

## TCAP-ACH Grade 7 Science Framework

<b>Inquiry and Technology &amp; Engineering</b>		%	# of Items
		11-14%	7-9
0707.Inq.1	Design a simple experimental procedure with an identified control and appropriate variables.		
0707.Inq.2	Select tools and procedures needed to conduct a moderately complex experiment.		
0707.Inq.3	Interpret and translate data into a table, graph, or diagram.		
0707.Inq.4	Draw a conclusion that establishes a cause and effect relationship supported by evidence.		
0707.Inq.5	Identify a faulty interpretation of data that is due to bias or experimental error.		
0707.T/E.1	Identify the tools and procedures needed to test the design features of a prototype.		
0707.T/E.2	Evaluate a protocol to determine if the engineering design process was successfully applied.		
0707.T/E.3	Distinguish between the intended benefits and the unintended consequences of a new technology.		
0707.T/E.4	Differentiate between adaptive and assistive engineered products.		
<b>LS 1: Cells, Flow of Matter &amp; Energy</b>		%	# of Items
		22-28%	14-18
0707.1.1	Identify and describe the function of the major plant and animal cell organelles.		
0707.1.2	Interpret a chart to explain the integrated relationships that exist among cells, tissues, organs, and organ systems.		
0707.1.3	Explain the basic functions of a major organ system.		
0707.1.4	Sequence a series of diagrams that depict chromosome movement during plant cell division.		
0707.1.5	Explain how materials move through simple diffusion.		
0707.3.1	Compare the chemical compounds that make up the reactants and products of photosynthesis and respiration.		
0707.3.2	Interpret a diagram to explain how oxygen and carbon dioxide are exchanged between living things and the environment.		
<b>LS 2: Heredity</b>		%	# of Items
		12-19%	8-12
0707.4.1	Classify methods of reproduction as sexual or asexual.		
0707.4.2	Match flower parts with their reproductive functions.		

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0707.4.3	Describe the relationship among genes, chromosomes, and inherited traits.	
0707.4.4	Interpret a Punnett square to predict possible genetic combinations passed from parents to offspring during sexual reproduction.	

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<b>ES: The Earth</b>		<b>%</b>	<b># of Items</b>
		22-28%	14-18
0707.7.1	Use a table of physical properties to classify minerals.		
0707.7.2	Label a diagram that depicts the three different rock types.		
0707.7.3	Identify the major processes that drive the rock cycle.		
0707.7.4	Differentiate among the characteristics of the earth's three layers.		
0707.7.5	Recognize that lithospheric plates on the scale of continents and oceans continually move at rates of centimeters per year.		
0707.7.6	Describe the relationship between plate movements and earthquakes, mountain building, volcanoes, and sea floor spreading.		
0707.7.7	Analyze and evaluate the impact of man's use of earth's land, water, and atmospheric resources.		
<b>PS: Motion</b>		<b>%</b>	<b># of Items</b>
		19-25%	12-16
0707.11.1	Differentiate between the six simple machines.		
0707.11.2	Determine the amount of force needed to do work using different simple machines.		
0707.11.3	Apply proper equations to solve basic problems pertaining to distance, time, speed, and velocity.		
0707.11.4	Identify and explain how Newton's laws of motion relate to the movement of objects.		
0707.11.5	Compare and contrast the different parts of a wave.		
0707.11.6	Differentiate between transverse and longitudinal waves in terms of how they are produced and transmitted.		