

Appendix A: Alignment of Catalyst Learning Curricula Case Studies with AP Biology College Board Required Standards for Big Idea 1

Big Ideas	Essential Knowledge	Learning Objectives	Hemoglobin						
				AIDS	Diabetes	Cancer	Depression/Addiction	Sonoran Desert	Ants
1	1.A.1.a.		14, 21, 22	X	X	X	X	X	X
1	1.A.1.b.		21, 22	X		X	X	X	X
1	1.A.1.c.		14, 21, 22	X	X	X	X	X	X
1	1.A.1.d.		5, 10, 11, 13, 14, 15, 21, 22	X		X	X	X	X
1	1.A.1.e.		5, 10, 11, 13, 14, 15, 21, 22	X		X	X	X	X
1	1.A.1.f.		11, 12, 21, 22	X	X	X	X	X	X
1	1.A.1.g.		22	X		X	X	X	X
1	1.A.1.h.		22						
		LO 1.1	14, 15, 22						
		LO 1.2	11, 14, 15, 22		X			X	X
		LO 1.32	11, 14, 15, 22	X				X	X
1	1.A.2.a.		4, 5, 6, 10, 13, 14, 15, 22	X	X			X	X
1	1.A.2.b.		11, 12, 14	X	X	X		X	X
1	1.A.2.c.		13, 14, 15, 21, 22	X	X			X	X
1	1.A.2.d.		21	X				X	X
		LO 1.4	22	X					
		LO 1.5	14	X	X			X	X
1	1.A.3.a.		22					X	X
1	1.A.3.b.		23		X			X	X
		LO 1.6	22						
		LO 1.7	22						
		LO 1.8	22						
1	1.A.4.a.		5, 7, 11, 14, 15, 21	X					
1	1.A.4.b.1.		13					X	
1	1.A.4.b.2.		3, 10, 11, 14	X	X			X	
1	1.A.4.b.3.		3, 10, 11, 14, 15	X	X	X			X
1	1.A.4.b.4.		4, 11, 14, 15, 22					X	
			3, 4, 5, 10, 11, 13,						
		LO 1.9	14, 15, 21, 22	X	X			X	X
		LO 1.10	3, 4, 5, 10, 11, 14, 15, 21, 22	X	X			X	X
		LO 1.11	4, 11, 14, 15, 22	X				X	X
		LO 1.12	3, 5, 10, 11, 13, 14, 15, 21, 22		X	X	X	X	X
		LO 1.13	4, 11, 14, 15, 22	X	X	X	X	X	X
1	1.B.1.a.1.		11, 12, 14, 15, 18, 21, 22, 23	X	X	X			
1	1.B.1a.2.		2, 3, 11, 12, 14, 15, 23	X	X	X		X	
1	1.B.1.a.3.		1, 2, 3, 11, 14, 15, 18, 23		X		X		
			1, 2, 3, 10, 11, 12,						
1	1.B.1.b.		13, 14, 15, 18, 23		X	X	X	X	X

