**ARC Week at Glance**

**-Subject: Mathematics Course: Advance Algebra: Concepts & Connections Grade:** **10th – 12th Date: 9/2/2025**

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| **Standard(s):** AA.DSR.2.2 When collecting and considering data, critically evaluate ethics, privacy, potential bias, and confounding variables along with their implications for interpretation in answering a statistical investigative question. Implement strategies for organizing and preparing big data sets.  AA.DSR.2.3 Distinguish between population distributions, sample data distributions, and sampling distributions. Use sample statistics to make inferences about population parameters based on a random sample from that population and to communicate conclusions using appropriate statistical language.  AA.DSR.2.4 Calculate and interpret z-scores as a measure of relative standing and as a method of standardizing units.  AA.DSR.2.5 Given a normally distributed population, estimate percentages using the Empirical Rule, z-scores, and technology.  **Assessment(s):  Quiz  Unit Test  Project  Lab  None** | | | |
|  | **Learning Target**  **(I am learning about…)** | **Success Criteria**  **(I can….)** | **Lesson/Activities of the Day** | **Assignments/Formative Assessment** |
| **Monday** | I am learning to distinguish between various distributions and use sample statistics to make inferences and conclusions | I can distinguish between various distributions and use sample statistics to make inferences and conclusions | Engage: Students will review their performance task over inferring using sample statistics  Explore: Students will explore how to calculate sample statistics using the mean, median, upper and lower quartile, standard deviation. In addition, teacher will let students explore the how to represent the data using a box plot and histogram.  Explain: Teacher will provide explanation to the performance task and allow students to interpret and make inferences to the information provided  Elaborate: Teacher will explain the importance of sample statistics  Evaluate: Teacher will provide a TOTD over Performance Task (Discussion Question) | Performance Task over Sample Statistics  TOTD over Performance Task |
| **Tuesday** | I am learning to distinguish between various distributions and use sample statistics to make inferences and conclusions | I can distinguish between various distributions and use sample statistics to make inferences and conclusions | Engage: Students will be presented with some discussion questions about z - score: “Two students took different standardized tests. One scored 85 on a math test with a mean of 70, SD 10. Another scored 92 on a science test with a mean of 85, SD 4. Who did better compared to their class?” Students will participate in a “Think, Pair, Share”  Explore: Students will explore how to calculate the z-score from a given data set  Explain: Teacher will explain what each variable means and how it relates to finding the z-score  Elaborate: Teacher will provide a real-world scenario that the z-score can be applied.  Evaluate: Teacher will provide a TOTD question | T.O.T.D over z-score |
| **Wednesday** | I am learning to distinguish between various distributions and use sample statistics to make inferences and conclusions | I can distinguish between various distributions and use sample statistics to make inferences and conclusions | Assessment over Inferring using Sample Statistics | Assessment over Inferring using Sample Statistics |
| **Thursday** | I am learning to distinguish between various distributions and use sample statistics to make inferences and conclusions | I can distinguish between various distributions and use sample statistics to make inferences and conclusions | Engage: Students will be presented with some discussion questions about the empirical rule: Have you ever wondered how predictable your test scores or heights are in a large group of people? What if I told you that without even knowing everyone’s score, we can still make some pretty good guesses? If I told you 95% of people fall within a certain range in almost any normal situation — would you believe me? Students will participate in a “Think, Pair, Share”  Explore: Students will explore how the empirical rule illustrates how the data falls into a certain category  Explain: Teacher will explain how most data falls into the 68-95-99.7 pattern  Elaborate: Teacher will provide a real-world scenario that the empirical rule can be applied.  Evaluate: Teacher will provide an in-class assignment over Empirical Rule | Class Assignment over Empirical Rule |
| **Friday** | I am learning to distinguish between various distributions and use sample statistics to make inferences and conclusions | I can distinguish between various distributions and use sample statistics to make inferences and conclusions | Engage: Teacher will present criteria for the project: Let’s Make a Survey  Explore: Students will explore statistical investigation questions  Explain: Teacher will explain the context of the project  Elaborate: Teacher will present students with an exemplary example of project  Evaluate: Let’s Make a Survey Project | Critical Analysis of Data Sets and Various Distributions with Sample Statistics Task |

**\*** Exit Ticket/Final Stretch Check  Electronic Tools  Dry Erase Boards – quick checks  Turn & Talk Discussion (verbal responses)  Teacher Observation – document Clipboard

Quick Write/Draw  Annotation  Extended Writing  Socratic Seminar  Jigsaw  Thinking Maps  Worked Examples  Other :\_\_\_\_\_\_\_\_\_\_\_