

## Statistical Investigation Menu

If you're having trouble coming up with your own statistical question to get going, you can choose an investigation from one of the categories below. You should personalize each element of the investigation as much as possible and **you MUST re-write the information in your own words.** (*Copying any of this word for word will result in a GPS-B and lower score.*)

### The Environment:

#### Investigation 1: Is junk mail destroying our forests?

**Description:** Collect data to compare the amount of junk mail to regular mail in a single household over a given amount of time. Then expand this data to reason about junk mail sent over longer periods of time or across a geographical region.

- **Statistical question 1:** How much of each type of mail (bills, letters, magazines, junk mail, etc.) does a single household receive in a given amount of time?
- **Statistical question 2:** How many pieces of junk mail do several households receive in a given amount of time?
- **Statistical question 3:** How much of our junk mail is made out of recycled materials?

**Considerations:** How will you define junk mail (catalogues, coupons, menus, etc.)? How long will you collect data? How will you expand this data to represent greater periods of time or geographical regions? How will you know if recycled materials were used?

**Data collection type:** Observation, questionnaire/interview

#### Investigation 2: Is Denver getting warmer?

**Description:** Collect data to compare temperature averages, highs, lows, etc. over several years in order to identify a trend. Is Denver getting warmer, colder, staying the same? Why do you think this is?

- **Statistical question 1:** What was the average temperature in a given month over the past several years?
- **Statistical question 2:** How many record-setting temperatures did Denver experience over the course of several years?

**Considerations:** Should you record high temperatures, low temperatures, or both? How many years should you include? What do you expect to find and why? Where could you find your research (Farmer's Almanac, etc.)?

**Data collection type:** Research

### Student Health:

#### Investigation 3: Are we using our electronic devices too much?

**Description:** Collect data to compare the amount of time our generation spends on electronic devices vs. other generations, other activities, or other kids in various parts of the world.

- **Statistical question 1:** How many hours a day do 6<sup>th</sup> graders spend on an electronic device?
- **Statistical question 2:** How many hours a day do 6<sup>th</sup> graders spend doing other activities?
- **Statistical question 3:** How many hours a day do people of other ages spend on an electronic device?

**Considerations:** What response options will you give students for time on devices? What other activity options will you give students (playing outside, reading, cooking, other, etc.)? What other ages will you ask?

**Data collection type:** Questionnaire/interview

#### Investigation 4: How accessible is health food in my community?

**Description:** Collect data to analyze the amount of healthy food options available to students in my community.

- **Statistical question 1:** How many times a day do 6<sup>th</sup> graders eat vegetables?
- **Statistical question 2:** Where do 6<sup>th</sup> graders get health food?
- **Statistical question 3:** What types of foods do the stores in walking distance of my house sell?

**Considerations:** How will you define health food? What counts as a vegetable? What options will you give students for their food sources? Will you include all stores in your neighborhood, or just stores that sell food? What food types will you look for (chips, candy, vegetables, fruit, meat, bread, soda, etc.)?

**Data collection type:** Questionnaire/interview, observation

#### Sports:

#### Investigation 5: What does the difference between a professional athlete's salary and a teacher's salary say about our country and/or culture?

**Description:** Collect data to compare the amount of money a typical professional athlete makes to the amount of money a typical teacher in my community makes in a year.

- **Statistical question 1:** How much money does the average professional athlete make?
- **Statistical question 2:** How much money does the average teacher make?

**Considerations:** Will you use a range of salaries or specific amounts? What conclusions might you draw depending on your findings? What types of athletes will you use? How should you ask a person something personal, like what they earn?

**Data collection:** Research, questionnaire/interview

#### Investigation 6: How active are the students in my community?

**Description:** Collect data on sports and other physical activities students participate in to analyze how active or inactive students at our school are.

- **Statistical question 1:** How many different sports do students in our school participate in?
- **Statistical question 2:** How many times a week do students participate in a given amount of time or level of physical activity?
- **Statistical question 3:** How much time per day do 6<sup>th</sup> graders spend outside?

**Considerations:** What conclusions will you be able to draw from these questions? What range of times will you use?

**Data collection:** Questionnaire/interview