		LO 1.14	3, 10, 11, 14, 15			X	X	X	X
		LO 1.15	2, 3, 10, 11, 12, 14, 15		X	X	X	X	X
		LO 1.16	2, 3, 10, 11, 12, 13, 14, 15	X	X	X	X	X	X
1	1.B.2.a.		5, 10, 11, 12, 14, 15, 21, 22					X	X
1	1.B.2.b.		11, 12, 14, 15					X	X
1	1.B.2.c.		11, 12, 14, 15		X			X	X
1	1.B.2.d.		11, 12, 14, 15					X	X
		LO 1.17	11, 12, 14, 15					X	X
		LO 1.18	11, 12, 14, 15					X	X
		LO 1.19	11, 12, 14, 15					X	X
1	1.C.a.		13					X	
1	1.C.b.		13					X	
		LO 1.20						X	
		LO 1.21						X	
1	1.C.2.a.							X	X
1	1.C.2.b.							X	X
		LO 1.22						X	X
		LO 1.23						X	X
		LO 1.24						X	X
1	1.C.3.a.		3, 10, 11, 12, 14, 15, 22	X		X		X	X
1	1.C.3.b.		11, 12, 14, 15, 22	X		X		X	X
		LO 1.25	3, 10, 11, 12, 14, 15, 22	X		X		X	X
		LO 1.26	3, 10, 11, 12, 14, 15, 22	X		X		X	X
1	1.D.1.a.1.		12, 13						
1	1.D.1.a.2.		13						
1	1.D.1.a.3.		13		X				
1	1.D.1.a.4.		13						
1	1.D.1.a.5.		12						
		LO 1.27	12, 13						
		LO 1.28	13						
		LO 1.29	12, 13						
		LO 1.30	13						
		LO 1.31	13						
1	1.D.2.a.1.		13						
1	1.D.2.a.2.								
1	1.D.2.b.1.		2, 3, 12, 14	X		X		X	X
1	1.D.2.b.2.		14	X					
		LO 1.32						X	

Appendix B: Alignment of Catalyst Learning Curricula Case Studies with AP Biology College Board Required Standards for Big Idea 2

Big Ideas	Essential Knowledge	Learning Objectives	Hemoglobin						
				AIDS	Diabetes	Cancer	Depression/Addiction	Sonoran Desert	Ants
2	2.A.1 a.1.		7, 8, 9, 17, 18		X			X	X
2	2.A.1 a.2.		7, 8, 9, 17		X	X		X	X
2	2.A.1 a.3.		7, 8, 9, 17, 18		X	X		X	X
2	2.A.1 b.1.		17, 18		X			X	
2	2.A.1 b.2.		18		X			X	
2	2.A.1 b.3.		18		X				
2	2.A.1 c.		17, 18		X				
2	2.A.1 d.1.		7, 8, 9, 17		X			X	X
2	2.A.1 d.2.							X	X
2	2.A.1 d.3.				X			X	
2	2.A.1 d.4.				X			X	X
2	2.A.1 d.5.				X			X	X
2	2.A.1 e.							X	X
2	2.A.1 f.				X			X	X
2		LO 2.1	7, 17		X			X	X
2		LO 2.2	17, 18		X			X	X
2		LO 2.3	7		X			X	X
2	2.A.2.a.1.				X			X	X
2	2.A.2.a.2.				X				
2	2.A.2.b.1.		7, 8, 9, 17, 18		X				X
2	2.A.2.b.2.		18						
2	2.A.2.c.				X				
2	2.A.2 d.1.				X				
2	2.A.2 d.2.				X				
2	2.A.2 d.3.				X				
2	2.A.2 d.4.				X				
2	2.A.2 d.5.				X				
2	2.A.2.e.		13						
2	2.A.2 f.1.		17		X				
2	2.A.2 f.2.		17		X				
2	2.A.2 f.3.		17		X				
2	2.A.2 f.4.		17		X				
2	2.A.2 g.1.		17		X				
2	2.A.2 g.2.		17		X				
2	2.A.2 g.3.		17		X				
2	2.A.2 g.4.		17		X				
2	2.A.2 g.5.		17					X	
2	2.A.2.h.				X				

