***Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_***

***How is the weather up there?***

7.E.1.1 - Compare the composition, properties and structure of Earth’s atmosphere to include: mixtures of gases and differences in temperatures and pressure within layers. (Possible 3 questions) **DUE MON 5/22**

1. Draw a picture of the layers of the atmosphere.

a. Label the Layers.

b. Show where weather occurs.

c. Show where the ozone layer is located.

d. Summarize the temperature and pressure changes that take place between the troposphere and the exosphere and explain why.

e. Why does it warm up in the stratosphere?

2. Draw a pie chart to show the composition of the air. Include a key which shows the percentage of each gas, answer the questions that follow.

a. Which is the most abundant gas in the atmosphere?

b. Which component of air is responsible for the moisture in air?

c. What is the importance of the atmosphere?

7.E.1.2- Explain how the cycling of water in and out of the atmosphere and atmospheric conditions relate to the weather patterns on Earth. (Possible 3 Questions) **DUE TUESDAY 5/23**

1. Draw the water cycle and include all the processes such as precipitation, condensation, run off, evaporation etc. and answer the questions that follow

1. Why does most rainfall come from the ocean?

7.E.1.4- Predict weather conditions and patterns based on information obtained from: Weather data collected from direct observation and measurement (wind speed and direction, air temperature, humidity and air pressure) Weather maps, satellites and radar. Cloud shapes and types and associated elevation. **DUE TUE 5/23**

a. What can a change in wind direction predict?

1. How does air temperature affect the amount of moisture the air can hold?
2. List some changes that would occur when a cold front is passing.
3. List some changes that would occur when a warm front is passing.
4. How does a high pressure system affect the weather?
5. How does a low pressure system affect the weather? Give examples of low pressure systems.

7.E.1.5- Explain the influence of convection, global winds and the jet stream on weather and climatic conditions. **WED 5/24**

a. What is convection and what does it have to do with weather?

b. What is the Coriolis Effect and how does it affect weather?

c. Which global wind belt does the United States fall in, how does this affect weather patterns in the US.

7.E.1.6- Conclude that the good health of humans requires: monitoring the atmosphere, maintaining air quality and stewardship. **WED 5/24**

a. What is good ozone and where does it occur?

b. What is bad ozone and where does it occur?

c. What can we do prevent bad ozone?

d. Which ozone do we need more of?

e. Which ozone do we need less of?

1. Why is important to monitor air quality and not just in your own country?

***Cell-a-bration time***

7.L.1.1- Compare the structures and life functions of single-celled organisms that carry out all of the basic functions of life including: Euglena, Amoeba, Paramecium, Volvox. **WEDNESDAY 5/24**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Amoeba | Paramecium | Volvox | Euglena |
| Draw a picture |  |  |  |  |
| How does it move? |  |  |  |  |
| How does it get food? |  |  |  |  |

7.L.1.2- Compare the structures of plant and animal cells, including major organelles (cell membrane, cell wall, nucleus, chloroplasts, mitochondria, and vacuoles). **THURSDAY 5/25**

a. What are the main differences between plant and animal cells?

List all the main organelles and write the function of each

|  |  |  |
| --- | --- | --- |
| Plant Cell (Draw a picture) | Animal Cell (Draw a picture) | Write the function of each organelle |
|  |  |  |
|  |  |  |
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***Bodily Functions***

7.L.1.3- Summarize the hierarchical organization for multi-cellular organisms from cells to tissues to organs to systems to organisms. **THURSDAY, 5/25**

a. From smallest to largest list the hierarchical organization for multicellular organism. List two examples of what we would find at each level eg. Cell- Bone cell, Sperm Cell.

7.L.1.4- Summarize the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, and excretion) and ways that these systems interact with each other to sustain life. **FRIDAY 5/26**

1. How do each of the following systems work together?

|  |  |
| --- | --- |
| Digestive and Circulatory |  |
| Circulatory and Respiratory |  |
| Respiratory and Digestive |  |
| Digestive and Reproductive |  |
| Respiratory and Excretory |  |
| Excretory and Circulatory |  |
| Circulatory and Reproductive |  |

***It must be genetic***

7.L.2.1- Explain why offspring that result from sexual reproduction (fertilization and meiosis) have greater variation than offspring that result from asexual reproduction (budding and mitosis). **FRIDAY 5/26**

a. What is sexual reproduction?

1. Why do offspring that result from sexual reproduction show variation? (How do they look compared to their parents and siblings?)
2. What are the advantages of being slightly different from parents?
3. How do offspring that result from Asexual reproduction compare to their parents and to each other?
4. In what ways can this be good, in what ways can it be bad?
5. Compare mitosis and meiosis. Must include the type of cells that are made, where it happens, number of chromosomes human cells have at the end of each process and at least one thing that they have in common.

7.L.2.2- Infer patterns of heredity using information from Punnett squares and pedigree analysis. **DUE FRIDAY 5/26**

 = Huntington Disease

1. Which members of the family above are affected with Huntington’s Disease? **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

2. There are no carriers for Huntington’s Disease- you either have it or you don’t.

With this in mind, is Huntington’s disease caused by a dominant or recessive trait? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. How many children did individuals I-1 and I-2 have? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. How many girls did II-1 and II-2 have? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ How many have Huntington’s Disease? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. How are individuals III-2 and II-4 related? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ I-2 and III-5? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examine the following Punnett Squares showing genetic crosses of peas. Fill in the punnett squares. Give the number of each phenotype below each square. Then answer the questions below. T = tall t = short

A. TT x tt B. TT x Tt C. Tt x Tt D. Tt x tt



Tall:

Short:

1. Which cross is between pure dominant and pure recessive parents?
2. Which cross is between two heterozygous parents?
3. Which crosses will produce all tall peas?
4. Which crosses will produce two short peas?
5. Which crosses have only one heterozygous parent?
6. Which cross is between a homozygous recessive parent and a heterozygous parent?