

Parent Learning Calendar



Quarter 1	
Skills	Activities
Form questions based on observations that lead to a hypothesis.	<ul style="list-style-type: none"> ➤ Ask your child to come up with questions about something they want to know more about and have them use what they know about it to come up with an answer.
Explain the purposes of cell division: growth and repair, reproduction	<ul style="list-style-type: none"> ➤ Ask your child why it is important for cells to grow and repair (after a sunburn, muscles get stronger after a workout) or reproduce (when bones get longer so people are taller, more skin cells to cover a bigger body).
Distinguish between dominant and recessive traits in humans.	<ul style="list-style-type: none"> ➤ Have your child look at family members to see which traits are most common (hair color, eye color, skin color, curly hair). Dominant traits like brown hair, brown eyes, dark skin, and straight hair are dominant so more people will have them than recessive traits like blonde hair, blue eyes, pale skin, or curly hair.
Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment	<ul style="list-style-type: none"> ➤ Ask your child what they do to stay comfortable when it is very hot, cold, windy or wet outside. ➤ Have your child explain what animals do when it is hot, cold or wet outside (stay out of the sun, find a cool/dry cave, grow a fur coat, etc.).
Explain how an organism's behavior allows it to survive in an environment	<ul style="list-style-type: none"> ➤ Ask your child what different animals native to Bullhead City do to survive (snakes, owls, bats, lizards, quail, roadrunners, coyotes, etc.).
Describe the following factors that allow for the survival of living organisms: protective coloration, beak design	<ul style="list-style-type: none"> ➤ Have your child look up pictures of animals whose fur, scales or feathers match their surroundings so they can hide (zebras, snakes, chameleons, or other animals). ➤ Next time your child is at a pet store or zoo, have him or her look at the different beaks on birds and think about what different foods that animal might eat in the wild based on their beak shape.
Analyze the following behavioral cycles of organisms: hibernation, migration, dormancy in plants	<ul style="list-style-type: none"> ➤ Ask your child to look up different animals that change their behavior in different seasons (bears hibernating in winter, monarch butterflies or Canada geese migrating, trees or bushes going dormant by losing their leaves or dropping their fruit).
Describe the following factors that allow for the survival of living organisms: seed dispersal, pollination	<ul style="list-style-type: none"> ➤ Have your child research how different plants (flowering plants or trees, pines, ferns) get pollinated (by wind, bees, moths, bats, using colors, shapes or smells in the flowers or cones) or disperse seeds (cones, flowers, fruit, etc.).
Compare the symbiotic and competitive relationships in organisms within an ecosystem (e.g., lichen, mistletoe/tree, clownfish/sea anemone, native/non-native species)	<ul style="list-style-type: none"> ➤ Have your child look up symbiotic organisms and tell you how each organisms benefits (birds on a rhino, clownfish in an anemone, fish on a blue whale for example). ➤ Have your child look up competitive relationships and explain how the stronger organisms take over (zebra mussels in the Great Lakes, rabbits in Australia, kudzu in the United States).
Design an experiment to test variables using the scientific process.	<ul style="list-style-type: none"> ➤ Have your child cook a simple dish, like macaroni and cheese, but change the amount of one ingredient each time and see how the taste of the food changes. ➤ Buy a few cans of different brands of a food or drink (like soda) and have the child ask family which one they like best (make sure to not tell the person which brand is which until after they taste it).
Explain the basic principles of heredity using the human examples of: eye color, blood type, widow's peak	<ul style="list-style-type: none"> ➤ Have your child make a family tree that goes back to their grandparents and mark down each person's eye color, blood type and if they have a widow's peak at their hairline to see what traits are most common in the family. Many traits will be the same from parent to child.