2		LO 2.4	17		X				
2		LO 2.5	17		X				
2	2.A.3.a.1.				X		X	X	X
2	2.A.3.a.2.								X
2	2.A.3.a.3.				X			X	
2	2.A.3.b.1.				X			X	
2	2.A.3.b.2.				X				
2		LO 2.6						X	
2		LO 2.7			X				
2		LO 2.8			X			X	X
2		LO 2.9			X			X	X
2	2.B.1.a.				X			X	
2	2.B.1.b.1.			X	X		X	X	
2	2.B.1.b.2.				X		X	X	
2	2.B.1.b.3.			X	X		X		
2	2.B.1.b.4.				X		X	X	
2	2.B.1.c.1							X	
2	2.B.1.c.2								X
2		LO 2.10			X		X	X	
2		LO 2.11			X		X	X	
2	2.B.2.a.1.				X		X	X	
2	2.B.2.a.2.				X		X	X	
2	2.B.2.a.3.				X		X	X	
2	2.B.2.b.1.				X				
2	2.B.2.b.2.				X				
2	2.B.2.c.1			X	X		X		
2	2.B.2.c.2			X	X		X		
2		LO 2.12			X		X	X	
2	2.B.3.a.				X	X	X	X	
2	2.B.3.b.				X	X	X		
2	2.B.3.c.				X			X	
2		LO 2.13			X	X	X	X	
2		LO 2.14						X	
2	2.C.1.a.		4, 6		X	X	X	X	X
2	2.C.1.b.		4, 5, 20	X	X	X	X	X	X
2	2.C.1.c.		20		X	X	X	X	
2		LO 2.15	4, 5, 6, 20		X	X	X	X	X
2		LO 2.16	4, 5, 6		X	X	X	X	X
2		LO 2.17	4, 5		X		X	X	X
2		LO 2.18	4, 5, 20		X	X	X	X	X
2		LO2.19	4, 5, 6, 20	X	X		X	X	X
2		LO 2.20	5, 20	X	X		X	X	X
2	2.C.2.a.		4, 5, 6, 20	X	X	X	X	X	X
2		LO 2.21	5, 20	X	X	X	X	X	X
2	2.D.1.a.		1, 2, 3, 4, 5, 6, 15, 16, 17, 18, 19, 20, 21, 23, 25	X	X	X	X	X	X
2	2.D.1.b.		5, 7, 8, 9, 13, 15, 17, 20, 21, 25	X	X	X	X	X	X
2	2.D.1.c.		5, 13, 14, 18, 21, 22, 23	X	X			X	X
2		LO 2.22	1, 2, 3, 4, 7, 10, 11, 13, 17, 18, 19, 20, 21, 22, 23, 25	X	X		X	X	X
2		LO 2.23	5, 8, 11, 15, 17, 24	X	X		X	X	X
2		LO2.24	2, 3, 4, 6, 9, 10, 11, 15, 17, 21, 22	X	X		X	X	X
2	2.D.2.a.		4, 5, 6, 10, 11, 14, 15, 16, 18	X	X		X	X	X

2	2.D.2.b.		3, 5, 10, 11, 18, 20			X			X	X
2	2.D.2.c.		4, 5, 6, 10, 11, 14, 16, 18	X	X		X		X	X
2		LO 2.25	3, 4, 5, 6, 10, 11, 14, 16, 18, 20			X			X	X
2		LO 2.26	10, 11, 14, 15	X					X	X
2		LO 2.27	3, 4, 5, 6, 10, 11, 14, 16, 18, 20			X			X	X
2	2.D.3.a.		5, 6, 7, 8, 9, 19, 21, 23, 25	X	X	X	X		X	X
2	2.D.3.b.					X	X		X	X
		LO 2.28	5, 6, 7, 8, 9, 19, 21, 23, 25	X	X					
2	2.D.4.a			X						
2	2.D.4.b.1.			X						
2	2.D.4.b.2.			X						
2	2.D.4.b.3.			X						
2	2.D.4.b.4.		19	X						
2	2.D.4.b.5.		19	X						
2	2.D.4.b.6.			X						
2		LO 2.29	19	X						
2		LO 2.30	19	X						
2	2.E.1.a.			X	X	X	X			X
2	2.E.1.b.1.					X				X
2	2.E.1.b.2.					X				X
2	2.E.1.b.3.							X		
2	2.E.1.b.4.					X				
2	2.E.1.b.5.					X				
2	2.E.1.b.6.				X	X				
2	2.E.1.c.			X	X	X		X		X
2		LO 2.31				X				
2		LO 2.32				X				X
2		LO 2.33			X	X				X
2		LO 2.34		X	X	X				X
2	2.E.2.a.1.							X		
2	2.E.2.a.2.							X		
2	2.E.2.b.		4, 5, 7, 8, 9, 15	X	X	X	X			X
2	2.E.2.c.									
2		LO 2.35	7, 8, 9					X		X
2		LO 2.36	4, 5, 7, 8, 9	X	X			X		X
2		LO 2.37	4, 5, 7, 8, 9, 15,	X	X			X		X
2	2.E.3.a.1.					X	X			X
2	2.E.3.a.2.		25	X	X	X	X			X
2	2.E.3.b.1.							X		
2	2.E.3.b.2.							X		
2	2.E.3.b.3.			X	X		X			X
2	2.E.3.b.4.			X	X		X			X
2		LO 2.38		X	X			X		X
2		LO 2.39		X	X			X		X
2		LO 2.40		X	X			X		X

