***Biology Activity Log***

**1st Quarter**

M August 15

Introductions

Class Rules

Homework: Have class rules signed and brought back- Due Thursday. Find Newspaper article, read it and be ready to discuss- Due W Aug 24

*Standards and Essential Questions for Unit I- part I*

*NoS.1, NoS.2, Nos.3*

*Can students develop explanations based on reproducible data and observations; recognize that their explanations must be based on data; and communicate their ideas both verbally and in written form.*

Bell Ringer: Why are we here? In general and why do you think you have to take this class? Discuss with Table groups at start of class.

W August 17

Biology Diagnostic Test

R August 18

Safety Rules – quiz M

What is Bio? Intro notes

Notes on Scientific Method

Homework: Scientific Method Work 1.1 p. 9 1-3, 1.2 p. 15 1-5- Due M

Find a random, odd news article from any source, bring it in and be ready to discuss. Due W

Bell Ringer: Discuss a problem you have had in the last week and how you solved it using the scientific method.

M August 22-

Check homework

Safety Quiz

Scientific Method Lab Activity

Homework: Scientific Method Coloring Activity- Due if you do not finish in class

 - due W

Bell Ringer: Which is better: Numerical data or Observing with your senses?

*Standards and Essential Questions for Unit I- part II*

*NoS.7, NoS8. , NoS.9*

*Can Students focus on developing explanatory models based on observations; recognize how discoveries lead to a re-evaluation of knowledge and explanations of major theories.*

W August 24

Study of Life intro

News Art

Homework: Ch 1 section reviews due R

R August 25

Scientific method quiz

What is Life? Activity

Everyone needs a home project

Homework: Ch 1. Review p. 28-30 1-34 all due M , if you did not finish the everybody needs a home project drawing, that is due on M as well.

Bell Ringer: Discuss five things that are living or not and why?

M August 29

Create A Creature activity

Homework: Define all 20 vocabulary words in chapter 1 (the list is on my website) due W

W August 31

Finish Create a Creature

Review for Test

Homework: Print out all notes from Chapter 1

R Sep 1

Review for Test

Unit I Test

Bell ringer: Discuss any virus you have heard of or have and tell me what you think they are.

T September 6

Mindtrap

Present Creature Habitats

Characteristics of Viruses Activity

Bell Ringer: What makes up an atom?

*Standards and Essential Question for Unit II(Chapter 2)*

*NoS.6, B1.1, B1.2, B1.3*

*Can students use analogies and models to represent systems that are difficult to understand due to their size, complexity or scale and recognize the limitations of these models? Can students describe the function of the major categories in terms of their building blocks of elements from which they are composed? Can students understand how the shape of a molecule determines its role in different cellular processes and how proteins acting as enzymes are involved? Can students explain and give examples of how cellular function is influenced by external environmental factors.*

R September 8

Atoms, Ions, Isotope Notes

Atom Drawings – In class

Homework: Exploring atom packet and Atomic Dimensions worksheet Ch. 2 1-5 p.38 due W

Bell Ringer: What does the term radioactive mean to you?

M September 12

Bean Lab

Properties of water notes

Homework: Packet due W

Bell Ringer: How would you find the average weight of every person in the room?

W September 14

Finish Bean Lab

Carbohydrates, Fats and Protein Notes

Diet Project due W Sep 21

Homework: Ch. 2 assessment due R!

R September 15

Structure Drawings

Homework: Chapter 2 Packet and notebook check due M

M September 19

Notebook check Atom Quiz

Coloring Activity due W

W September 21

Test Review.

Unit II Test

*Standards and Essential Question for Unit III(Chapters 3-4)*

*B3.4,B3.5, B4.1,B4.2,B4.4,*

*Can students: Describe matter cycles through an ecosystem through food chains and webs and how that matter is converted into organic matter including the Sun and its energy; explain that the amount of life an environment can support is limited by the flow of energy, water, and other factors and describe how humans are involved; describe how climate, energy flow, matter cycles, organisms and their interactions contribute to the stability of an ecosystem.*

R September 22

Go over Test

Mindtrap

Notes on Ecology and Energy producers and consumers

Homework: Read Chapter 3 and do vocab words due M

Bell Ringer: How do all the things you get give you energy?

M September 26

Notes on Energy Flow in Systems

Land to Mouth Activity

Homework: Abiotic vs Biotic Factors packet and p. 68 1-4, p. 72 1-3

Food Chains and Webs packet and p. 78 1-3 due W

Bell Ringer: How does water recycle in our ecosystem?

W September 28

Cycles of Matter notes

Communities and Cycles coloring activity

Homework: Cycles of Matter packet and p.86 1-5 due R

Bell Ringer: How has man changed weather patterns?

