

Name \_\_\_\_\_

## Questioning Through the Investigative Process

### Worksheet 1: Questioning Throughout the Investigative Process

Administrators and teachers within a large school district are concerned about the perceived lack of sleep among middle-school students. Students more than ever are seemingly tired in class and struggling to stay focused. There have been complaints from parents that too much homework is being assigned. The school district believes there are several potential factors contributing to sleep deprivation among the students that are not academic. These include the number of extracurricular activities middle-school students are actively involved in and time spent on the internet and electronic devices. The school district decides to conduct a survey of selected middle-school students in the large district to investigate the potential factors contributing to sleep deprivation amongst their middle-school students.

1. **Formulate a question that can be answered with data:** A possible *investigative question* that will assist the school district with this scenario is: What is the number of extracurricular activities middle-school students in the coastal school district are actively involved in throughout the school year?
2. **Collect data:** A possible *survey question* for gathering data to help answer the investigative question is: How many extracurricular activities do you actively participate in during the school year?
3. **Analyze the data:** Possible *analysis questions* are:
  - What is an appropriate graphical display to show the distribution for the number of extracurricular activities for middle-school students?
  - What is the shape of the distribution of the number of extracurricular activities?
  - How much does the number of extracurricular activities vary in the distribution?
  - What is a typical interval for the number of extracurricular activities, and where does the number of extracurricular activities cluster?
  - What is the mean number of extracurricular activities?
  - Are there unusual values?
4. **Interpret the results:** Ask if the analysis makes sense within the context of the situation and investigative question. Connect the results of the analysis questions to the context of the posed investigative question and make a conclusion.