Appendix C: Alignment of Catalyst Learning Curricula Case Studies with AP Biology College Board Required Standards for Big Idea 3

Big Ideas	Essential Knowledge	Learning Objectives	Hemoglobin						
				AIDS	Diabetes	Cancer	Depression/Addiction	Sonoran Desert	Ants
3	3.A.1.a.1.		11, 12, 14	X	X	X	X	X	X
3	3.A.1.a.2.							X	X
3	3.A.1.a.3.				X				
3	3.A.1.a.4.i.								
3	3.A.1.a.4.ii.								
3	3.A.1.a.4.iii.								
3	3.A.1.a.5.i.								
3	3.A.1.a.5.ii.								
3	3.A.1.a.6.			X					
3	3.A.1.b.1.				X	X			
3	3.A.1.b.2.i.					X			
3	3.A.1.b.2.ii.				X	X			
3	3.A.1.b.2.iii.				X	X			
3	3.A.1.b.3.i.				X	X			
3	3.A.1.b.3.ii.				X	X			
3	3.A.1.b.4.i.				X	X			
3	3.A.1.b.4.ii.				X	X			
3	3.A.1.b.4.iii.				X	X			
3	3.A.1.b.4.iv.					X			
3	3.A.1.c.1.					X	X		
3	3.A.1.c.2.					X	X		
3	3.A.1.c.3.					X	X		
3	3.A.1.c.4.i.					X	X		
3	3.A.1.c.4.ii.					X	X		
3	3.A.1.c.4.iii.					X	X		
3	3.A.1.c.4.iv.					X	X		
3	3.A.1.c.4.v.				X	X	X		
3	3.A.1.c.4.vi.					X	X		
3	3.A.1.c.4.vii.				X	X	X		
3	3.A.1.d.		11, 12, 14, 15, 19, 21, 22, 23	X	X	X	X	X	X
3	3.A.1.e.		23		X			X	X
3	3.A.1.f.		23		X			X	
3		LO 3.1		X	X	X	X	X	X
3		LO 3.2				X	X	X	X
3		LO 3.3		X	X	X			
3		LO 3.4		X	X	X			
3		LO 3.5	23		X	X			
3		LO 3.6	3, 11, 12, 14, 21, 23	X	X	X			

