Life Science Item Summary

Content Categories	Standards			KNOWLEDGE TYPES				
	S	T	A	Declarative	Science Inquiry	Schematic	Pedagogical	STS
1. Structure/Function of Living Systems								
a. complimentary nature of structure and function	5	3	8					
increase in complexity: cell-tissue-organ	5	3	8					
b. Cells	5	3	8					
c. animal organ systems	5	3	8					
d. plant organ systems	5	3	8					
e. cellular communication (hormones) immune system and disease fighting	5	3	8					
2. Regulation and Behavior								
a. obtain and use resources (autotrophy vs. heterotrophy),	5	3	8					
consumer, decomposer, mutualism	5	3	8					
b. organisms convert energy ,(Photosythesis,	5	3	8					
espiration, & metabolism)	5	3	8					
c. homeostasis; behavior from cellular to organismic levels	5	3	8					
3. Reproduction and Heredity, Diversity and Adaptation of Organisms								
a. plant and animal reproduction (sexual & asexual)	5	3	8					
b. genetics	5	3	8					
c. fitness and survival (nature vs. nurture)	5	3	8					
adaptations, change over time (evolution),	5	3	8					
extinction								
d. Taxonomy	5	2	7					
4. Ecology/Populations								
a. cycling of nature; consumer, decomposer, mutualism	5	3	8					
b. biomes/ ecosystems	5	3	8					
c. conservation and protecting the environment	5	3	8					

MIDDLE GRADES LIFE SCIENCE CONTENT CATEGORIES AND CHOSEN CELLS FOR TESTS

Content Categories	Standards			KNOWLEDGE TYPES				
	S	T	A	Declarative	Science Inquiry	Schematic	Pedagogical	STS
1. Structure/Function of Living Systems								
a. complimentary nature of structure and function	5	3	8	I-1a-3identify teeth and function I-1a-2 identify cell wall in plant				
increase in complexity: cell-tissue-organ	5	3	8	I-1a-1 levels of organization of organism				
b. Cells	5	3	8		II-1b-1 Use correct microsope magnification II-1b-2 Use correct magnification to observe cells II-1b-3 Recognize use of microtome II-1b-4 Recognize need for cell staining. II-1b-5 Identify uses of lower microscope magnification.			
c. animal organ systems	5	3	8					
d. plant organ systems	5	3	8				IV-1d-1 describe inquiry-oriented lesson about plant nutirtion.	
e. cellular communication (hormones) immune system and disease fighting	5	3	8				IV-1e-Address misconceptions about germs.	
2. Regulation and Behavior								
a. obtain and use resources (autotrophy vs. heterotrophy),	5	3	8	I-2a-2 explain vitamin consumption		III-2a-1 Differentiate between growth of crystals and orgamisms. III-2a-2 Predict consequences of transplanting plants.		
consumer, decomposer, mutualism	5	3	8	I-2a-1 Describe Parasitism I-2a-3 Identify parasitism				
b. organisms convert energy ,(Photosythesis, espiration, & metabolism)	5 5	3 3	8 8	I-2b-1 identify reactant in photosynthesis I-2b-3 identify reactant in photosynthesis I-2b-2 Describe ribosomes function I-2b-4 identify source of oxygen in photosynthesis I-2b-5 gas released by green plant in photosynthesis I-2b-6 Identify respiration process II-2b-7 Identify semi-permeable membrane in osmosis demonstration	II-2b-1 design grass-mowing experiment. II-2b-2 Evaluate evidence for photosynthesis.			
c. homeostasis; behavior from cellular to organismic levels	5	3	8					

Life Science Item Summary

3. Reproduction and Heredity, Diversity and Adaptation of Organisms								
a. plant and animal reproduction (sexual & asexual)	5	3	8					
b. genetics	5	3	8	I-3b-1 describe phenotype I-3b-2 describe "sex-linked" I-3b-3 identify an effect of mutations I-3b-4 Identify F1 genotype of cross of truebreeding plants for two traits				
c. fitness and survival (nature vs. nurture) adaptations, change over time (evolution), extinction	5 5	3 3	8 8			III-3c-1 explain resistance in next generation of bacteria. III-3c-2 Esplain beetle resistance to insecticide. III-3c-3 Identify Darwin's explanation for differrent species. III-3c-4 Analyze confirmation of statement about species succession.	IV-3c-1 Misconception regarding acquisition of acquired characteristics..	
d. Taxonomy	5	2	7		II-3d-1 Identify order of taxonomic categories. II-3d-2 Identify importance of different characteristics in taxonomy.			
4. Ecology/Populations								
a. cycling of nature; consumer, decomposer, mutualism	5	3	8			[not completed]		
b. biomes/ ecosystems	5	3	8			III-4b-1 Identify an example of a community. III-4b-2 Identify biome with greatest species diversity.		
c. conservation and protecting the environment	5	3	8				IV-4c-1 Address misconception about use of salt water on plants.	