**Math Analysis Notes:**

**Statistics**

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

**NOTES:**

|  |
| --- |
| **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.  |

|  |
| --- |
| **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.  |

|  |
| --- |
| **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.

|  |  |
| --- | --- |
| 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:**   |

|  |  |
| --- | --- |
| 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:**   |

|  |  |
| --- | --- |
| 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:**   |

|  |  |
| --- | --- |
| 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:**   |

|  |  |
| --- | --- |
| 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:**   |