R September 29

Abiotic/Biotic Quiz

Climate Notes

Food Chain decision activity

Bell Ringer: How many people do you think this planet can hold and take care of?

M October 3

Lifespan of a Bubble

Homework: Ch 3 Review p 89-92 1-32 due W

Bell Ringer: What kind of place do you live in?

W October 5

Food Web and Cycle Pop Quiz

Community interactions and succession notes

Homework: p 98 -13, p 104 1-5, p. 109 1-3 and species interactions packet, due R

R October 6

Biome Notes

Limiting Factors Activity

Homework: Ch. 4 Review 1-40, notes and vocab due M

M October 10

Biome Activity

Biome Project

W October 11

Finish Biome Project

Biome Quiz

R October 12

Review Vocabulary

Unit III Test (Chapter 3 and 4)

**2nd Quarter**

*Standards and Essential Question for Unit IV(Chapters 5 and 6)*

*B 4.1, B 4.2, B 4.3, B 4.4, NoS.11*

*Can students: Use scientific knowledge to guide decisions on environmental and social issues; explain how the life of an environment is limited by the ability of ecosystems to recycle remains; describe how changes to an ecosystem impact other species based on human activity; describe the consequences of introducing non-native species into an ecosystem and identify the impact on that ecosystem; Describe how the long term stability of an ecosystem is determined by the interaction of organisms and their environment.*

M October 17

Mindtrap

Notes on Populations

Homework: Section 5.1, 5.2, 5.3 review due T

T October 18 (Have this class today because of PSAT tomorrow)

Notes on Resources and Biodiversity

Resources Activity

Homework: 7 Billion and Counting due R if you don’t get done in class!

R October 20

Carrying Capacity Activity

Human Population Activity

Homework: Chapter 5 Review all due on M.

M October 24

Saltwater Fish Activity

Birds of Prey Activity

Carrying Capacity Quiz

Homework: All chapter 6 review due on W along with all vocabulary!

W October 26

Unit IV Test

*Standards and Essential Question for Unit V (Chapter 7)*

*B2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.3*

*Can students: Describe features common to all cells while explaining their functions; describe the structure of cell membranes and the transports mechanism; explain the function of mitochonidria and chloroplasts; explain the purpose of ribosomes; explain that cells use protein to form cilia and flagella and describe their function; investigate the variation of cell types and the proportion of organelles; describe metabolism that occurs in all cells?*

M October 31

Life is Cellular Notes

Animal vs. Plant Cells

Cell Theory Work

Homework: Ch 7 section reviewsdue W

W November 2

Cellular Structure Notes

Begin Cell Drawing Activity

R November 3

Finish Cell Drawing

Cell Transfer Notes

M November 7

Homeostasis Notes

Cell Organelle project

Cell theory C.A. for extra credit due W!

Homework: Cell Packet due R

W November 9

Cell Organelle Debate

R November 10

Cell Review- City Scape Project

Homework: Chapter 7 Review 1-33 all due M along with notes and vocab!

Essay topics: Cell Theory, prokaryotic vs. eukaryotic, passive vs. active transport, organelles and their function, homeostasis

M November 14

Unit V (Chapter 7 Test)

*Standards and Essential Question for Unit VI (Chapter 8)*

*B 2.3, 3.1, 3.2, 3.3, 3.5*

*Can students: explain that cells contain chloroplasts, where the energy of light is captured for use in chemical work; describe how organisms capture the sun’s energy through photosynthesis converting carbon dioxide and water into high energy compounds and oxygen; describe how organisms can combine elements containing sugar into essential compounds; recognize that metabolism consists of biochemical reaction; describe how energy from the sun flows though an ecosystem?*

W November 16

Go over test

Mindtrap

Energy and Life Notes

Photosynthesis Notes

The Energy We Use activity

Homework: Energy of Life packet due M

R November 17

Section 8.1 Quiz

Photosynthesis Drawings

(Calvin Cycle, Light Independent, Light Dependent)

Homework: Finish Energy Packet- Due M

M November 21

Photosynthesis Review

Energy for Life group class work

Why are Plants Green? Activity

Homework: Ch. 8 Review due W

W November 23

Photosynthesis Quiz

Notes on things that affect Photosynthesis

M November 28

Chromatography Lab (M and M’s and spinach Leaf Pigments)

Review for Test

W November 30

Essay Topics ATP Cycle, red light vs. green light (p. 230 will help), photosynthesis equation, factors affecting the rate of photosynthesis.

