

Stone High School Biology POWER Standards

HRW Biology Principles and Explorations

	HSCE	Chapter reference	Assessment
	Scientific Method		
1	B1.1f Generate new questions that can be investigated in the laboratory or field.	Ch 1, and thorough the year	Labs Homework Quizzes Tests Unit tests Portfolio
2	B1.1C Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity—length, volume, weight, time interval, temperature—with the appropriate level of precision).	Ch 1, and other chapters	Labs Homework Quizzes Tests Unit tests Portfolio
3	B1.1h Design and conduct a systematic scientific investigation that tests a hypothesis. Draw conclusions from data presented in charts or tables.	Chapter 1	Labs Homework Quizzes Tests Unit tests Portfolio
	Body Systems		
4	B2.3d Identify the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, excretion, protection from disease, and movement, control, and coordination) and describe ways that these systems interact with each other.	38-1, 39-1, 39-3, 40-2,3, 41-1,2, 42-2,3	Labs Homework Quizzes Tests Unit tests Portfolio
5	B2.3f Explain how human organ systems help maintain human health.	Ch 38-42 throughout	Labs Homework Quizzes Tests Unit tests

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	HSCE	Chapter reference	Assessment
			Portfolio
	DNA/ Mitosis		
6	B4.2B Recognize that every species has its own characteristic DNA sequence.	Chapter 9	Labs Homework Quizzes Tests Unit tests Portfolio
7	B4.2C Describe the structure and function of DNA.	Chapter 9	Labs Homework Quizzes Tests Unit tests Portfolio
8	B2.1C Explain cell division, growth, and development as a consequence of an increase in cell number, cell size, and/or cell products.	Chapter 6	Labs Homework Quizzes Tests Unit tests Portfolio
9	B4.2E Propose possible effects (on the genes) of exposing an organism to radiation and toxic chemicals.	Chapter 6	Labs Homework Quizzes Tests Unit tests Portfolio
10	B4.1B Explain that the information passed from parents to offspring is transmitted by means of genes that are coded in DNA molecules. These genes contain the information for the production of proteins.	Chapter 9, 10	Labs Homework Quizzes Tests

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	HSCE	Chapter reference	Assessment
			Unit tests Portfolio
11	B2.5g Compare and contrast plant and animal cells.	Chapter 3	Labs Homework Quizzes Tests Unit tests Portfolio
12	B2.5i Relate cell parts/organelles to their function.	Chapter 3	Labs Homework Quizzes Tests Unit tests Portfolio
13	B1.2E Evaluate the future career and occupational prospects of science fields.	Guest speakers	Labs Homework Quizzes Tests Unit tests Portfolio
14	B1.2k Analyze how science and society interact from a historical, political, economic, or social perspective.	Chapter 1 and 19	Labs Homework Quizzes Tests Unit tests Portfolio
	Genetics and Bioethics		
15	B4.1c Differentiate between dominant, recessive, codominant, polygenic, and sex-linked traits.	Chapters 8.3, 8.4	Labs Homework Quizzes

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			Tests Unit tests Portfolio
16	B4.1e Determine the genotype and phenotype of monohybrid crosses using a Punnett Square.	Chapter 8.3	Labs Homework Quizzes Tests Unit tests Portfolio
17	B4.3A Compare and contrast the processes of cell division (mitosis and meiosis), particularly as those processes relate to production of new cells and to passing on genetic information between generations.	Chapter 6 and 7	Labs Homework Quizzes Tests Unit tests Portfolio
18	B4.r5b Evaluate the advantages and disadvantages of human manipulation of DNA.		Labs Homework Quizzes Tests Unit tests Portfolio
	Ecology		
19	B3.3A Use a food web to identify and distinguish producers, consumers, and decomposers and explain the transfer of energy through trophic levels.	Chapter 17.2	Labs Homework Quizzes Tests Unit tests Portfolio
20	B3.3b Describe environmental processes (e.g., the carbon and nitrogen cycles) and their role in processing matter crucial for sustaining life.	Chapter 17.3	Labs Homework

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HSCE		Chapter reference	Assessment
			Quizzes Tests Unit tests Portfolio
21	B3.4A Describe ecosystem stability. Understand that if a disaster such as flood or fire occurs, the damaged ecosystem is likely to recover in stages of succession that eventually result in a system similar to the original one.	Chapter 17.1	Labs Homework Quizzes Tests Unit tests Portfolio
22	B3.4C Examine the negative impact of human activities.	19.1, 19.2, 19.3	Labs Homework Quizzes Tests Unit tests Portfolio
23	B3.5g Diagram and describe the stages of the life cycle for a human disease-causing organism.	21.2, 22.3	Labs Homework Quizzes Tests Unit tests Portfolio
	Energy Transformation (Photosynthesis and Respiration)		
24	B2.1A Explain how cells transform energy (ultimately obtained from the sun) from one form to another through the processes of photosynthesis and respiration. Identify the reactants and products in the general reaction of photosynthesis.	5.1, 5.2, 5.3	Labs Homework Quizzes Tests Unit tests Portfolio
25	B2.1B Compare and contrast the transformation of	5.2, 5.3	Labs

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	HSCE	Chapter reference	Assessment
25	B2.1B Compare and contrast the transformation of matter and energy during photosynthesis and respiration.	5.2, 5.3	Labs Homework Quizzes Tests Unit tests Portfolio
	Natural Selection and Evolution		
26	L5.p1D Explain the importance of the fossil record.		Labs Homework Quizzes Tests Unit tests Portfolio
27	B5.1A Summarize the major concepts of natural selection (differential survival and reproduction of chance inherited variants, depending on environmental conditions).	Chapter 13	Labs Homework Quizzes Tests Unit tests Portfolio
28	B5.1B Describe how natural selection provides a mechanism for evolution.		Labs Homework Quizzes Tests Unit tests Portfolio
29	B5.3A Explain how natural selection acts on individuals, but it is populations that evolve. Relate genetic mutations and genetic variety produced by sexual reproduction to diversity within a given population.	Chapters 13, 16, 6, 7, 10	Labs Homework Quizzes Tests Unit tests

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	HSCE	Chapter reference	Assessment
30	B5.3f Demonstrate and explain how biotechnology can improve a population and species.	Chapter 11	Labs Homework Quizzes Tests Unit tests Portfolio
31	B2.4A Explain that living things can be classified based on structural, embryological, and molecular (relatedness of DNA sequence) evidence.	Chapters 13, 15	Labs Homework Quizzes Tests Unit tests Portfolio