# Persuasion by Numbers Cross-Curricular Math



## Introduction

Students will research a debatable topic with multiple viewpoints (perspectives) where they could survey the student body/community to get real world data (data collected will be the different perspectives on the topic along with data from research) that would be displayed on a circle graph and then turned in to an artistic/public display of their results.

Each student must include a survey as at least one piece of evidence in the form at data to bolster their argument. The data from the survey will inform students of the different lenses from which to view the topic. The data gathered will be translated into percentages and presented in the form of a circle graph, which will become a larger art piece. This data must also be referred to in the essay.

In order to enhance student engagement, students should be given the opportunity to choose their own persuasive topics. However, it is essential that they are taught how to choose topics that have multiple perspectives. Possible persuasive topics: hunting, identifying something you want changed in your community (adding bike lanes), environmental issues, addictions, a current political issue, etc.

## **Prior Knowledge**

In grade 6 math students are expected to "SP2: Select, justify and use appropriate methods of collecting data, including questionnaires, experiments, databases, electronic media. " This project will give them the opportunity to use these skills for a cross-curricular project.

## **Curriculum Outcomes:**

#### Grade 7 Math

- (SP3) Construct, label and interpret circle graphs to solve problems.
- (SP1) Demonstrate an understanding of central tendency and range by: determining the measures of central tendency (**mean**, median, mode) and range and determining the most appropriate measures of central tendency to report findings.
- N3: Solve problems involving percents from 1% to 100%.

#### Grade 7 Social Studies Skills Matric (See page 151 of curriculum document)

- argue a case clearly, logically and convincingly
- write reports and research papers
- form opinion based on critical examination of relevant material
- restate major ideas of a complex topic in concise form
- interpret/use graphs and other visuals

#### Grade 7 Language Arts

By the end of grade 6 students will be expected to:

- 1.3 Express clearly and with conviction a personal point of view, and be able to support that position
- 5.3 Use research strategies such as issue mapping and webbing to guide research
- 6.3 While learning to express personal points of view, develop the ability to find evidence and examples in texts to support personal views about themes, issues and situations
- 8.3 Begin to use various forms of note-making appropriate to various purposes and situations
- 10.5 Gather information from a variety of sources (interviews, film, texts) and integrate ideas in communication

#### Grade Level & Subject

Grade 7 Language Arts

#### Focus

- Persuasive Writing
- Circle Graphs
- Artistic Expression

#### Materials Needed

- Computer lab
- Material for circle graphs

### Approximate Timeframe

10 hours



## Resources

Click on the title to be taken to the link

- Percent Circle
  <u>Template</u>
- Khan Academy <u>"Reading Pie</u> <u>Graphs"</u>
- How to insert a pie chart into a <u>Microsoft</u> <u>Word Docu-</u> <u>ment</u>

# **Culminating Products**

- Survey (We would encourage students to use Microsoft Forms to gather real world data.)
- Persuasive essay that uses data, graphs, etc. to strengthen their argument. Students will include a circle graph with their survey results.
- Art Extension: Students can create a information board to publicly display. This board could include an art component that transforms their circle graph into an artistic virtual display. This circle graph could be made from stained glass, a version of stained glass using tissue paper, using a GlowForge to laser engrave their pie chart, using a 3D printer, creating string art, designing a mosaic, using Lego, etc.

