St. Raphael the Archangel
Science

6th Grade 2017-2018

Living Organisms

1. **Compare and contrast the following plant and animal cell structures: cell membrane, nucleus, cell wall, chloroplast, and cytoplasm.**
2. **Understand the difference between sexual and asexual reproduction.**
3. **Describe the common life processes necessary to the survival of organisms (i.e., growth, reproduction, life span, response to stimuli, energy use, exchange of gases, use of water, elimination of waste).**
4. **Identify examples of sexual and asexual reproduction (i.e., plants budding, binary fission, conjugation, etc).**

Ecology

1. **Classify populations of unicellular and multicellular organisms as producers, consumers, and decomposers by the role they serve in the ecosystem.**
2. **Describe the processes involved in the recycling of matter in our environment including the carbon dioxide, water and nitrogen cycles.**
3. **Predict how certain adaptations, such as behavior, body structure, or coloration, may offer a survival advantage to an organism in a particular environment.**
4. **Predict the possible effects of changes in the number and types of organisms in an ecosystem on the populations of other organisms within that ecosystem.**

Earth's Systems

1. **Describe how the Earth's surface changes through the activity of floods, rock/mudslides, earthquakes, or volcanoes, and the resultant primary or secondary succession.**
2. **Describe the effect of human activities (e.g., landfills, use of fertilizers and herbicides, farming, septic systems) on the quality of water.**
3. **Relate the comparative amounts of freshwater and salt water on the Earth to the availability of water as a resource for living organisms and human activity.**
4. **Identify greenhouse gasses and their sources, and relate the effect that changing amounts of these gasses can have on climate.**

Scientific Inquiry

1. **Formulate testable questions and hypotheses.**
2. **Identify dependent, independent, and controlled variables.**
3. **Communicate the procedures and results of investigations through oral presentations, drawings, data tables, graphs, and writings.**
4. **Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, force (weight) to the nearest Newton, time to the nearest second.**
5. **Use data as support for observed patterns and relationships, and to make predictions to be tested.**
6. **Use quantitative and qualitative data as support for reasonable explanations (conclusions).**