

Analysing our data

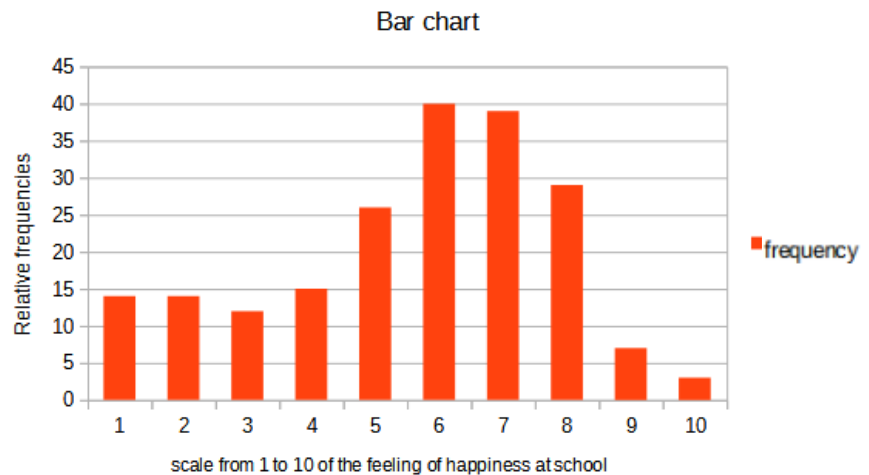
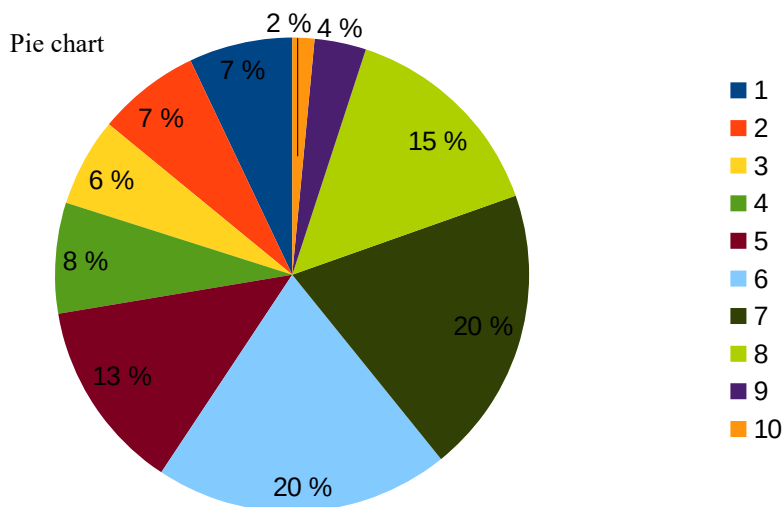
~ Perceived happiness ~

Perceived happiness										
scale:	1	2	3	4	5	6	7	8	9	10
frequency	14	14	12	15	26	40	39	29	7	3
how often?	never	not often	often enough	quite often	all the time					
frequency	7	49	94	47	2					

On a scale from 1 to 10, rank your happiness at school:

- The mean is 5.6 because there are 199 values so we divided the sum of all the values by the number of values: $(1 \times 14 + 2 \times 14 + 3 \times 12 + 4 \times 15 + 5 \times 26 + 6 \times 40 + 7 \times 39 + 8 \times 29 + 9 \times 7 + 10 \times 3)$: $199 \approx 5.6$
- The median is 6 because $199:2 = 99.5$, so the median is the 100th value. In the increasing order, there are 99 smaller values and 99 higher values.
- The lower quartile $Q1$ is 4 because there are 199 values so $Q1$ is the $199:4 = 49.75$ so the 50th value which is 4.
- The upper quartile $Q3$ is 7 because there are 199 values so $Q3$ is the $199:4 \times 3 = 149.25$ so the 150th value which is 7.
- The interquartile range is $IQR = Q3 - Q1 = 7 - 4 = 3$.
- The standard deviation is around 31.55 because $\sqrt{(14(1-5.6)^2 + 14(2-5.6)^2 + 12(3-5.6)^2 + 15(4-5.6)^2 + 26(5-5.6)^2 + 40(6-5.6)^2 + 39(7-5.6)^2 + 29(8-5.6)^2 + 7(9-5.6)^2 + 3(10-5.6)^2)} \approx 31.55$
- The relative frequencies (percentages) are:

