

Science



Clint ISD

Biology

Science Calendar 2019-2020

The following calendar does not contain the process standards but are included at the end of this booklet on page 14. The Seidlitz 7 can be found on page 16 and a table version of this calendar is on page 15 for your reference.

This calendar can be used along with the TEKS Resource System (IFD) to plan instruction. Quality instruction aligned with the curriculum at an appropriate level of rigor will ensure that students are successful.

The 3rd and 6th week are short checkpoints (10 items or less) covering only that 3 week window of instructional time. The 9 weeks checkpoint is longer (20-40 items); it covers content taught during the full preceding 9 weeks of instructional time. The 3-6-9 Week Checkpoints will include open ended and griddable questions. The 3rd and 6th weeks assessment can be taken for a daily grade at your discretion. The 9 weeks exam can be counted as a test grade at teacher discretion and data will be pulled at the campus and district level to support instruction. Please see CISD 3-6-9 Week Checkpoint FAQ.

July 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22 Teacher PD	23 Teacher PD	24 Teacher PD	25 Teacher PD	26 Teacher PD	27
28	29 First Day	30 Safety Rituals Routines	31			

August 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Safety Rituals Routines	2	3
4	5 B.4A Unit 1	6 Cell Structure	7	8 B.10C	9 Organization	10
11	12	13 B.4C	14 Viruses	15	16 3-Weeks	17
18	19 B.9A Unit 2/Unit 3/Unit 4	20 Biomolecules	21	22 B.4B	23 Homeostasis	24
25	26	27	28 B.6A	29 Components of DNA	30	31

July 2019

August 2019

Unit 01: Cell Structure

B.4A Compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity.

B.4C Compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza.

B.10C Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.

Unit 02: The Cell Cycle

B.6A Identify components of DNA, identify how information for specifying the traits of an organism is carried in the DNA, and examine scientific explanations for the origin of DNA.

B.9A Compare the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids.

Unit 03: Cellular Processes for Homeostasis

B.4B Investigate and explain cellular processes, including homeostasis and transport of molecules.

September 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Labor Day	3 B.5A	4 Cell Cycle	5	6 6-Weeks	7
8	9 B.5C	10 Cancer	11 B.9B	12 Photosynthesis &	13 Cellular Resp.	14
15	16	17	18 B.9C	19 Enzymes	20	21
22	23 Review	24 6-Weeks	25 6-Weeks	26 B.6A Unit 5	27 DNA & Traits	28
29	30 Intersession					

October 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Intersession	2 Intersession	3 Intersession	4 Intersession	5
6	7 Intersession	8 Intersession	9 Intersession	10 Intersession	11 Intersession	12
13	14 B.6A	15 DNA & Traits	16	17 B.6C	18 Protein Synthesis	19
20	21 Protein Synthesis	22	23 B.6E	24 Mutations	25	26
27	28	29	30 3-Weeks	31 Teacher PD		

September 2019

Unit 02: The Cell Cycle

B.5A Describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms.

B.5C Recognize that disruptions of the cell cycle lead to diseases such as cancer.

Unit 04: Cellular Processes for Energy

B.9B Compare the reactants and products of photosynthesis and cellular respiration in terms of energy, energy conversions, and matter.

B.9C Identify and investigate the role of enzymes.

Unit 05: The Role of Nucleic Acids and Protein Synthesis

B.6A Identify components of DNA, identify how information for specifying the traits of an organism is carried in the DNA, and examine scientific explanations for the origin of DNA.

October 2019

Unit 05: The Role of Nucleic Acids and Protein Synthesis

B.6A Identify components of DNA, identify how information for specifying the traits of an organism is carried in the DNA, and examine scientific explanations for the origin of DNA.

B.6C Explain the purpose and process of transcription and translation using models of DNA and RNA.

B.6E Identify and illustrate changes in DNA and evaluate the significance of these changes.

November 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Teacher PD	2
3	4 Buffer Day	5 B.5B Unit 6	6 DNA & RNA	7	8	9
10	11 Veterans Day	12	13 B.6D	14 Gene Expression	15	16
17	18 B.6D/B.5A	19 Interim Assmts.	20 Meiosis	21	22	23
24	25 T-Giving	26 T-Giving	27 T-Giving	28 T-Giving	29 T-Giving	30

December 2019 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 B.6F, B.6G	3 Genetics	4	5	6	7
8	9 State Testing B.6F	10 State Testing Genetics	11 State Testing	12 State Testing Buffer	13 State Testing	14
15	16 9-Weeks	17 9-Weeks	18 Last Day	19 Break	20 Break	21
22	23 Break	24 Break	25 Break	26 Break	27 Break	28
29	30 Break	31 Break				

November 2019

Unit 06: Genetics and Epigenetics

B.5B Describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation.

