8th Grade AP Science Curriculum

Concept	Content (DCI)	Science and Engineering practices (SEP)	Assessment	Crosscutting concepts (CC)	Standard

From Molecules to Organisms: Structures and Process
 	
Heredity: Inheritance and Variation of Traits
	• cell structure
	• cell functions
	    ○ diffusion
	    ○ osmosis
	    ○ cellular respiration
	    ○ photosynthesis
	• multicellular function
	• maintenance of homeostasis
	• DNA to protein
	• DNA to chromosome to inheritance
	• genetic variation
	• probability of genetic transmission
		• asking questions and defining problems
		• analyzing and interpreting data
		• plan and carry out investigations
		• develop and use models
		• constructing explanations and design solutions
		• engaging in argument from evidence
			• test/quizzes
			• labs/student directed investigations
			• diffusion and osmosis models
			• respiration model
			• photosynthesis model
			• discussions/feedback
				• cause and effect
				• energy and matter
				• structure and function
				• systems and system models
				• stability and change
					Middle School
					• MS LS1 – 1
					• MS LS1 – 2
					• MS LS1 – 6
					• MS LS1 – 7
					
					High School
					• HS LS1 – 1
					• HS LS1 – 2
					• HS LS1 – 3
					• HS LS1 – 5
					• HS LS1 – 7
					• HS LS3 – 1
					• HS LS3 – 2
					• HS LS3 – 3

For more information on DCI or Disciplinary Core Ideas:
https://www.nextgenscience.org/sites/default/files/resource/files/AppendixE-ProgressionswithinNGSS-061617.pdf

For more information on Science and Engineering Practices:
http://www.nextgenscience.org/sites/ngss/files/Appendix%20F%20%20Science%20and%20Engineering%20Practices%20in%20the%20NGSS%20-%20FINAL%20060513.pdf

For more information on the Next Generation Science Standards:
Middle School:
http://www.nextgenscience.org/msls1-molecules-organisms-structures-processes

High School:

http://www.nextgenscience.org/hsls1-molecules-organisms-structures-processes