3	3.A.2.a.1.								X	
3	3.A.2.a.2.					X			X	
3	3.A.2.a.3.					X			X	
3	3.A.2.a.4.								X	
3	3.A.2.a.5.								X	
3	3.A.2.b.1.								X	
3	3.A.2.b.2.								X	
3	3.A.2.b.3.					X			X	
3	3.A.2.b.4.								X	
3	3.A.2.c.1.		12						X	
3	3.A.2.c.2.		12						X	
3	3.A.2.c.3.		12						X	
3	3.A.2.c.4.		12						X	
3	3.A.2.c.5.								X	X
3		LO 3.7	12						X	
3		LO 3.8	12						X	
3		LO 3.9	12						X	
3		LO 3.10	12						X	
3		LO 3.11	12						X	
3	3.A.3.a.		22		X			X	X	X
3	3.A.3.b.1.		12		X			X		
3	3.A.3.b.2.		12					X		
3	3.A.3.b.3.				X			X	X	X
3	3.A.3.c.		12, 21, 22, 23					X		
3	3.A.3.d.		21, 23							
3		LO 3.12	12, 22, 23					X		
3		LO 3.13	21, 23					X		
3		LO 3.14			X			X		
3	3.A.4.a.1.		19			X		X		X
3	3.A.4.b.		23					X		X
3	3.A.4.c.1		12					X		
3	3.A.4.c.2							X		X
3		LO 3.15	12, 19, 23			X		X		X
3		LO 3.16	12, 19, 23			X		X		X
3		LO 3.17	12, 19, 23			X		X		X
3	3.B.1.a.1.				X	X		X		
3	3.B.1.a.2.							X		
3	3.B.1.b.1.							X		
3	3.B.1.b.2.							X		
3	3.B.1.b.3.							X		
3	3.B.1.b.4.							X		
3	3.B.1.b.5.							X		
3	3.B.1.b.6.							X		
3	3.B.1.c.1.				X	X		X		
3	3.B.1.c.2.				X	X		X		
3	3.B.1.c.3.					X		X		
3	3.B.1.d.					X	X	X	X	X
3		LO 3.18				X			X	X
3		LO 3.19				X	X	X		
3		LO 3.20			X	X	X	X		X
3		LO 3.21			X	X	X			X
3	3.B.2.a.		20		X	X		X		X
3	3.B.2.b.		20		X	X		X	X	X

3		LO 3.22	20	X	X	X	X		X
3		LO 3.23	20	X	X	X			X
3	3.C.1.a.1.		3, 11, 12, 14, 15, 21, 23	X	X	X	X		
3	3.C.1.b.1.		12	X		X		X	X
3	3.C.1.c.1.					X		X	X
3	3.C.1.c.2.					X			
3	3.C.1.d.1.		3, 12, 14, 15, 21, 22, 23	X	X	X			X
3		LO 3.24	3, 12, 14, 15, 21, 22, 23	X	X	X	X	X	X
3		LO 3.25	3, 12, 14, 15, 21, 22, 23	X		X			
3		LO 3.26	3, 12, 14, 15, 21, 22, 23	X	17	X	X	X	X
3	3.C.2.a.		12			X			
3	3.C.2.b.		12	X		X			
3	3.C.2.c.		12			X		X	X
3		LO 3.27				X			
3		LO 3.28	12	X		X	X	X	X
3	3.C.3.a.1.			X					
3	3.C.3.a.2.			X					
3	3.C.3.a.3.			X					
3	3.C.3.a.4.			X					
3	3.C.3.a.5.			X					
3	3.C.3.a.6.			X					
3	3.C.3.b.1.			X					
3	3.C.3.b.2.			X					
3		LO 3.29		X					
3		LO 3.30		X					
3	3.D.1.a.				X		X		
3	3.D.1.b.			X	X	X	X		X
3	3.D.1.c.								
3	3.D.1.d.			X	X	X	X	X	X
3		LO 3.31		X	X	X	X	X	X
3		LO 3.32		X		X	X		X
3		LO 3.33		X	X	X	X		X
3	3.D.2.a.			X				X	
3	3.D.2.b.			X		X	X	X	X
3	3.D.2.c.1.				X	X	X	X	X
3		LO 3.34		X	X	X	X	X	X
3		LO 3.35		X	X	X	X	X	X
3	3.D.3.a.1.			X	X	X	X		X
3	3.D.3.a.2.			X	X	X	X		X
3	3.D.3.b.1.			X	X	X	X		X
3	3.D.3.b.2.			X	X		X		
3	3.D.3.b.3.i.				X		X		X
3	3.D.3.b.3.ii.			X	X				
3		LO 3.36		X	X	X	X		X
3	3.D.4.a.			X	X	X	X	X	X
3		LO 3.37		X	X	X	X		X
3		LO 3.38		X	X	X	X		X
3		LO 3.39		X	X	X	X		X
3	3.E.1.a.			X	X	X	X	X	X
3	3.E.1.b.1.				X		X	X	X
3	3.E.1.b.2.			X	X			X	X
3	3.E.1.c.1.				X		X	X	X
3	3.E.1.c.2.			X	X			X	X

