Kenmore-Tonawanda Union Free School District
1500 Colvin Blvd
Buffalo, NY 14223-3119

Science - Grade 2

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Options	Standards	Essential Questions	Content	Skills	Suggested Resources	Assessment
		Unit A Life Science **Suggested Time: 8-9 Weeks (3-5 lessons/week)This unit involves the most assessed topics in the NYS standards. Please be aware that the Butterfly life cycle is the last inquiry of the unit. Remember to send in coupon in a timely manner! Of the four units, this is the longest.**				
		How do plants live in their habitats?	ways seeds travel how plants are grouped plant adaptations	Identify parts of plant- roots, stem, leaves, flower on a diagram. Identify ways seeds are scattered - water, air, animals Identify characteristics of plants Classify plants into groups Describe plant adaptations for different habitats	Directed Inquiry: Do plants need water Lesson 1: Parts of a Plant Lesson 2: How are seeds scattered Lesson 3: How are plants grouped Lessons 4-7: These lessons could be combined. The concept of adaptation is the focus. Guided Inquiry: Do Plants need Light?	
		How are animals different from each other?	animals with backbones animal adaptations animals without backbones	Identify animals with backbones Distinguish between mammals, birds, fish, reptiles, amphibians based on adaptations, structural characteristics and diet. Identify animals without backbones	Directed Inquiry: Compare Worms and Snakes Lessons 1 and 7: Overview of vertebrate/non-vertebrate Lessons 2-6: These	

					lessons can be combined. Animal adaptation as a concept is the focus Guided Inquiry: How can octopus use its arms?	
		How do living things help each other?	needs of plants and animals how plants and animals get food changes in food webs how plants and animals depend on each other	Identify the basic needs of all living things Define a food web and its parts. Identify food webs in different habitats Identify examples of how plants, animals and humans depend on one another	Directed Inquiry: What does yeast need to grow? (Tip: Use very warm water or heat on the overhead projector) Lesson 1: What do plants and animals need? Lesson 2-4: Food Webs (This is a heavily tested topic,be careful to emphasize arrow direction in chains and webs, emphasize Decomposer a term not covered in the text) Lesson 5: How do plants and animals help each other Guided Inquiry: Model a food web	
		How do living things grow in different ways?	Growth and Development of Sea Life, Insects and Mammals young animals are like parents life cycle of a flowering plant (bean, pea, corn) young plants are like parents people grow and change	Compare life cycle stages for mammals, insects and reptiles Identify similar characteristics and individual differences of animal parents and offspring Identify changes in plants during their life cycle Compare and contrast plant parents and offspring Identifiy similar characteristics and individual differences of human parents and offspring Define the following - nutrients roots stem leaves flower environment adaptation producer consumer food chain food web predator prey life cycle nymph seedcoat germinate seedling	Lessons 1,2,3: The concept of life cycle should be stressed. The insect life cycle is most often on the NYS assessment Lesson 4: Young animals like their parents? Lesson 5: Plant Life Cycle. This chapter has vital vocab: germinate, seedling, seed coat Lesson 6/7: General exposure to growth and change Guided Inquiry: How does a Caterpillar Change. (Pre-set up is necessary!)	

