WK	Part A	Part B	Part C	Part D
1	**Scientific Process** **Cause & Effect** • Identify the steps of the scientific process • Differentiate between variables (e.g., dependent, control, independent, etc) • Identify a relevant hypothesis based on a given investigation • Determine the strengths and weaknesses of a scientific investigation • Determine whether a hypothesis is supported by evidence within a case study • Determine the causal relationship between events (e.g., smoking and high blood pressure) • Sequence an event or process • Identify the stated cause and effect in a scientific explanation	**Water Properties** **Acids, Bases and pH** • Describe the properties of water (e.g., solubility, cohesion, adhesion, etc) • Describe acids, bases in terms of pH balance • Describe how buffers work	**Anatomy & Physiology** **Terminology** **Tissue types** **Overview of Organ Systems** • Differentiate anatomy and physiology • Identify anatomical positions and planes • Identify anatomical direction • Describe the structure and function of the different cell and tissue types • Identify the major organ systems of the body and their major organs	**Skeletal System** • Identify the parts of the skeletal system • Describe the function of the parts of the skeletal system • Describe the relationship between the skeletal system and the neuromuscular system • Identify the diseases of the skeletal system

WK	Part A	Part B	Part C	Part D
2	**Chemical Properties** **States of matter** **Scientific Tools** • Define and calculate density • Identify a substance using characteristics from a chart of given properties • Compare and contrast the states of matter • Describe the movement of molecules in the states of matter • Explain the changes between states of matter (e.g., melting, freezing, evaporation, condensation, etc) • Select the tool necessary to measure volume, mass or length of an object	**Active, Passive Transport** • Compare and contrast osmosis and diffusion • Differentiate between active and passive transport • Describe the protein pumps in active transport • Describe how ATP is produced and used	**Circulatory/Cardiovascular System** • Identify the parts of the circulatory system • Describe the function of each organ in the circulatory system • Trace the blood flow through the cardiovascular system • Describe diseases of the cardiovascular system	**Integumentary System** • Identify the parts of the integumentary system • Describe the function of the parts of the integumentary system • Describe the role of the integumentary system in thermoregulation • Identify diseases of the integumentary system
3	**Measurement** **Cells** • Identify cell organelles and their functions • Identify the unit of measurement in a model • Identify the numerical value of a measurement of an object • Choose a scale unit appropriate for the object being measured • Convert measurements in the SI system	**DNA** **Mitosis** • Explain the relationships between DNA, genes and chromosomes • Describe the structure and function of DNA, genes and chromosomes • Describe how somatic cells divide • Identify the stages of cellular division and its outcome	**Respiratory System** • Identify the parts of the respiratory system • Describe the function of each organ in the respiratory system • Demonstrate knowledge of the relationship between the respiratory system and the circulatory system • Identify diseases of the respiratory system	**Urinary/Genitourinary System** • Identify the parts of the urinary system • Describe the function of the parts of the urinary system • Describe the relationship between the urinary system and the circulatory system • Describe diseases of the urinary system

WK	Part A	Part B	Part C	Part D
4	**Intro to Chemistry** • Label the parts of an atom • Describe the properties of each part of an atom • Differentiate and identify ions and isotopes • Differentiate group and period properties on a periodic table • Use a periodic table • Identify how chemical formulas are writtern • Identify common molecules (e.g., H_2O, NaCl, CO_2, O_2, etc)	**Genetics Part I** • Describe Mendel's laws of heredity (and their exceptions) • Describe the differences between a dominant trait and a recessive trait • Explain how gene pairs are inherited from parents • Use a Punnett Square to predict traits of offspring (ratios and percentages) • Describe the difference between inheritable and non-inheritable traits • Practice Simple Dominance	**Digestive/Gastrointestinal System** • Identify the parts of the digestive system • Describe the function of each organ in the respiratory system • Describe the roles of enzymes in the digestive system • Describe the insulin-glucagon feedback loop • Describe diseases of the digestive system	**Endocrine System** • Identify the parts of the endocrine system • Describe the function of the parts of the endocrine system • Describe the relationship between the endocrine system and the nervous system • Identify diseases of the endocrine system
5	**Macromolecules** **Bonding** • Describe the structure and function of carbohydrates, lipids, proteins and nucleic acids • Describe how basic macromolecules function in a biological system • Identify common macromolecules • Describe how macromolecules are formed • Differentiate between covalent, ionic and hydrogen bonds	**Genetics Part II** **Meiosis** • Practice dihybrid, incomplete dominance and codominance crosses • Describe how germ cells divide to produce gametes • Compare and contrast female and male gamete production • Identify the stages of meiosis and the end products • Compare and contrast meiosis and mitosis	**Nervous System** • Describe the parts of the nervous system • Describe function of each part in the nervous system • Label a neuron and describe how it functions • Identify diseases of the nervous system	**Reproductive System** • Identify the parts of the male and female reproductive systems • Describe the functions of the reproductive system • Describe the relationship between the reproductive system and the endocrine system • Describe the ovulation/menstruation cycle in females • Identify diseases of the reproductive system

WK	Part A	Part B	Part C	Part D
6	**Enzymes** **Chemical Reactions** • Describe the structure and function of enzymes/catalysts • Explain how conditions can affect enzyme function • Identify simple chemical reactions (e.g., single replacement, double replacement, etc) • Describe how conditions affect chemical reactions (e.g., pressure, concentration, temperature)	**Replication, Transcription & Translation** • Describe the processes of replication, transcription and translation • Explain the role of DNA in replication and transcription • Identify the types of RNA involved in transcription and translation • Identify the enzymes involved in all three processes • Use DNA template to create mRNA and protein chain and vice versa	**Muscular System** • Describe the parts of the muscular system • Describe the function of each part of the muscular system • Describe how a muscle contracts • Identify how the nervous system controls the muscles • Identify diseases of the muscular system	**Immune System** • Identify the parts of the immune system • Describe the function of the immune system • Describe the relationship between the immune system and the other body's organism • Describe diseases of the immune system
7	**Flexible** • Finish learning topics from previous weeks, if needed • Review of material • Case-based exploration • Class canceled due to PLC meeting or snow	**Flexible** • Finish learning topics from previous weeks, if needed • Review of material • Case-based exploration • Class canceled due to PLC meeting or snow	**Flexible** • Finish learning topics from previous weeks, if needed • Review of material • Case-based exploration • Class canceled due to PLC meeting or snow	**Flexible** • Finish learning topics from previous weeks, if needed • Review of material • Case-based exploration • Class canceled due to PLC meeting or snow
8	**Final Exam** • Online exam via Google Forms • 53 questions in 66 minutes • Based on topics learned in these 8 weeks	**Final Exam** • Online exam via Google Forms • 53 questions in 66 minutes • Based on topics learned in these 8 weeks	**Final Exam** • Online exam via Google Forms • 53 questions in 66 minutes • Based on topics learned in these 8 weeks	**Final Exam** • Online exam via Google Forms • 53 questions in 66 minutes • Based on topics learned in these 8 weeks

Cross-cutting:

- Evaluate evidence that supports a scientific explanation
- Compare the magnitude of events, objects and processes
- Identify the logical conclusion based on evidence provided