Test Ch. 8

*Standards and Essential Question for Unit VII (Chapter 9)*

*B 2.3, 3.1, 3.2*

*Can students: explain that most cells contain mitochondria, the key site for cellular respiration, where stored chemical energy is converted into useable energy for the cell; describe how organisms can combine elements containing sugar into essential compounds by utilizing the energy from cellular respiration; recognize that metabolism consists of biochemical reaction that occur inside cells?*

R December 1

Go over Test

Cellular Respiration Notes

Cellular Respiration

Glycolysis

Pyruvate🡪 Acetyl CoA

Krebs Cycle

Electron Transport Drawings

Homework: Chapter 9 packet due M

M December 5

Finish Drawings

Work on Packet

Practice Test

W December 7

Review for test

Ch. 9 Test (open book)

*Standards and Essential Question for Unit VIII (Chapter 10)*

*B 5.1, 5.5, 6.1 6.3*

*Can students: Describe the relationship between chromosomes and DNA along with their basic structure and function; understand that proteins are responsible for observable traits of an organism and for most functions of an organism; describe the process of mitosis and explain that this process ordinarily results in daughter cells with a genetic make-up identical to the parent cells; explain that in a multicellular organism, the zygote produced during fertilization undergoes a series of cell divisions that lead to clusters of cells that go on to specialize and become the organisms tissues and organs?*

R December 8

Go over Test

Mindtrap

Asexual vs. Sexual Reproduction

Limits to Cell Size

Homework: Start Chapter 10 packet. Entire packet due on R December 15

M December 12

Cell Division and Mitosis

Regulating the Cell Cycle

Continue working on packet

Homework: Mitosis Worksheet due W

W December 14

Cell Differentiation Notes

Cell Project

Homework: Ch. 10 Review, Ch. 10 vocab due R

R December 15

Ch 10 Test

M December 19

Semester Review

W/R December 20/21

Final Exam

**2nd Semester**

**3rd Term**

*Standards and Essential Question for Unit IX(Chapter 11)*

*B 5.6, 7.1, 7.2, 7.3, 6.4, 6.5*

*Can students: Recognize that traits can be structural, physiological or behavioral and can be at the organism or cellular level; distinguish between dominant and recessive alleles and determine phenotype of offspring; describe various allele combinations and illustrate their inheritance patterns over generations; determine the likelihood of an appearance of a specific trait; describe the process of meiosis using the genetic make-up of parent and daughter cells; explain how sexual reproduction results in offspring that are genetically different from the parents?*

M January 9

Mindtrap

Genetics Introduction

Homework: Work on Ch.11 Packet, sections 1 and 2 due W.

W January 11

Punnett Squares and Probability notes and work

Homework: Continue to work on packet. Ch. 11 11.1, 11.2, 11.3 review due R

R January 12

Check Ch. 11 Work

Alien Life Form Genetic Lab

T January 17

Meiosis Notes

Finish Alien Life Form Lab

Work on case packet- due R

R January 19 (textbook caravan day)

Meiosis Drawings

Homework: Genetics Review packet due M

M January 23

Gene Lineage and Maps

Punnett Square Quiz

Homework: Finish Chapter Review packet due W

W January 25

Genetics Review

Genetics Quiz review

Mendel coloring activity for extra credit

Homework: Chapter 11 Review due R

R January 26

Grade Chapter 11 review

Chapter 11 Test

*Standards and Essential Question for Unit X(Chapter 12)*

*B 5.1, 7.4, 5.2*

*Can students: Describe the relationship between chromosomes and DNA along with their basic structure and function; explain the process by which a cell copies its DNA and identify factors that can damage DNA and cause changes to its sequence; describe how hereditary information passed from parents to offspring is encoded in the genes of DNA*

M January 30

Mindtrap

Notes on the role of DNA in heredity

Homework: Read Ch. 12 and write a brief summary of each section in your own words- due W

W February 1

Notes on the DNA structure

DNA coloring activity

Homework: Begin Chapter Section Review Packet due R

R February 2

Notes on DNA replication

DNA drawings

M February 6

DNA Family Relationship Analysis

Chargaff’s DNA data

Homework: Chapter Review Packet Due W

W February 8

DNA structure Quiz

Homework: Chapter 12 Review due R

R February 9

Test Chapter 12

*Standards and Essential Question for Unit XI(Chapter 13)*

*B 5.3, 5.4, 6.2, 7.5*

*Can students: describe the process by which DNA directs the production of protein within a cell; explain how the unique shape and activity of proteins are determined by the sequence of amino acids; understand how cells develop from a single cell in different ones due to differential gene expression; demonstrate how inserting, substituting or deleting segments of a DNA molecule can alter a gene which is then passed to every cell that develops from it and the result may be beneficial, harmful or have no effect on the organism?*

M February 13

Go over Chapter 12 Test

Mindtrap

RNA intro Notes

Homework: Read Chapter 13 and write a summary of each section. IN YOUR OWN WORDS!