B.6D Recognize that gene expression is a regulated process.

B.6F Predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses, and non-Mendelian inheritance.

B.6G Recognize the significance of meiosis to sexual reproduction.

B.5A Describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms.

December 2019

Unit 06: Genetics and Epigenetics

B.6F Predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses, and non-Mendelian inheritance.

B.6G Recognize the significance of meiosis to sexual reproduction.

JANUARY 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1 New Year's Day	Break 2	Teacher PD 3	4
5	B.6A Unit 7	DNA	8	B.6B	B.7A	11
12	B.7A	Fossil Record	15	B.7B	17	18
19	M.L King Day	B.7C	B.7D	Natural Selection	3-Weeks 24	25
26	B.7E	B.7F	Evolution	30	B.8A Unit 8	31

FEBRUARY 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	1
2	B.8A	Taxonomy	B.8C	Taxonomy	7	8
9	B.8B	11	12	6-Weeks 13	14 Valentine's Day	15
16	17 Presidents' Day	B.10C Unit 9 Plants	Organization	20	PD Day 21	22
23	B.10B	25	26	27	28	29
			System Interactions			

January 2020

Unit 07: Evolution

B.6A Identify components of DNA, identify how information for specifying the traits of an organism is carried in the DNA, and examine scientific explanations for the origin of DNA.

B.6B Recognize that components that make up the genetic code are common to all organisms.

B.7A Analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.7B Examine scientific explanations of abrupt appearance and stasis in the fossil record.

B.7C Analyze and evaluate how natural selection produces change in populations, not individuals.

B.7D Analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success.

B.7E Analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species.

B.7F Analyze other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination.

February 2020

Unit 08: Taxonomy

B.8A Define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community. **Unit 10: Plant Systems (6 days)**

B.8B Categorize organisms using a hierarchical classification system based on similarities and differences shared among groups.

B.8C Compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.

Unit 9: Plant Systems

B.10B Describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants.

B.10C Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system

MARCH 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Review	3 7-Weeks	4 7-Weeks	5 Re-teach	6	7
8	9 Intercession	10 Intercession	11 Intercession	12 Intercession	13 Intercession	14
15	16 Spring Brk	17 Spring Brk	18 Spring Brk	19 Spring Brk	20 Spring Brk	21
22	23 B.4C Unit 10 Animal	24 Viruses	25	26 B.10A	27 System Interactions	28
29	30 B.10A	31	1	2	3	4

APRIL 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1 B.11A	2	3	4
5	6 State Testing B.10C Unit 11	7 State Testing	8 State Testing	9 State Testing	10 Good Friday	11
12 Easter Sunday	13 Holiday	14 B.11B	15 Succession	16 B.12A	17 Symbiosis	18
19	20 B.12B	21 B.12C, B.12D	22 Trophic levels	23 B.12E	24 Ecosystem	25
26	27	28	29	30	1	2
			Blackout			

March 2020

Unit 10: Animal Systems

B.4C Compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza.

B.10A Describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.10C Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.

B.11A Summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems.

April 2020

Unit 10: Animal Systems

B.11A Summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems.

Unit 11: Ecosystems

B.10C Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.

B.11B Describe how events and processes that occur during ecological succession can change populations and species diversity.

B.12A Interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms.

B.12B Compare variations and adaptations of organisms in different ecosystems.

B.12C Analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids.

B.12D Describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles.

B.12E Describe how environmental change can impact ecosystem stability.

MAY 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	4-Weeks 1	2
					Blackout	
3	State Testing 4	State Testing 5	State Testing 6	State Testing 7	State Testing 8	9
	HS Testing →					
10 Mother's Day	11 Student Designed Investigations	12	13	14	15	16
	→					
17	18	19	20	21	22	23
	→					
24	25 Memorial Day	26	27	9-Weeks 26	9-Weeks 27	30
	→					
31	1	2	3	4	5	6

JUNE 2020 – Biology – Clint ISD

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1 Student Designed Investigations	2	3	Last Day 4	Teacher PD 5	6
	→					
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21 Father's Day	State Testing 22	State Testing 23	State Testing 24	State Testing 25	26	27
28	29	30	1	2	3	4

May 2020

Unit 12: Current Developments in Biology

B.5C Recognize that disruptions of the cell cycle lead to diseases such as cancer.