		Earth Science Time Suggestion: 3-5 weeks (3-5 lessons/week) Note: Rocks and minerals are not stressed on the NYS Assessment, nor are fossils/dinosaurs. These subjects are not part of the Kenmore Core Curriculum.				
		What is a resource?	natural resources how people use plants how earth changes	Define natural resource Identify sunlight, water,air,forest,coal and oil as natural resources Compare and contrast materials in physical environment Identify four uses for plants Describe ways the earth changes Identify ways in which humans affect the environment Determine ways humans positively or negatively affect the environment.	Lesson 1: What are natural resources? Lesson 2: Observation of Rock, Minerals, and Soil Lesson 3: How do people use plants? Lesson 4: How does earth change? Lesson 5: How can people protect the earth? Guided Inquiry: How do worms change the soil?	
		How does weather change?	kinds of weather the water cycle the seasons kinds of bad weather	Identify weather patterns Identify the steps in the water cycle Compare and contrast the weather patterns for winter,spring,summer,fall Define the following: natural resource sand erosion weathering pollution recycle water cycle evaporate condensation migrate hibernate lightning tornado hurricane	Identify weather patterns Identify the steps in the water cycle Compare and contrast the weather patterns for winter,spring,summer,fall Lesson 7: Some types of bad weather	
		Physical Science Time Suggestion: 6-8 weeks (3-5 lessons per week) This unit does have magnetism, an important topic for the NYS assessment.				
		What are some properties of matter?	properties of matter	Describe, compare and classify matter by its properties	Directed Inquiry: Oil mixed with water	

			states of matter changing matter cooling and heating matter	Describe properties of solids,liquids, gases Identify physical changes in matter including: mold,fold,tear,bend. Identify states of matter and how they are affected by heating or cooling	Lesson 1: What is matter? Lesson 2: What are the states of matter? Lesson 3: How can matter be changed? Lesson 4: How do cooling and heating affect matter? Guided Inquiry: How can water change?
		What are some kinds of energy?	energy living things use energy heat sources light energy other kinds of energy	Identify heat sources on earth: friction,solar,nuclear,electric energy Identify ways energy and matter interact; Determine that metal is a conductor of heat Identify the way light travels. State materials light can travels through. Write several sentences describing shadow formation Identify motion,wind,sound,electricity as forms of energy	Directed Inquiry: Which color heats faster? Lesson 1: What is energy? Lesson 2: How do living things use energy? Lesson 3: What are some sources of heat? Lesson 4: This lesson is important background for both inquiries Lesson 5: What are other kinds of energy?
		How do forces cause motion?	how objects move what is work changing the way things move simple machines magnets	Identify kinds of motion Define force as the energy exerted to move objects Define work as a function of force and motion Explain how the amount and direction of force determines the movement of an object Identify simple machines and their necessity to life : wedge,screw,lever,wheel/axle,pulley,inclined plane Observe that magnets can attract (pull) and repel (push) objects Define the following: mass property states of matter solid liquid gas mixture energy reflect shadow	Directed Inquiry: How can you measure force? Lesson 1: How do objects move? Lesson 2: What is work? Lesson 3: How can you change the way things move? Lesson 4: Simple Machines Lesson 5: What are magnets? Guided Inquiry :What can magnets do? (This is a performance topic on the NYS Assessment)

				motion force gravity work friction simple machine attract	Take it to the Net Sci Link Force Links - -Magnets and Springs -Forces in Action -Gravity and Friction -Forces and Movement -Pushes and Pulls -Background Info on Simple Machines	
					Take it to the Net Games - Physical Science Ch. 8 -Comparing Weights Ch. 10 -Measuring Motion -Transfer of Motion -What a Magnet Attracts	
					Scott Foresman Unit C Performance Test Observe Solids, Liquids, Gases	
		Space Time Suggestion: 2-3 weeks (3-5 lessons per week) Note: Technology is not a core curriculum topic.				
		What are some ways the Earth moves?	the sun day and night seasons change night sky changes in the moon the solar system	Identify characteristics of the sun and its importance to Earth Explain that Earth's rotation is 24 hours Define sunrise and sunset and determine their "causes". Explain how earth's orbit around the sun causes seasonal changes State that stars and constellations are always in the sky Identify the moon's source of light Identify that the moon has phases Determine the parts of the solar system Definethe following: rotation orbit crater	Directed Inquiry: What causes day and night? Lesson 1: What is the Sun? Lesson 2: What causes day and night? Lesson 3: What causes the seasons to change? Lesson 4: What can you see in the night sky? Lesson 5: Why does the moon seem to change? Lesson 6: What is the solar system?	

				phase solar system		

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