BIOLOGY

SUMMER LEARNING JOURNAL

MARION P. THOMAS

THE VILLAGE
EST. 1999

CHARTER SCHOOL

Name: _____

Teacher: _____

Summer Biology Learning Packet Overview
For Rising 9th Grade Students

Welcome to Marion P. Thomas Charter School! This packet is designed to help you review and strengthen key foundational skills needed for success in Biology. Completing this work will ensure you start the school year confident and prepared for the exciting scientific concepts you will explore.

Each section of this packet focuses on a specific foundational topic. At the top of each section, you will find a link to an Edpuzzle lesson. You must watch and complete the Edpuzzle before attempting the activities and questions in that section of the packet. The Edpuzzle videos provide critical explanations, examples, and guided practice to support your understanding.

Important Information:

- Both the completed Edpuzzles and the physical packet will count toward your first assessment grade in Biology.
- Be sure to answer all questions thoroughly and show your work where required.
- Stay organized and pace yourself throughout the summer to complete all sections before the first day of school.

By dedicating time to review and practice these essential skills, you are setting yourself up for a strong and successful start in Biology. We look forward to seeing the hard work and effort you put into this summer assignment. If you have any questions, feel free to reach out to the following teachers:

Waleed Khalid, wkhalid@mptcs.org
Gracie Silva, gsilva@mptcs.org

Google Classroom Code: 2m56h5fg

Part 1: THE SCIENTIFIC METHOD

Section Overview	EdPuzzle Lesson
This section will teach you how to use and understand the scientific method. This will prepare you for deeper learning about multiple areas of biology.	

1. What is the first step of the scientific method?

2. What is a hypothesis?

3. State one example of a hypothesis?

4. What is the purpose of conducting an experiment?

5. Why should you repeat an experiment more than once?

6. What is the variable that is changed during an experiment called?

7. Why are making observations an important part of an experiment?

8. What is a dependent variable?

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9. List the steps of the scientific method in order.

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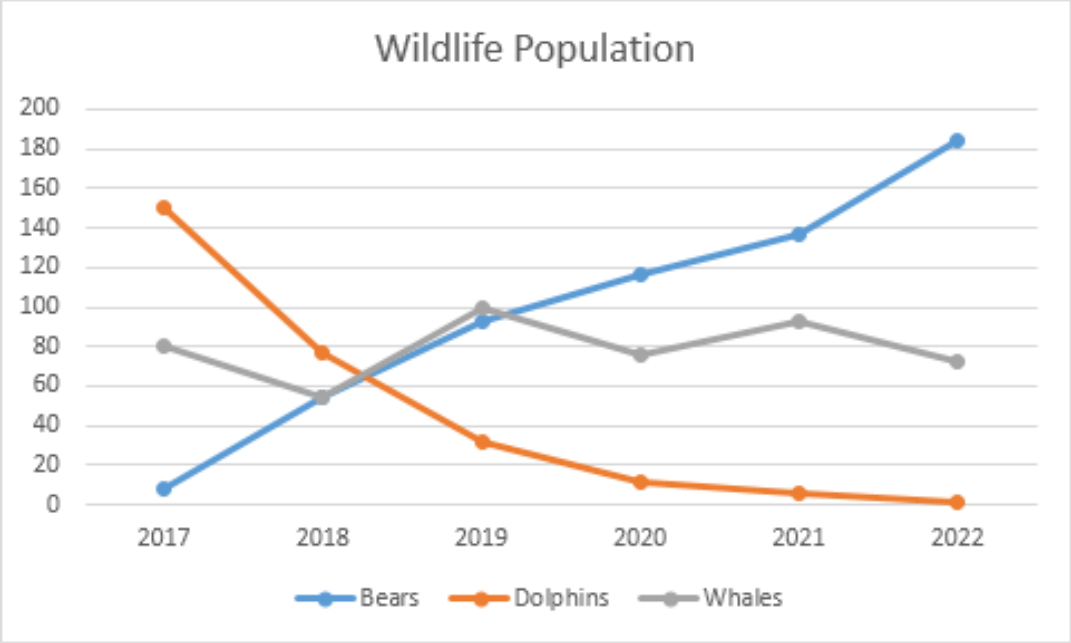
Part 2: HOW TO READ A GRAPH AND GRAPH DATA