3		LO 3.40		X	X	X	X
3		LO 3.41	X		X	X	X
3		LO 3.42		X	X	X	X
3	3.E.2.a.1.				X		
3	3.E.2.a.2.				X		
3	3.E.2.a.3.				X		
3	3.E.2.b.1.				X		
3	3.E.2.b.2.				X		
3	3.E.2.b.3.				X		
3	3.E.2.c.1.				X		
3	3.E.2.c.2.				X		
3	3.E.2.c.3.				X		
3	3.E.2.d.				X		
3		LO 3.43			X		
3		LO 3.44			X		
3		LO 3.45			X		
3		LO 3.46			X		
3		LO 3.47			X		
3		LO 3.48			X		
3		LO 3.49			X		
3		LO 3.50			X		

Appendix D: Alignment of Catalyst Learning Curricula Case Studies with AP Biology College Board Required Standards for Big Idea 4

Big Ideas	Essential Knowledge	Learning Objectives	Hemoglobin						
				AIDS	Diabetes	Cancer	Depression/Addiction	Sonoran Desert	Ants
4	4.A.1.a.1.					X			
4	4.A.1.a.2.		1, 3, 4, 21		X				
4	4.A.1.a.3.						X		
4	4.A.1.a.4.				X			X	
4	4.A.1.b.1.					X			
4	4.A.1.b.2.		1, 3, 11	X	X				
4	4.A.1.b.3.				X			X	
4		LO 4.1	1, 3, 4, 21		X	X	X		
4		LO 4.2	1, 3, 4, 21		X	X	X	X	
4		LO 4.3	1, 3, 4, 11, 21		X	X	X		
4	4.A.2.a.				X	X			
4	4.A.2.b.1.			X	X				
4	4.A.2.b.2.						X		
4	4.A.2.c.1.			X	X		X		
4	4.A.2.d.1.				X				
4	4.A.2.d.2.				X				
4	4.A.2.d.3.				X				
4	4.A.2.e.						X		X
4	4.A.2.f.							X	
4	4.A.2.g.1.				X				
4	4.A.2.g.2.				X				
4	4.A.2.g.3.				X				
4		LO 4.4		X	X	X	X	X	X
4		LO 4.5			X	X	X	X	X
4		LO 4.6			X	X	X	X	X
4	4.A.3.a.					X	X	X	X
4	4.A.3.b.					X	X	X	X
4	4.A.3.c.		5			X	X	X	X
4		LO 4.7	5			X	X	X	X
4	4.A.4.a.		5, 7, 8, 9			X	X	X	
4	4.A.4.b.		5, 7, 8, 9, 20			X	X	X	X
4		LO 4.8	5, 7, 8, 9, 20			X	X	X	X
4		LO 4.9	5, 7, 8, 9, 20	X	X	X	X	X	
4		LO 4.10	5, 7, 8, 9, 20		X	X	X	X	X
4	4.A.5.a.							X	X
4	4.A.5.b.							X	X
4	4.A.5.c.1.			X				X	X
4	4.A.5.c.2.							X	X

