**A** is Atmosphere.

* Identify the main gases in Earth’s atmosphere and the percentage of each.
* How does air pressure and gas density change as altitude increases.

**B** is for Balanced and Unbalanced Forces.

* What kind of motion results from balanced forces? (two answers)
* What kind of motion results from unbalanced forces?
* Write a net force problem that shows a balanced force.
* Write a net force problem that shows an unbalanced force.
* Describe the effect friction and gravity have on an object.

**C** is for Cells.

* Create a table with three columns. List the 14 main structures (organelles) found in plant and animal cells, the functions of each structure and whether they are found in plant cells or animal cells.
* List the characteristics of Prokaryotic and Eukaryotic Cells.

**D** is for Digestive and Excretory Systems.

* Describe the function of the digestive system.
* Describe the path food travels through the digestive system
* How does the circulatory system work with the digestive and respiratory systems to provide the essentials for cellular survival?
* Identify the four systems that help maintain homeostasis by removing wastes from the body and the wastes each removes.

**E** is for Energy.

* List the forms of potential and kinetic energy.
* Give two specific examples of energy transformations (for example chemical to mechanical).

**F** is for Fronts, Air Masses and Pressure Systems.

* Describe the temperature and humidity of maritime tropical, maritime polar, continental tropical and continental polar.
* Create a table with four columns and list the four types of fronts in each column.
* Draw a picture that shows the air masses involved in each front.
* Describe the weather associated with each of the fronts.
* Draw the symbol associated with each front in the correct color.
* What type of weather is associated with high and low pressure systems?

**G** is for Genetics.

* Create a table to compare and contrast mitosis and meiosis - include the number and type of cells created, the number of chromosomes in the cells created and the purpose of each.
* Get a Comparison Chart for Asexual and Sexual Reproduction to complete and glue on this page.

**H** is for Heredity.

* Define Punnett square, allele, genotype, phenotype, homozygous, heterozygous and pedigree.
* Draw an example of a Punnett square and identify the genotypes, phenotypes and percentages of each.
* Create a pedigree for the following: Joe and Sue have three children (1 boy and 2 girls). Joe’s parents are Sam and Mary. Sue’s parents are Clyde and Emily. Clyde, Sue and her son all have the disorder.

**I** is for Impact of Environmental and Lifestyle Choices on Human Health and Genetics.

* Identify if the following factors that affect human health are environmental, genetic or lifestyle choices: smoking, grandfather died of heart disease at 52, air pollution, daily diet of fast food, Down Syndrome, secondhand smoke.

**J** is for Jet Stream, Global Winds and Convection.

* What causes wind? (Include the terms temperature, pressure and convection current in your answer.)
* Describe how the jet stream and which global winds affect our weather in North Carolina.
* Draw pictures to explain a sea breeze and a land breeze.

**K** is for Kinetic and Potential Energy

* Draw a pendulum and label the transfer of potential and kinetic energy in at least three locations.

**L** is for Layers of the Atmosphere.

* Create a table with four columns. Label the layers of the atmosphere in order from Earth.
* Label the next three columns, changes in temperature, changes in air pressure and two important characteristics. Complete the table.
* How are the layers of the atmosphere primarily classified?
* Where is the ozone layer found? What is the chemical abbreviation for ozone? How is ozone helpful and how is it harmful?

**M** is for Magnetism and Electricity.

* Describe and illustrate the lines of force that occur when north and south poles of a magnet are placed close together and the lines of force that occur when two like poles are placed close together.
* Explain what is required for current to flow through an electrical circuit. Illustrate a closed and open circuit.

**N** is for Natural Disasters.

* Describe what causes hurricanes, tornadoes and thunderstorms.
* Describe three characteristics of each of the three storms.
* Explain the systems used to measure or rate hurricanes and tornadoes.

**O** is for Organization of Multi-cellular Organisms.

* List the levels of organization of multi-cellular organisms from cells to organisms.
* Illustrate and provide an example of each level of organization.

**P** is for Predicting Weather.

* What are three simple tools and three technology based tools that are used for predicting weather.
* Explain the front and pressure symbols and the related weather patterns?



**Q** is for Quality of Air.

* Describe three human actions that can lead to poor air quality.
* Explain two actions that humans can perform to be good stewards of our air.
* Explain the purpose of the EPA.

**R** is for Respiratory System and Circulatory System.

* Describe the function of the respiratory system.
* Describe the path air takes through the respiratory system.
* Describe the function of the circulatory system.
* Describe the path blood flows through the heart.
* Describe how the circulatory and respiratory systems work together.

**S** is for Simple Machines.

* Identify the six types of simple machines and give an everyday example of each one.
* How do simple machines make work easier?

**T** is for Types of Clouds.

* Describe the shape, elevation (high, middle or low) and weather for each of the following cloud types: Cumulus, Cirrus, Stratus, Cumulonimbus, and Nimbostratus.

**U** is for Unicellular.

* Draw an Amoeba, Euglena, Paramecium and Volvox.
* Label each drawing and identify how each one moves and obtains food.

**V** is for Velocity, Speed, Acceleration, Motion and Frame or Point of Reference.

* Describe how you can tell if an object is in motion using frame of reference.
* Differentiate between velocity and speed.
* Write the formulas for speed and acceleration.

**W** is for Water Cycle.

* Draw and label the stages of the water cycle.
* Explain the temperatures necessary for each type of precipitation to form (hail, sleet, snow, freezing rain, rain).

**X**, **Y** and **Z** are for X-axis, Y-axis and Zero on a Graph.

* Draw and clearly **label** a graph that shows the following information:
* Y-axis shows distance in meters; X-axis shows time in seconds
* Plot the following points; (0,2) (2,4) (3,5) (4,6) (6,10) (7,13) (8,17) (10,17) (11, 14) (12, 8)
* Using a red marker, label your graph to show where the object was traveling at a constant speed.
* Using a blue marker, label your graph to show when the object was accelerating.
* Using a green marker, label your graph to show when the object is not moving.
* What was the object doing between 10 and 12 seconds?
* If this was a speed vs. time graph, which axis would the speed be on?
* Look at the area you labeled in red. What would this part of the graph tell you if it were a speed vs. time graph?
* Look at the area you labeled in blue. What would this part of the graph tell you if it were a speed vs. time graph?
* Look at the area you labeled in green. What would this part of the graph tell you if it were a speed vs. time graph?