Section Overview	EdPuzzle Lesson
This section will teach you about how to reach and interpret a graph. This will prepare you for deeper learning about multiple areas of biology.	Code: rafnazm

Lesson 2



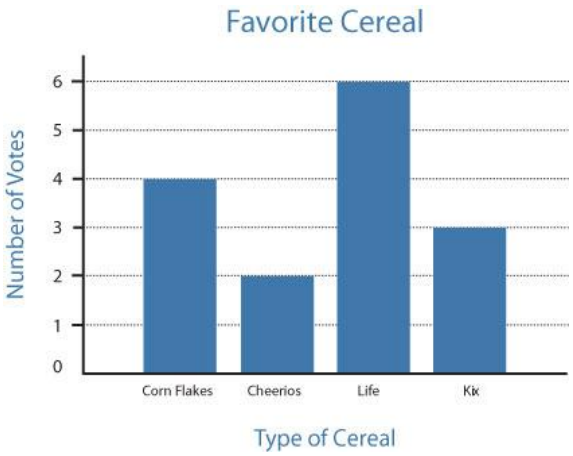
1. What is the graph above showing?

2. Which animal has the largest population according to the graph above?

3. Approximately what was the population of bears in 2020?

4. Which type of cereal got the most number of votes?

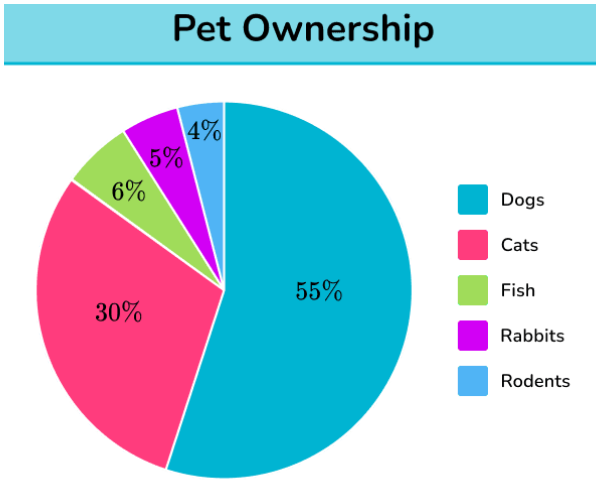
5. How many more votes did Corn Flakes get than Cheerios?



6. What percentage of pet ownership is fish?

7. Which category of pet ownership was the lowest?

8. How much more percentage of pet ownership was dogs than of cats?



9. A weight increase did height *increase or decrease*?

10. Was the correlation between weight and height positive or negative?

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Part 3: PARTS OF A CELL

Section Overview	EdPuzzle Lesson
This section will teach you about the parts of a cell. This will prepare you for deeper learning about cellular biology, genetics, and material/energy transfer in ecosystems throughout your freshman year.	Code: rafnazm

Lesson 3

1. The cell membrane is normally flexible, allowing certain materials to pass through it. When it gets sufficiently cold, it becomes inflexible. Describe at least two ways this can be a problem for the cells.

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2. In which organelle is DNA found in Eukaryotic cells?

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3. Many viruses change the DNA of the host cell when they infect it. Why is this a problem for the host cell?

4. Hydrophilic proteins like water and usually end up in the cytoplasm, which is mostly water. Hydrophobic proteins dislike water and usually end up in the cell membrane. Would a hydrophilic protein be made by free-floating ribosomes or by ribosomes on the rough endoplasmic reticulum?

5. If the Golgi body were removed from a cell, what is at least 1 thing that would happen to that cell? Explain your answer.

6. Mitochondria are responsible for producing a cell's energy. This involves converting sugar molecules into other molecules that the mitochondria can use to produce ATP. What would happen to a cell that was starved of sugar?