4	4.A.5.c.3.								X	X
4	4.A.5.c.4.								X	
4		LO 4.11							X	X
4		LO 4.12							X	X
4		LO 4.13							X	X
4	4.A.6.a.					X			X	X
4	4.A.6.b.								X	X
4	4.A.6.c.								X	X
4	4.A.6.d.					X			X	X
4	4.A.6.e.1.								X	X
4	4.A.6.e.2.								X	X
4	4.A.6.f.1.								X	X
4	4.A.6.f.2.					X			X	X
4	4.A.6.g.								X	X
4		LO 4.14				X			X	X
4		LO 4.15							X	X
4		LO 4.16				X			X	X
4	4.B.1.a.		1, 2, 3, 11, 12, 14, 21, 22, 23			X	X	X		
4	4.B.1.b.1.		1, 2		X					
4	4.B.1.b.2.									
4	4.B.1.c.		1, 2		X					
4	4.B.1.d.		1							
4		LO 4.17	1, 2			X				
4	4.B.2.a.1.		4		X	X	X	X	X	
4	4.B.2.a.2.		10			X		X		
4	4.B.2.a.3.									
4		LO 4.18	4, 5, 10, 20		X	X			X	
4	4.B.3.a.1.		21, 22			X			X	X
4	4.B.3.a.2.		21, 22		X				X	X
4	4.B.3.a.3.		21, 22						X	X
4	4.B.3.b.					X			X	X
4	4.B.3.c.		21			X			X	X
4		LO 4.19	21, 22						X	X
4	4.B.4.a.								X	X
4	4.B.4.b.		13						X	X
4		LO 4.20	13						X	X
4		LO 4.21							X	X
4	4.C.1.a.		21		X	X	X	X	X	X
4	4.C.1.b.1.		3, 12, 14, 21, 22							
4	4.C.1.b.2.		12, 14				X			
4		LO 4.22	12, 14, 21, 22		X	X	X	X	X	X
4			4, 5, 6, 11, 13, 14, 15, 18, 18, 20,							
4	4.C.2.a.		21, 23, 25		X	X	X	X	X	X
4	4.C.2.b.		5, 10, 14, 15, 20						X	X
4		LO 4.23	4, 5, 6, 14, 15, 19, 20, 21			X	X		X	X
4		LO 4.24	4, 5, 6, 14, 15, 19, 20, 21			X	X		X	X
4	4.C.3.a.		10, 12, 13, 14, 15, 21, 22, 23		X	X			X	X
4	4.C.3.b.		12, 13, 14, 15, 21, 22, 23		X	X	X	X	X	X
4	4.C.3.c.		22						X	X
4		LO 4.25	10, 12, 13, 14, 15, 21, 22, 23			X	X	X	X	X
4		LO 4.26	10, 12, 13, 14, 15, 21, 22, 23		X	X	X	X	X	X
4	4.C.4.a.								X	X
4	4.C.4.b.								X	X
4		LO 4.27							X	X

Appendix E:

Alignment of Catalyst Learning Curricula Hemoglobin Case Study with AP Biology College Board Required Science Practices

Science Practice	Hemoglobin Case Study activity that incorporates this science practice
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1.1	1, 2, 3, 4, 5, 10, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, 25
1.2	1, 2, 3, 4, 5, 10, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, 25
1.3	2, 3, 4, 5, 10, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, 25
1.4	2, 3, 4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25
1.5	1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25
2.1	7, 8, 9, 17, 22
2.2	4, 7, 8, 9, 17, 21, 22
2.3	4, 7, 8, 9, 17, 18, 21, 22
3.1	7, 8, 9, 11, 14, 15, 17, 19, 21
3.2	7, 8, 9, 11, 14, 15, 17, 19, 24
3.3	3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 17, 19, 21, 22, 24
4.1	5, 7, 8, 9, 10, 11, 13, 14, 15, 17, 21, 22, 24
4.2	7, 8, 9, 10, 11, 14, 15, 17
4.3	7, 8, 9, 11, 14, 15, 17, 21, 22
4.4	5, 7, 8, 9, 11, 13, 14, 15, 17, 21, 24, 25
5.1	2, 3, 4, 5, 7, 8, 9, 11, 13, 14, 15, 17, 21, 22, 23, 24
5.2	2, 3, 4, 5, 7, 8, 9, 11, 13, 14, 15, 17, 21, 22, 23, 24, 25
5.3	2, 3, 4, 5, 7, 8, 9, 11, 13, 14, 15, 17, 21, 22, 23, 24
6.1	2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
6.2	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
6.3	2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
6.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
6.5	2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25
7.1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
7.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25