**Grade 6 Data Management – Paper Airplane Activity**

**Curriculum Expectations**

Collection and Organization of Data

This learning activity addresses the following specific expectations.

Students will:

• collect data by conducting a survey or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements;

• collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs (including continuous line graphs) that have appropriate titles, labels, and scales that suit the range and the distribution of the data, using a variety of tools;

• select an appropriate type of graph to represent a set of data, graph the data using technology, and justify the choice of graph (i.e., from types of graphs already studied, such as pictographs, horizontal or vertical bar graphs, stem-and-leaf plots, double bar graphs, broken-line graphs, and continuous line graphs).

These specific expectations contribute to the development of the following overall expectation.

Students will:

• collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including continuous line graphs.

**DATA RELATIONSHIPS**

This learning activity addresses the following specific expectations. Students will:

• read, interpret, and draw conclusions from primary data and from secondary data, presented in charts, tables, and graphs (including continuous line graphs);

• compare through investigation, different graphical representations of the same data;

• explain how different scales used on graphs can influence conclusions drawn from the data;

• demonstrate an understanding of mean, and use the mean to compare two sets of related data, with and without the use of technology;

• demonstrate, through investigation, an understanding of how data from charts, tables, and graphs can be used to make inferences and convincing arguments.

These specific expectations contribute to the development of the following overall expectation.

Students will:

• read, describe, and interpret data, and explain relationships between sets of data.

**Grade 6 Data Management – Paper Airplane Activity**

Steps to follow:

1. Students will be given approximately 10-15 minutes to research, design, and briefly test their paper airplanes for “flyability”.
2. You will create two paper airplanes to be conducted in the experiment as we will draw comparisons from both trials.
3. Afterwards students will be testing their paper airplanes as we carry out flight trials. We are measuring the paper airplane for time in flight (in seconds).
4. Students will proceed to throw paper airplanes through a secured hallway or outside (weather depending) and record their data. Flight time will be measured by Mr. Mousseau.
5. Following all flight trials being completed, students will share both sets of flight trial data with their peers and organize their collected data.
6. After data collection, students are responsible for organizing their data in respective tables and graphs (hint: we are measuring the flight time of our paper airplanes).
7. Students will select an appropriate graph we covered during class time to display our data sets.
8. Use appropriate titles, sources, labels, and scales when creating your graph.
9. Determine the mean, median, mode, and range of both sets of flight trials.
10. From the data being presented, answer the following questions:
* What kind of graph did you choose to display your data? Justify your choice of graph.
* Is the data collected considered to be continuous or discrete? Explain your reasoning.
* How do our data sets of flight trials compare/differ from flight 1 to flight 2? Did you notice any trends in our data? Explain your reasoning.
* Is our graphed data positively skewed, neutral, or negatively skewed? How can you tell?
* Did you notice any significant outliers in our presented data? Did it affect the result of your graph?
* Does our measures of spread/central tendency explain conclusions from our data?