W February 15

RNA transcription and translation notes

Codon Activity

Homework: Keep working on summaries!

R February 16

Protein Synthesis notes

Codon activity

Homework: Begin Chapter Review Packet- due T

T February 21

Homework: Protein Synthesis packet due R

R February 23

Codon Quiz

Coloring Activity

M February 27

Mutation Notes

ISTEP practice

Homework: Finish RNA packet- due T

T February 28

RNA practice test- in groups

RNA Drawings

Homework: Chapter 13 Review due Thursday

Chapter 13 Notes and Vocab also due

R March 2

Chapter 13 Test

*Standards and Essential Question for Unit XII(Chapters 14 and 15)*

*B 5.6, 7.2, 7.3, 7.5*

*Can students: Recognize that traits can be structural, physiological or behavioral and can be at the organism or cellular level; distinguish between dominant and recessive alleles and determine phenotype of offspring; describe various allele combinations and illustrate their inheritance patterns over generations; demonstrate how inserting, substituting or deleting segments of a DNA molecule can alter a gene which is then passed to every cell that develops from it and the result may be beneficial, harmful or have no effect on the organism; determine the likelihood of an appearance of a specific trait?*

M March 6

Go over test

ISTEP practice essays

Homework: Chapter 14 summaries due on R

W March 8

Human Chromosome and Pedigree Notes

Genetic Disorder Notes

Karyotype Activity

Homework: Research Genetic Disorders

R March 9

First ISTEP 10+ portion

M March 13

Genetic Disorder Research and Drawings

Homework: Genetic Linkage Worksheet- Due R

W March 15

Genetic Disorder Presentations

**4th Quarter**

R March 16

Notes on Pedigrees

Homework: Pedigree Worksheets

M March 20

Ch. 15 notes

Genetic Engineering Packet

Genetic Disorder packet

W March 22

Down’s syndrome packet

Coloring activity

Ethics Writing Prompt

R March 23

Chapter 14 and 15 Test

*Standards and Essential Question for Unit XIII(Chapters 16 and 17)*

*B 8.3, 8.4, 8.5, 8.6, 8.7*

*Can students: Use anatomical evidence to establish evolutionary relationships between organisms; understand that molecular evidence supports the anatomical evidence for evolutionary relationships and provides information about descendents genetic lines; describe how genetic variations, environmental forces and reproductive pressures lead to survival of the fittest; explain how genetic variation within a population can be attributed to mutations as well as random assortment of genes; describe the origins and history of life and evaluate the evidence that supports it?*

Monday April 3

Down’s Syndrome Packet

Coloring Activity

Homework: Chapter 16 power notes

Tuesday April 4

ECA Review

Thursday April 6

Chapter 16 evolution notes

Evolution Activity 22.1

Monday April 10

Evolution Activity 22.2-22.3

Homework: (Ch. 15) Evolution Packet

Wednesday April 12

Desert Snake Activity

Darwin Video

Quiz over Evolution next class period

Monday April 17

Check Packet

Evolution Quiz

Population Genetics Notes

Homework: chapter 16 Review all

Wednesday April 19

Harvey Weinberg Genetics Activity

Homework: (Ch. 16) Populations Genetics Packet

Thursday April 20

Quiz over Population Evolution

Populations Genetics Activity

Homework: Chapter 17 Review- along with vocab and notes!

Monday April 24

Check Review

Chapter 16 and 17 Test

Wednesday April 26

Semester Review Packet Work Day

Ethics Writing Prompt

Thursday April 27

ECA Review Practice Test

Monday May 1

Biology ECA- Review

Wednesday May 3

ECA Review

Thursday May 4

**Biology Istep +**

*Standards and Essential Question for Unit XIV(Chapter 18)*

*B 8.2, 8.3, 8.4*

*Can students: Explain how organisms are classified and named based on their evolutionary relationships into taxonomic categories; Use anatomical evidence to establish evolutionary relationships between organisms; understand that molecular evidence supports the anatomical evidence for evolutionary relationships and provides information about descendents genetic lines; describe how genetic variations, environmental forces and reproductive pressures lead to survival of the fittest?*

M May 8

Go over Test

Chapter 18 Classification Notes

Homework: Chapter 18 summaries

W May 10:

Classification Activity

Homework: Classification Packet-

R May 11:

Classification activity and review packet

Homework: Chapter 18 Review-

M May 15

Classification Test

W May 17

Mindtrap

History of Life Notes

Homework: Chapter 19 packet

R May 18

Geological Time activity

Homework: Chapter 19 Review

Monday May 22

History of Life Test – open book, open note

Homework: Textbooks and Semester 2 Review packet

Tuesday May 23

Semester Final Review Day

W May 24-Friday May 26

Final Exam and goodbye!!!!!!