**EXAMPLE 1**

Topic:

My topic is bird populations, mainly focusing in Canada.

Introduction:

I came up with this topic because, for my future career, I hope to be finding the statistics of animal populations and using that data to determine how drastically they’re changing and what affects human life is having on different creatures. I thought it would be good practice to start working with these numbers in a way I could in the future. Animal population statistics was also the first thing that popped into my head when I was asked to think of a statistics topic because I knew whatever I did had to be about plants or animals. As for why I chose to do bird populations, I have a love for birds and have noticed many differences in the bird populations around where I live. With this project, I hope to find out how much the populations are changing and what the causes are. This topic is very close to home for me as I am a nature lover who has grown up in a very nature-loving family. My parents have been teaching me the names of all the birds that fed from our feeder since I was little. I know most of them by heart now. This knowledge of the many different bird species that live around my house means that I can truly realize how much the populations near where I live have changed over the years. For example, when I was younger, I used to see orioles and rose-breasted grosbeaks outside quite a bit. Now, I haven’t seen either in years. I also used to fall asleep to the calls of the whippoorwills every summer night because my window was always open. Now I’m lucky to hear one once or twice all summer.

Birds, or Aves, are a class of vertebrate animals that are warm-blooded and lay eggs. Birds are one of the few types of species on Earth that have evolved with the ability to fly. This is due to their hollow bones and feathers that they have today. Though not all birds can fly, like penguins and ostriches. Birds live on every continent in the world and each one has greatly adapted to fit their own habitat’s climate and environment. Though, despite their species ability to inhabit every continent, as the years go by, more and more birds are becoming threatened and endangered species. This increase in the threatened and endangered population means something is having an effect on the bird species. Each species of bird is affected by different things in different ways. Due to potential changes in their environment, some birds might start to have a harder time surviving whereas others might barely be affected. Some might even benefit from the other’s lack of ability to survive. Either way, these changes in the populations will cause them and the environment around them to need to change drastically. When one animals’ population is affected, it affects the entire ecosystem through the food chain, habitat, and much more. This means that a change in the bird population could have drastic consequences for a lot of creatures.

Throughout the world, there are roughly 9,787 different known species of bird. In order for mankind to know how many of each species of bird there are roughly, some test must be done. The three main ways that people gather bird population information is through capturing and marking, and counts. Capturing and marking is a very common method when tracking migration as well as population size. This is because it tracks an individual bird based on a marker that has been placed on it so it can be identified. A count can also be used to find bird populations, during which you simply stay in a spot and count the number of a specific bird species you see. Both are used very commonly, though counting is much more common among volunteers as it is an easier way to estimate population without having to catch the birds. Capturing and marking is a much more commonly practiced by scientists and people from bird research facilities or organizations.

**EXAMPLE 2**

The human brain is the most complex organ in the entire human body. It is the command center for the human nervous system as it produces our every thought, action, and feeling. The human brain is soft and the body protects it by cushioning it in cerebrospinal fluid inside a hard skull. Due to the brain floating in fluid, it can move around and even bang against the human's skull. A fall or collision can cause the brain to bang up against the skull and can bruise the brain. When this happens, it can also injure nerves and tear blood vessels. These injuries to the brain can cause a concussion, meaning the individual will have a temporary loss of normal brain function. A concussion is a specific type of traumatic brain injury that can be caused by a hit, bump, or jolt, to an individual's head that causes the brain to move vigorously back and forth. Concussions are often referred to as a "TBI" standing for "traumatic brain injury". When a hit to the head occurs, the sudden movement in the skull creates chemical changes in the brain, which in some instances can stretch and damage brain cells. Concussions are often referred to as "mild" brain injuries because they aren’t very often life-threatening, however the side effects of a concussion are often serious and if they are not treated properly can be permantely damaging. I chose to do my presentation on concussions because I personally have been affected by this brain injury. I specifically chose to narrow my data down to concussions in sports, because as an athlete I have experienced first-hand the danger of brain injuries while doing physical activity. I have had 4 concussions since grade 7, and they have all been from sports. During the time of my concussion, I had many hospital visits and many trips to see the concussion specialist. I learned quite a bit about the effects that sports have on the brain, but I overall chose to do this topic because I have a personal connection to it and am interested to see what the data results show me about concussion rates in sports. In this report, I will be looking at the types of sports that cause concussions and researching to see which sports have the highest concussion rates. I will look at these statistics in the different levels of sports and how gender and age affect the concussion rates. Sports related concussions most often result in mental and physical symptoms. Such as, headaches, dizziness, fatigue, trouble concentrating, and forgetfulness. Luckily, for many athletes their symptoms are not long lasting and don’t usually last more than several months. However, there are some cases that lead to persistent and prolonged physical, mental, behavioural and emotional symptoms that is referred to as post-concussion syndrome. Also, in rare situations where repeated concussions occur over a short time period, athletes can suffer from second impact syndrome and can be life threatening it not treated rapidly. Most often times, the rate of concussion are measured in "Athlete Exposures" also known as "AE". This is defined as one athlete participating in one game or practice. This means that there are "x" number of injuries for every 1.000 times one athlete plays in one practice or game

**EXAMPLE 3**

Introduction

I have decided to do my project analyzing statistics and concluding that Ben Simmons should have made the NBA All-Star Team in his rookie season and that he should win rookie of the year. I picked this topic because basketball is my favourite sport to watch and to play. The National Basketball Association is the biggest stage for basketball in the world and is recognized by the International Basketball Federation (FIBA) as the governing body of basketball in the United States. The NBA was established in 1949 and has been the most competitive league since. In the 1970s, the American Basketball Association emerged as a more entertainment focused league with its controversial three point line and emphasis on slam dunks and flashiness over fundamentals of the sport. The ABA managed to steal some talent through young players that would have joined the NBA, as the popularity of the ABA was on the rise, the NBA was forced to buyout the ABA and make a merger of both leagues to stay afloat. After the NBA-ABA merger, the NBA adopted the three point line and expanded to include the four best ABA teams. The statistics used in this project will go as far back as the merger since any time before then, the rules of the NBA were different. Ben Simmons is one of my favourite players in the NBA because of his talents that are unique and aren’t seen in many players. However, his contribution seems to go unnoticed by most fans and analysts so my goal is to prove them wrong. The statistics I will be looking at include PPG (Points per game), APG (Assists per game, assists are a pass leading to a basket immediately after), TRB (True Rebounds, grabbing the ball after a missed shot), Win shares (An advanced statistic that shows a player’s direct contributions to the number of their teams wins, compared to a league average) and many more. I will

Simmons’ stats and compare them to various players throughout history with similar stat lines or people who have won accolades that he should have won. Z-Scores and Percentiles, Mean, and Median will all be very important to highlight the comparison and to size Ben up to other players around the league. Donovan Mitchell will be a very common player compared to Ben Simmons as he is the other stand out rookie of this year. Donovan is primarily a scorer and an offensive minded player while Ben can score, Ben is primarily a facilitator and a defender, getting his teammates involved on offense and making stops on defense. As for the All-Star considerations, I will be looking at players like Goran Dragic and Kemba Walker, who made it onto the All-Star team over Ben despite him having more votes and performing better in the season.

Hypothesis

Based on statistical analysis and comparison of Ben Simmons to specific players and the league as a whole, Ben Simmons should have been selected for the All-Star team and deserves to win Rookie of the Year.