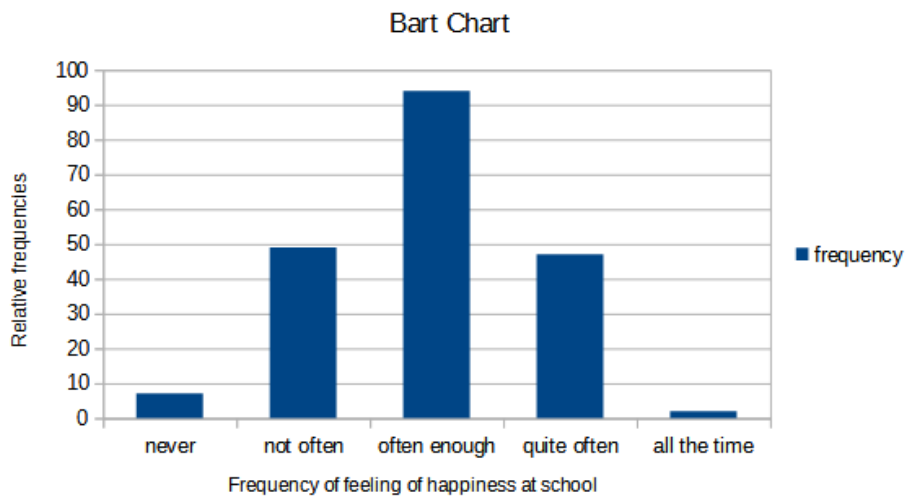
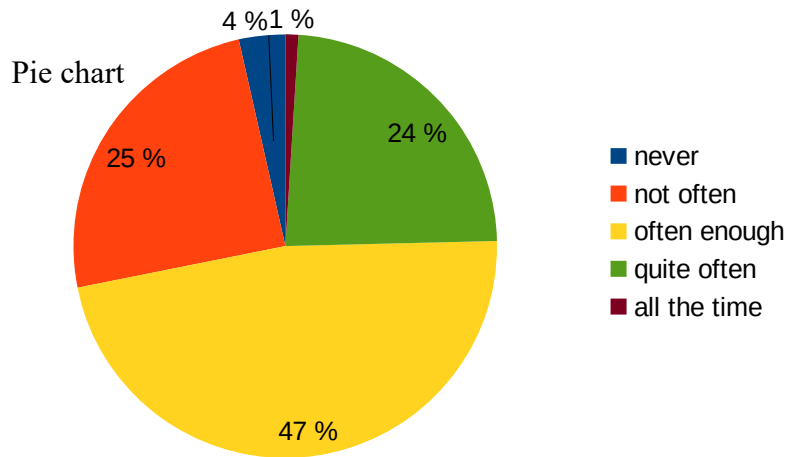
Scale	1	2	3	4	5	6	7	8	9	10
Frequency	14	14	12	15	26	40	39	29	7	3
Percentages	≈7 %	≈7%	≈6%	≈7.5%	≈13%	≈20.1%	≈19.6%	≈14.6%	≈3.5%	≈1.5%



How often do you feel happy at school?:

- The mode is often enough because it's the most frequent value.
- The relative frequencies (percentages) are:

How often?	Never	Not often	Often enough	Quite often	All the time
Frequency	7	49	94	47	2
Percentages	≈ 3.5%	≈ 24.6%	≈ 47.2%	≈ 23.6%	≈ 1%



Overall, students are quite happy at school, with 73% who feel be often enough (or more) happy at school. However, it isn't enough because of the average of happiness which is not very good (5.6/10).