Quarter 2	
Skills	Activities
Design an experiment to test variables using the scientific process.	<ul style="list-style-type: none"> ➤ Have your child cook a simple dish, like macaroni and cheese, but change the amount of one ingredient each time and see how the taste of the food changes. ➤ Buy a few cans of different brands of a food or drink (like soda) and have the child ask family which one they like best (make sure to not tell the person which brand is which until after they taste it).
Explain the basic principles of heredity using the human examples of: eye color, blood type, widow's peak	<ul style="list-style-type: none"> ➤ Have your child make a family tree that goes back to their grandparents and mark down each person's eye color, blood type and if they have a widow's peak at their hairline to see what traits are most common in the family. Many traits will be the same from parent to child.
Identify different kinds of matter based on density (how close together the molecules are)	<ul style="list-style-type: none"> ➤ Take a bucket of water and objects that will not be damaged by water. Have your child predict what will float and what will sink and have them test to see if they are correct (the ones that float are less dense than water and the ones that sink are denser than water). ➤ In a 16 or 20 oz. water or soda bottle, take off the label and rinse out the bottle. Put in 4oz of water with food coloring. Add 4 oz. of other liquids <i>slowly</i> (vegetable oil, and corn syrup work well). Have them predict before they pour whether the liquids will go above or below the ones in the bottle. Less dense liquids will be at the top.
Identify different kinds of matter based on states (solid, liquid or gas)	<ul style="list-style-type: none"> ➤ Have your child identify the items on the table at dinner as solids, liquids or gases and ask them how they know what the state of matter is.
Identify different kinds of matter based on their boiling point	<ul style="list-style-type: none"> ➤ If you have a cooking thermometer, have them bring a few different liquids to boil (under adult supervision) and have them keep track of the temperature the liquid was when it boiled. Ask the child why they think liquids boil at different temperatures.
Identify different kinds of matter based on their melting point	<ul style="list-style-type: none"> ➤ Place a few ice cubes on one plate, an equal amount of ice cream or popsicles on other plates. Compare how long it takes for each frozen food to melt and ask them why they didn't melt at the same rate.
Identify different kinds of matter based on solubility (how easily something can be dissolved in it)	<ul style="list-style-type: none"> ➤ Have your child take a glass of water and see how much sugar can be dissolved (stir in sugar until it starts to settle to the bottom) in it. Take the same amount of milk, vinegar or other liquid and see if more or less sugar can be dissolved in each of the liquids. Ask them why they think each liquid dissolved different amounts of sugar.
Identify different kinds of matter based on pH (how acidic or basic something is)	<ul style="list-style-type: none"> ➤ Under adult supervision, have the child mix one part fresh red cabbage and 2 parts boiling water in a blender. Strain the mixture and use the liquid to test substances around the house by putting small amounts of substances in small cups of the liquid. Acidic substances will turn the indicator liquid reddish and bases will turn the indicator liquid blue or yellow-green.
Identify evidence that a chemical reaction has occurred: generation of gas	<ul style="list-style-type: none"> ➤ Have your child pour ¼ cup of baking soda in a small water bottle. Have him or her add ½ cup of vinegar to the water bottle and quickly cover the top with a balloon. Watch what happens to the balloon and observe what happened to the original ingredients (materials can't go back to their original state in a chemical change/reaction).
Identify different kinds of matter based on: oxidation (corrosion or rust)	<ul style="list-style-type: none"> ➤ Have your child look in the garage or shed and find an object with rust on it (bicycle, lawnmower, etc.). Have them explain why some parts of the object have rusted and not others (parts that rust will have iron in them).



Quarter 3 +	
Skills	Activities
Investigate how the transfer of energy can affect the physical and chemical properties of matter	<ul style="list-style-type: none"> ➤ While cooking, ask your child to explain how foods change when they are heated (scrambled eggs, hamburgers, pancakes, a cake) or frozen.
Explain the organization of the periodic table	<ul style="list-style-type: none"> ➤ Print out a copy of the periodic table and then put it back together like a puzzle. ➤ Use index cards to make flashcards of the first 20 elements. Place the symbol of the element of the table, the name of the element, its' atomic number and its' family and period.
Classify matter in terms of elements, compound (a pure substance that contains two or more elements) or mixtures (a combination of substances that can be separated easily)	<ul style="list-style-type: none"> ➤ Have your child look through a kitchen cabinet and classify the foods as a compound (salt, water) or a mixture (cereal with marshmallows, trail mix, candy).
Classify mixtures as being homogeneous (where substance are evenly mixed) or heterogeneous (where the different parts are not evenly mixed)	<ul style="list-style-type: none"> ➤ Supervise your child as they make cake. Have them notice that before the ingredients are mixed together, they can identify them (eggs, cake mix, oil, water) (heterogeneous) and then after mixing the batter is all one substance (homogeneous). This can be done with other foods also (trail mix- heterogeneous- vs. potato chips- homogeneous).
Demonstrate velocity as the rate of change of position over time	<ul style="list-style-type: none"> ➤ Take a walk around the block with your child, being sure to walk at a constant speed. Then do the same walk at a faster pace. Compare how long it took you each time to complete the walk. The faster the walk, the greater your velocity.
An object at rest will stay at rest (not moving) and an object in motion will keep moving, until a force acts on it. (Newton's 1 st Law of Motion)	<ul style="list-style-type: none"> ➤ Place a rock in a plastic cup on a table cloth. Quickly pull the tablecloth out from under the cup. The cup should stay on the table because the force (your pull) was on the tablecloth, not the cup, which was at rest. ➤ Place a block on a toy car or truck. Push them quickly and then stop the truck. The block will keep going forward because nothing is stopping its' motion. ➤ Place the block on the toy car again. This time give the car a push but not the block. The car will go forward but the block will fall off and stay there since it is at rest and no force (no push) acted on it.
Force equals mass x acceleration (Newton's 2 nd Law of Motion)	<ul style="list-style-type: none"> ➤ Outside, have your child throw a few different kinds of balls at the same speed to you or someone else (not so fast that the person catching the balls will be hurt). Ask the person catching which ones hit their hand hardest (with the most force). They should see that the heavier balls hit the catcher's hand harder.
For every action there is an equal and opposite reaction (Newton's 3 rd Law of Motion)	<ul style="list-style-type: none"> ➤ Have your child inflate a balloon but not tie it closed. When they let go of the balloon, the balloon is propelled forward with the same force as the air is pushed out of the back of the balloon.