



Marietta City Schools

District Unit Planner

Everything on the unit planner must be included on the unit curriculum approval statement.

*Accelerated Grade 7/8 Mathematics*

<b>Unit title</b>	<i>Unit 2: Inferences</i> <i>(GaDOE Grade 7 Unit 5)</i>	<b>MYP year</b>	2	<b>Unit duration (hrs)</b>	20 Hours
-------------------	--	-----------------	---	----------------------------	----------

**Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?***

### GSE Standards

#### Standards

**Use random sampling to draw inferences about a population.**

**MGSE7.SP.1** Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.

**MGSE7.SP.2** Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions

**Draw informal comparative inferences about two populations.**

**MGSE7.SP.3** Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the medians by expressing it as a multiple of the interquartile range.

**MGSE7.SP.4** Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

#### Concepts/Skills to be Mastered by Students

- Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population.
- Understand that random sampling tends to produce representative samples and support valid inferences.

MCS MYP Accelerated Grade 7/8 Unit 2 Planner. Last Revised: August, 2022

Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.

- Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.
- Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
- Informally assess the degree of visual overlap of two numerical data distributions with similar variability, measuring the difference between the centers by expressing it as a multiple of a measure of variability.
- Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

**Vocabulary**

- Box and Whisker Plot- A box plot is a statistical graph that shows the distribution of a data set by marking five boundary points where data occur along a number line. Unlike a dot plot or a histogram, a box plot does not show frequency.
- Frequency- Frequency describes the number of times a specific value occurs in a data set.
- Frequency Table- A table that shows the number of times a data value or range of values occurs in a data set.
- Histogram- A histogram is a statistical graph that shows the shape of a data set with vertical bars above intervals of values on a number line. The intervals are equal in size and do not overlap. The height of each bar shows the frequency of data within that interval.
- Interquartile Range (IQR)- The interquartile range (IQR) is the distance between the first and third quartiles of the data set. It represents the spread of the middle 50% of the data values.
- Maximum value- Largest value in a data set.
- Mean- The mean represents the center of a numerical data set. To find the mean, sum the data values and then divide by the number of values in the data set.
- Measures of Center- A measure of center is a value that represents the middle of a data set. There may be more than one measure of center for a data set.
- Measures of Spread- A measure of spread is a value that represents the variability of a data set.
- Median- The median represents the center of a numerical data set. For an odd number of data values, the median is the middle value when the data values are arranged in numerical order. For an even number of data values, the median is the average of the two middle values when the data values are arranged in numerical order.
- Minimum value- The smallest value in a data set.
- Mode- The item, or items, in a data set that occurs most frequently.
- Mutually Exclusive- Two events are mutually exclusive if they cannot occur at the same time.
- Outlier- An outlier is a piece of data that doesn't seem to fit with the rest of a data set.
- Range- The range is a measure of variability of a numerical data set. The range of a data set is the difference between the greatest and least values in a data set.
- Sample- A sample of a population is part of the population. A sample is useful when you want to find out about a population but you do not have the resources to study every member of the population.
- Simple Random Sampling- Simple random sampling is a sampling method in which every member of the population has an equal chance of being chosen for the sample.

Key concept	Related concept(s)	Global context
Form	Change, Generalization	Fairness and Development

**Statement of inquiry**

We can interpret form and chance to make generalizations about populations.

**Inquiry questions**

**Factual**— What different sampling methods can be used to collect data? What makes an appropriate sample size? What is the difference between the measure of center and measure of variation?

**Conceptual**— How can different sampling methods affect an outcome? How does the data describe its center, spread and representation of the population? How is data displayed on a number line?

**Debatable**— Is an outcome always valid?

MYP Objectives	Assessment Tasks	
<i>What specific MYP <b>objectives</b> will be addressed during this unit?</i>	<i>Relationship between summative assessment task(s) and statement of inquiry:</i>	<i>List of common formative and summative assessments.</i>
Criterion A: Knowing and Understanding  Criterion D: Applying Mathematics in Real Life Context		<p><b><u>Formative Assessment(s):</u></b> Unit 5 CFA</p> <p><b><u>Summative Assessment(s):</u></b> Unit 5: Inferences MYP: Topic 6 Performance Assessment Form A</p>

**Approaches to learning (ATL)**

Collect and analyze data to identify solutions and make informed decisions.

Draw reasonable conclusions and generalizations

**Category:**

**Cluster:**

**Skill Indicator:**

Learning Experiences

Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation
<p><b>MGSE7.SP.4</b> Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.</p>	<p>College Athletes <b>Illustrative Mathematics</b> The purpose of this task is to allow students to conjecture about the differences in the two groups from a strictly visual perspective and then support their comparisons with appropriate measures of center and variability.</p>	<p>This activity can be implemented in groups with provided scaffolds throughout along with intentional questioning.</p>
<p><b>MGSE7.SP.3</b> Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the medians by expressing it as a multiple of the interquartile range.</p> <p><b>MGSE7.SP.4</b> Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.</p>	<p>Using NBA Statistics for Box and Whiskers Plots <b>Illustrative Mathematics</b> Students use information from NBA statistics to make and compare box and whisker plots. The data provided in the lesson come from the NBA, but you could apply the lesson to data from the WNBA or any other sports teams or leagues for which player statistics are available.</p>	<p>Teachers should group students strategically and provide scaffolds through intentional questioning.</p>

Content Resources