**Math Analysis Notes:**

**Statistics**

**OBJECTIVE:** SWBAT distinguish between a statistical question and non-statistical question.



**NOTES:**

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| **What are Statistical Questions, you ask?** |
| A statistical question is a question that asks about:   1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of interest. 2. Includes a specific \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 3. Has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the responses.   **Variability** is the number of different answers that you hear from a statistical question. Once you ask a statistical question it is important that you ask questions that will result in variability (# of responses) of about 4 to 6 answers, otherwise the variability becomes too large. |

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| **What is Statistics?** |
| Statistics is the study of  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The facts and  information collected to learn  something new or get results. To  use statistics, we **must FIRST** find  out what to look for by asking the  Statistical Questions. |

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| **Let’s examine some questions….** |
| 1. Do you like Math?   Ask yourself:   1. What is the topic of interest? 2. Does this question includes a specific population? (Meaning more than one person) 3. Does this question have variability? (Meaning there are 4 to 6 possible answers)   To answer the three questions above for the general question:   1. The topic of Interest: **Math** 2. Specific Population: **Ms. Dudek’s 6th Grade Math Class** 3. Variability: **There are 2 possible answers, Yes or No**   Therefore, this question is not a statistical question.   1. What do you like best about school?   Topic of Interest: **Like Best About School**  Specific Population: **Ms. Dudek’s 6th Grade Math Class**  Variability: **There are many answers to choose from that the variability becomes too large.**  Therefore, this question is also a non-statistical question.  ***Now, Let’s turn the first question into a statistical question.***  Instead of asking “Do you like Math?” You can ask “What is your favorite subject in school?”  Topic: **Favorite Subject in School**  Specific Population: **Ms. Dudek’s 6th Grade Math Class**  Variability: **There can be 4-6 answers for example, Math, Science, Social Studies, Language Arts, and Knitting.**  Therefore this question is a statistical question. YAY!  **In your groups, try to survey this question below:**    What is your favorite sport on TV?   * What is the topic of interest? * What is the specific population? * How much variability can be generated? |

**Let’s Try**

For each question below state the topic, population, and variability. Identify if the questions are statistical or non-statistical.

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| How old are the students in my school?    **T:**  **P: V:**  **S Or NS:** | What is my favorite type of cupcake?  **T:**  **P: V:**  **S Or NS:** |

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| How many pets do I own?  **T:**  **P: V:**  **S Or NS:** | What are the math test scores of the students in my class?  **T:**  **P: V:**  **S Or NS:** |

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| How many pets are owned by each student in my grade level?  **T:**  **P: V:**  **S Or NS:** | What is my math test score?  **T:**  **P: V:**  **S Or NS:** |

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| How many letters are in my name?  **T:**  **P: V:**  **S Or NS:** | How many cupcakes of each type were made at the bakery in a week?  **T:**  **P: V:**  **S Or NS:** |

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| What is my height?  **T:**  **P: V:**  **S Or NS:** | How many letters are in the names of each person in my class?  **T:**  **P: V:**  **S Or NS:** |