B.6D Recognize that gene expression is a regulated process.

B.8B Categorize organisms using a hierarchical classification system based on similarities and differences shared among groups.

B.11A Summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems.

Student Designed Investigations

See process Standards

June 2020

Student Designed Investigations

See process Standards

Science Process Standards

(Blue—Tools to Know, Green—Ways to Show)

(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:

- (A) demonstrate safe practices during laboratory and field investigations; and
- (B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.

(2) Scientific processes. The student uses scientific practices and equipment during laboratory and field investigations. The student is expected to:

(A) know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section;

(B) know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories;

(C) know scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed;

(D) distinguish between scientific hypotheses and scientific theories;

(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology;

(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as data-collecting probes, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, balances, gel electrophoresis apparatuses, micropipettes, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures;

(G) analyze, evaluate, make inferences, and predict trends from data; and

(H) communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.

(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:

(A) analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, so as to encourage critical thinking by the student;

(B) communicate and apply scientific information extracted from various sources such as current events, published journal articles, and marketing materials;

(C) draw inferences based on data related to promotional materials for products and services;

(D) evaluate the impact of scientific research on society and the environment;

(E) evaluate models according to their limitations in representing biological objects or events; and

(F) research and describe the history of biology and contributions of scientists.

Time Frame	Unit(s)	TEKS	Checkpoint Dates
July 29 - Aug 16 (1st-3 Weeks)	Unit 1	B.4A, B.10C	Aug 16
Aug 19 - Sept 6 (1st-6 Weeks)	Unit 2, Unit 3	B.4C, B.9A, B.4B, B.6A	Sept 6
Sept 9 - Sept 24 (1st-9 Weeks)	Unit 1, Unit 2, Unit 3, Unit 4	B.4A, B.10C, B.4C, B.9A, B.4B, B.6A, B.5A, B.5C, B.9B, B.9C	Sept 24/25
Oct 14 - Oct 30 (2nd-3 Weeks)	Unit 5	B.6A, B.6C, B.6E	Oct 30
Nov 4 - Nov 22 (2nd-6 weeks)	Unit 6	B.5B, B.6D	Nov 19, 20 Interim
Dec 2 - Dec 16 (2nd-9 weeks)	Unit 5, Unit 6	B.6A, B.6C, B.6E, B.5B, B.6D, B.6G, B.5A, B.6F	Dec 16/17
Jan 6 - Jan 24 (3rd-3 weeks)	Unit 7	B.6A, B.6B, B.7A, B.7B	Jan 24
Jan 27 - Feb 13 (3rd-6 weeks)	Unit 7, Unit 8	B.7C, B.7D, B.7E, B.7F, B.8A, B.8C	Feb 13
Feb 18 - March 3 (3rd-9 weeks)	Unit 7, Unit 8, Unit 10	B.6A, B.6B, B.7A, B.7B, B.7C, B.7D, B.7E, B.7F, B.8A, B.8B, B.8C, B.10B, B.10C	March 3/4
March 23 - April 9 (4th-3 weeks)	Unit 9, Unit 11	B.4C, B.10A, B.11A	April 9
April 14 - May 1 (4th-6 weeks)	Unit 11	B.10C, B.11B, B.12A, B.12B, B.12C, B.12D, B.12E	May 1
May 4 - May 28 (4th-9 weeks)	Unit 9, Unit 11	B.4C, B.10A, B.11A, B.10C, B.11B, B.12A, B.12B, B.12C, B.12D, B.12E	May 28/29

The 7 Steps.—John Seidlitz

1. **Teach students what to say when they don't know what to say**
2. **Have students speak in complete sentences**
3. **Randomize & Rotate when calling on students**
4. **Use total response signals**
5. **Use visuals and vocabulary strategies that support your objective**
6. **Have students participate in structured conversations**
7. **Have students participate in structured reading/writing activities**



Together We Build Tomorrow
#WeAreClintISD

Committed

Learner-centered



Innovative

Nurturing

Transparent