

### Structures of Life Matrix

Concepts	Investigation 1: Origin of Seeds			Investigation 2: Growing Further			Investigation 3: Meet the Crayfish				Investigation 4: Meet the Land Snail				Investigation 5: Bess Beetles			
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4
<b>I. Materials are composed of pure substances</b>																		
A. A property of a material is an observable characteristic such as size and color	m	r																
B. Pure substances have unique physical and chemical properties that identify them																		
1) The properties of a pure substance may be different than the properties of the material in which it is found																		
<b>II. An organism is any living thing</b>			d	m		r	r				r				r			
A. Organisms have similar needs and requirements for life					d			d			d	d			d			
1) Living things require water, reproduce, require energy, exchange gases, produce waste, grow, respond to stimuli, are made of cells, and have life cycles																		
2) Water, light and nutrients are essential for healthy plant growth					m													
a) Plants use water, carbon dioxide and energy from light to make their own food																		
<b>III. An organism's habitat is the place where it lives and can meet all of its requirements for life</b>								m										
A. Sometimes organisms defend a particular part of their habitat against other organisms, that area is the organism's territory									m									
B. Different types of organisms have specific habitat requirements					d			m			r				r			
<b>IV. Organisms have observable structures which have functions that help them survive in their habits</b>			d	d			d				d	m			r	r		
A. The structures found on different kinds of organisms show some similarities and some differences												d				m		
1) Similar structures found on different organisms typically have a similar function												m				r		
<b>V. An organism's behavior is what it does and/or how it responds to something</b>									m	r		r				r		
<b>VI. All organisms have life cycles that involve stages of development, growth, and reproduction, and death</b>						m												
A. The life cycle of a flowering plant is the process of a seed growing into a mature plant, which in turn produces seeds		d				m												
1) The fruit of a flowering plant develops from the flower						m												
a) Seeds develop in the plant part called a fruit	m																	
(i) A seed contains a baby (embryo) plant and cotyledons and has an outer covering called a seed coat			m	r														
(ii) Germination is the onset of the growth of the plant embryo				m														