and how you have dealt with these issues.
9. Complete your conclusion.
10. Include references you have used ie. Websites or books you have used.

Please refer to attached Marking Rubric for school assessment  
For further information about competition rules and also some great example projects

<https://www.ssaipostercomp.info/>

Other useful website include:

<http://www.abs.gov.au/>

<http://www.data-first.org/data-center/>

<https://easel.ly/blog/top-5-resources-finding-reliable-data/>

[www.kaggle.com](http://www.kaggle.com)

<http://data.gov.au/>

<https://www.myschool.edu.au/>

<https://knoema.com/>



# YR 7 Topic - OUR CLASS

The topic for Year 7 is “Our Class”. You are free to choose any question from within this topic as long as you can **collect numerical data and use statistical methods to analyse the data you collect.**

To help you get started, here are some topic suggestions.

- Is there much difference in the heights of boys and girls in our class?
- What is the ratio of foot length and hand size?
- What is the ratio of hours spent gaming and hours of study??
- Which Estate in Baldivis is more likely to eat take-away food?
- Who does more physical activity, boys or girls?
- Do boys or girls eat more fast food meals per week?
- If you have a different question you would like to use, please speak to your teacher about it.

## Example

**The Hours of Sleep Mystery - Year 7**

**Aim**  
To determine if the hours of sleep in year 7 students decrease over the years 2010 and 2014.

**Hypothesis**  
My hypothesis is that the sleep hours of year 7's will decrease every year, between years 2010 and 2014, as time spent on technology increase.

Year	Video game time	Mean hours spent on video games (hours/week)
2010	8.1	
2011	7.6	
2012	7.6	
2013	8.2	
2014	8.2	

**Data collection**  
Data was collected using the “random sampler” in the ‘Census at Schools’ website. (<http://www.censusatschools.gov.au/cat/local/cassampler.pl>). Hours of sleep of year 7 students (both male and female) were collected for years 2010, 2011, 2012, 2013 and 2014. 100 random answers to the survey question were collected for each year.

**Background Information**  
Sleep is an important part of high school students. Time spent on technology affects the amount of sleep in students. As time spent on technology increases every year, do the hours of sleep in students decrease every year?

**Strengths**  
A large amount of students (100/year) were surveyed, which means that the data will eliminate most of the variables.

**Weaknesses**  
A large amount of students had out numbers that are 0-4 and 12 or over, which would be impractical in real life. These numbers needed to be excluded, which may have made the results slightly less reliable.

**Reliability**  
The reliability could be improved through repeating the experiment with larger samples of data.

**Results**

Groups	2010	2011	2012	2013	2014
6	2	8	10	12	13
7	5	9	15	18	13
8	14	15	17	18	24
9	20	17	23	23	20
10	21	24	23	7	8
Unreasonable numbers	9	16	13	18	12
Total	404	404	404	404	404

	Mean	Median	Mode	Range
2014	8.9	9	8	11
2013	8.9	9	8	9
2012	9	9	9	16
2011	9	9	9	13
2010	10	9	10	12

**Hours of sleep in year 7 students - 2010**

**Hours of sleep in year 7 students - 2011**

**Hours of sleep in year 7 students - 2012**

**Hours of sleep in year 7 students - 2013**

**Hours of sleep in year 7 students - 2014**

**Analysis**  
The results showed that the sleep hours of year 7 students are decreasing. All the graphs, except the ‘2013’ graph, remained negatively skewed and all the graphs show that the number of students getting the higher number of hours of sleep, are decreasing. The number of students getting the lower number of hours of sleep is increasing. The hypothesis was mostly supported by the results. As seen in the line graph, the mean of the numbers kept reducing over the 5 years. The median remained 9 hours through-out the five years however the mode was changed from 10 to 8 since 2014.

**Conclusion**  
As seen in the data, the hours of sleep of year 7 students decrease over the years 2010 and 2014.

## **POSTER CHECKLIST**

1. Clarity of the message:
  - Is the poster understandable without extra information?
  - Are the objectives, research question clear?
  - Are the results and conclusions clear?
  - Is the poster clearly and logically set out?
2. Data collection:
  - Are the collected data appropriate for answering the research question?
  - Are the data collection methods clearly stated? (e.g., primary data collection by print, telephone, web survey, or other measurement tools; or secondary sources are cited — published reports, databases etc.)
  - Has quality of the data been considered? (i.e., accuracy of measurements, size of the sample, reliability of sources, methods of sampling, etc.)
  - Have you compared the data correctly?
3. Graphs and tables:
  - Are the graphs/tables/statistics appropriate for displaying and summarising the data?
  - Are the graphs/tables properly titled and explained?
4. Calculations
  - Have you included appropriate statistical calculations? (ie mean, mode, median, and range)
5. Analysis and conclusions
  - Are the data analysed in terms of the research question or hypotheses?
  - Is the analysis appropriate for the kind of data collected?
  - How well is the research question answered?
  - Are there conclusions and are they supported by the data?
  - Are there any limitations discussed or improvements for future studies suggested?
6. Presentation:
  - Is the poster readable from 2 metres (7 feet) away?
  - Is there a good balance between graphs and text?
  - Does the poster look neat?
7. Creativity/importance:
  - Is the research question creative, original?
  - Can the study answer an interesting question?
  - Is the design creative and original?
  - Is the poster eye-catching?
8. Oral Presentation of your group project:
  - Are you prepared to present the poster to the rest of the class