

## Content Standards: 9-12

PS = Physical Science    B = Biology    AB = Advanced Biology    C = Chemistry  
 EC = Environmental Chemistry    P = Physics    FB = Fundamentals of Biology

As a result of activities in grades 9-12, all students should develop:	<b>*Numbers on grid represent units*</b>				
	9	10	11	12	State Standards
A.1 Abilities necessary to do scientific inquiry	PS 1-25	B1-7, 10 FB 1-10	C1-5, 7-17 EC 1-14	P1-6 AB 1-9,29-33, 38-43	C12 (1-7)
A.2 Understandings about scientific inquiry	PS 1-25	B1-7, 10 FB 1-10	C1-18 EC 3,5, 6,11,12	P1-6 AB 1-9,29-33, 38-43	C12 (1-7)
B.1 Structure of atoms	PS 10	B1-10 FB 1	C1,3-7,12 13,15,17 EC 9	P5,6 AB 1-9	D12 (1-3)
B.2 Structure and properties of matter	PS 8-14,17 24	B1, 3, 4, 7 FB 1	C1-8,10-12,14-18 EC 3,9	P2-6 AB 1-9	D12 (1-3)
B.3 Chemical reaction	PS 16, 17	B1- 3,7,10 FB 1, 3	C1,4-7,9-12,14-18 EC 7,9, 11,13	AB 1-9	D12 (4-6)
B.4 Motions and forces	PS 3-5,7, 21,22	B6, 7, 10 FB 2, 3, 6	C2-7,11-13,16-18 EC 3, 13	P2,4,5,6 AB 1-9,29-33,38-43	D12 (7-9)
B.5 Conservation of energy and increase in disorder	PS 5, 25	B 5 FB 10	C2,9,11, 12,16,18 EC 3	P2-6 AB 1-9,29-33,38-43	D12 (10)
B.6 Interactions of energy and matter	PS 18, 19, 20, 21	B1,2,5,6,10 FB 1,2,6,10	C1-7,9,11-14,16-18 EC 3	P2-6	D12 (11-12)
C.1 The cell	PS 11, 13, 24	B1-4,6,7,10 FB 1-6,8-10	EC 1-14	P6 AB 1-9,29-33, 38-43	F12 (1-2)
C.2 Molecular basis of heredity	PS 13, 24	B1, 2, 3, 4 FB 1, 8	EC 9	AB 9	F12 (3-4)
C.3 Biological evolution	PS 1, 4, 24	B1-7 FB 1-5, 9	EC 6		F12 (5-6)

	9	10	11	12	State Standards
C.4 Interdependence of organism	PS 13	B1, 2, 4-7 FB 1,2,4,10	EC 2,3,6	AB 1-9,29-33,38-43	F12 (7-8)
C.5 Matter, energy, and organization in living systems	PS 5-7, 10, 11, 13, 16-20,24	B1-7, 10 FB 1-3,6, 8-10	C1-18 EC 2,3,6	P2-5 AB 1-9,29-33,38-43	F12 (9-11)
C.6 Behavior of organism	PS 5,6,11, 13	B 10 FB 10	EC 1-14	P2, 4, 5	F12 (12)
D.1 Energy in the earth system	PS 5, 6,16 18, 19, 25	B1,2,5-7,10 FB1,2,5,6	EC 2,3,10	P 2, 4, 5	E12 (1)
D.2 Geochemical cycles	PS 9, 14	B1, 5, 6, 7 FB1,2,3,10	C7 EC 3, 4	P 5	E12 (2)
D.3 Origin and evolution of the earth system	PS 3, 20, 24	B3,4,5,7,10 FB 6,8,9,10	EC 2,3	P1, 2, 6	E12 (3-5)
D.4 Origin and evolution of the universe	PS 1, 20, 24	B3, 4 FB 8, 9	EC 9	P1, 2, 6	E12 (3-5)
E.1 Abilities of technological design	PS 1-25	B1-7, 10 FB 1-3, 6-10 18	C2-5,10, 12,15,17, EC 6,9,10, 14, 15	P1-6	E12 (3-5)
E.2 Understandings about science and technology	PS 1-25	B1-7, 10 FB 1-3,6-10	C2-5,10,12 15,17,18 EC 1-14	P1-6	G12 (1-5)
F.1 Personal and community health	PS 3,5,7-9, 11-25	B3, 6, 10 FB 2, 6, 7	C1,3,4,7,8 10-16,18 EC 1-14	P1,2,4-6 AB 1-9,29-33, 38-43	G12 (1-5)
F.2 Population growth	PS 5,6,8, 11,13,16	B 5, 10 FB 5, 10	EC 5, 6		G12 (1-5)
F.3 Natural resources	PS 5-10,13, 16,17,19,21, 25	B1, 5, 7 FB 1, 10	C1-7,11, 12, 15, 17 EC 1-14	P3, 5	G12 (1-5)
F.4 Environmental quality	PS 5-9,11, 13,15,16,17, 19,21,25	B1, 5, 7 FB 1,3,10	C2,7,10, 12, 14-18 FC 1-14	P5	G12 (1-5)
F.5 Natural and human-induced hazards	PS 3,5,6,8,9 11,13,15-17, 21, 24, 25	B2, 3, 10 FB 1, 6, 8	C15 EC 1-14	P4, 5	G12 (1-5)

	9	10	11	12	State Standards
F.6 Science and technology in local, national, and global challenges	PS 1-25	B1,2,3,4,6 FB 1, 2, 8	C3,4,6-8, 10,12,14, 16-18 EC 1-14	P1,2,4-6 AB 1-9, 29- 33, 38-43	H12 (1-7)
G.1 Science as a human endeavor	PS 1-25	B1-3,5,6,10 FB 1,2,6,10	EC 1-14	P1-6 AB 1-9, 29- 33, 38-43	H12 (1-7)
G.2 Nature of scientific knowledge	PS 1, 10	B1,2,5,7,10 FB 1,2,6,10	C1-7,11-15 17,18 EC 1-14	P1-6 AB 1-9,29- 33, 38-43	H12 (1-7)
G.3 Historical perspectives	PSS3-5,7,8,10,12 14,16,19,21-24	B1-4,6,7,10 FB 1-, 6-9	C1-18 EC 1-14	P1-6 AB 40	H12 (1-7)
UCP1 Systems, order, and organization	PS 1-25	B1-7, 10 FB 1,3,6-10	C11,14,16 EC 2, 3	P1-3,5,6 AB 1-9, 29- 33, 38-43	
UCP2 Evidence, models, and explanation	PS 1-25	B4, 5, 10 FB 5, 6, 9	C 1-18 EC1-14	P 1-6 AB 1-9,29- 33,38-43	
UCP3 Change, constancy, and measurement	PS 1-25	B1-4 FB 1, 8, 9	C1-18 EC 1-14	P1-6 AB 1-9,29- 33, 38-43	
UCP4 Evolution and Equilibrium	PS 3,20,24 FB 2,3,9,10	B4, 5, 6, 7 EC 3.6	C14	P2, 3, 5	
UCP5 Form and Function	PS 1-25	B1-3,6,7,10 FB1,2,3,6,8	EC 1-14	P2-6 AB 1-9	

(UCP = Unifying concepts and processes)