

Science – Integrated Physics and Chemistry (IPC)

2021-2022 Pacing Calendar

Units of Instruction

Unit 1: Structure and Properties of Matter
Students investigate, describe, and differentiate between physical and chemical properties of elements and compounds including density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity.

2021	August					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
01	02	03	04	05	06	07
	Enrichment Opportunities					
08	09	10	11	12	13	14
	Enrichment Opportunities					
15	16	17	18	19	20	21
	Teacher Service Days (no students)		Teacher Prep Day (no students)	Teacher Service Days (no students)		
22 C1W1	23 Unit 1 (10 45-min. class periods)	24	25	26	27	28
29 C1W2	30 Unit 1 (10 45-min. class periods)	31	01	02	03	04
05	06	Notes: Aug. 16-20 - Teacher Service Days (no students)				

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Units of Instruction

Unit 1: Structure and Properties of Matter
Students investigate, describe, and differentiate between physical and chemical properties of elements and compounds including density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity.

Unit 2: Solutions
Students investigate the properties of solutions and factors such as temperature, pressure, pH, and concentration that affect solubility.

2021		September				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29 C1W2	30	31	01 Unit 1 (10 45-min. class periods)	02	03	04
05 C1W3	06 Labor Day	07 Unit 2 (12 45-min. class periods)	08	09	10	11
12 C1W4	13 Unit 2 (12 45-min. class periods)	14	15	16 Fall Holiday	17 Teacher Service Day (no students)	18
19 C1W5	20 Unit 2 (12 45-min. class periods)	21	22	23	24	25
26 C1W6	27 • Extend • Review • Assess • Reteach	28	29	30	01	02
03	04	Notes: Sept. 6 - Labor Day Sept. 16 - Fall Holiday Sept. 17 - Teacher Service Day (no students)				

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Units of Instruction

Unit 3: Structure of the Periodic Table

The focus of this unit is on the Periodic Table and how the placement of the elements in the Periodic Table is related to the chemical behavior of an element. Students investigate the structure of the Periodic Table, and identify and compare the properties of metals and nonmetals.

Unit 4: Bonding and the Periodic Table

Students describe chemical bonds and distinguish between ionic and covalent bonds. Students describe, interpret, write, construct, and name chemical formulas.

2021		October				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26 C1W6	27	28	29	30	01 • Extend • Review • Assess • Reteach	02 END OF CYCLE 1
03 C2W1	04 Teacher Service Day (no students)	05 Unit 3 (12 45-min. class periods)	06	07	08	09
10 C2W2	11 Unit 3 (12 45-min. class periods)	12	13	14	15	16
17 C2W3	18 Unit 3 (12 45-min. class periods)	19	20	21 Unit 4 (12 45-min. class periods)	22	23
24 C2W4	25 Unit 4 (12 45-min. class periods)	26	27	28	29	30
31	01	Notes: Oct. 4 - Teacher Service Day (no students)				

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Units of Instruction

Unit 4: Bonding and the Periodic Table

Students describe chemical bonds and distinguish between ionic and covalent bonds. Students describe, interpret, write, construct, and name chemical formulas.

Unit 5: Changes in Matter

Students investigate physical and chemical changes in matter and analyze chemical reactions by applying the Law of Conservation of Mass to balanced chemical equations.

2021	November					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
31 C2W5	01 Unit 4 (12 45-min. class periods)	02	03	04	05	06
07 C2W6	08 • Extend • Review • Assess • Reteach	09	10	11	12	13 END OF CYCLE 2
14 C3W1	15 Unit 5 (12 45-min. class periods)	16	17	18	19	20
21	22	23	24	25	26	27
	Thanksgiving					
28 C3W2	29 Unit 5 (12 45-min. class periods)	30	01	02	03	04
05	06	Notes: Nov. 22-26 - Thanksgiving Break				

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Units of Instruction

Unit 5: Changes in Matter

Students investigate physical and chemical changes in matter and analyze chemical reactions by applying the Law of Conservation of Mass to balanced chemical equations.

Unit 6: Nuclear Chemistry

The focus of this unit is on nuclear reactions such as fission and fusion and their roles in applications such as medicine and energy.

2021	December					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28 C3W2	29	30	01 Unit 5 (12 45-min. class periods)	02	03	04
05 C3W3	06 Unit 5 (12 45-min. class periods)	07	08 Unit 6 (12 45-min. class periods)	09	10	11
12 C3W4	13 Unit 6 (12 45-min. class periods)	14	15	16	17	18
19	20	21	22	23	24	25
	Enrichment Opportunities		Winter Break			
26	27	28	29	30	31	01
	Winter Break					
02	03	Notes: Dec. 20-31 - Winter Break				

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Units of Instruction

Unit 6: Nuclear Chemistry
The focus of this unit is on nuclear reactions such as fission and fusion and their roles in applications such as medicine and energy.

Unit 7: Force and Motion and STEM Project
These lessons focus on fundamental concepts of force and motion. Students gain an understanding of the laws of motion and how forces related to motion affect the physical world. Students plan and implement STEM-based project related to force and motion.

2022		January				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	31	01
02 C3W5	03 Unit 6 (12 45-min. class periods)	04	05	06	07 • Extend • Review • Assess • Reteach	08
09 C3W6	10 • Extend • Review • Assess • Reteach	11	12	13	14	15
16 C4W1	17 Martin Luther King, Jr. Day	18 Teacher Prep Day (no students)	19 Unit 7 (18 45-min. class periods)	20	21	22
23 C4W2	24 Unit 7 (18 45-min. class periods)	25	26	27	28	29
30 C4W3	31 Unit 7 (18 45-min. class periods)	Notes: Jan. 17 - Martin Luther King, Jr. Day Jan. 18 - Teacher Preparation Day (no students)				
						END OF CYCLE 3

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Units of Instruction

Unit 7: Force and Motion and STEM Project

These lessons focus on fundamental concepts of force and motion. Students gain an understanding of the laws of motion and how forces related to motion affect the physical world. Students plan and implement STEM-based project related to force and motion.

Unit 8: Gravitational and Electric Forces

The focus for this unit is to introduce the concepts of gravitational and electric forces.

Unit 9: Energy

The focus of this unit is on energy, its multiple forms, the impact of energy transfer, and energy conservation in everyday life.

2022		February				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
30 C4W3	31	01 Unit 7 (18 45-min. class periods)	02	03	04	05
06 C4W4	07 Unit 7 (18 45-min. class periods)	08	09	10	11	12
13 C4W5	14 Unit 8 (4 45-min. class periods)	15	16	17	18 • Extend • Review • Assess • Reteach	19
20 C4W6	21 Teacher Service Day (no students)	22 • Extend • Review • Assess • Reteach	23	24	25	26 END OF CYCLE 4
27 C5W1	28 Unit 9 (18 45-min. class periods)	01	02	03	04	05
06	07	Notes: Feb. 21 - Teacher Service Day (no students)				

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Units of Instruction

Unit 9: Energy
The focus of this unit is on energy, its multiple forms, the impact of energy transfer, and energy conservation in everyday life.

2022	March					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27 C5W1	28	01 Unit 9 (18 45-min. class periods)	02	03	04	05
06 C5W2	07 Unit 9 (18 45-min. class periods)	08	09	10	11	12
13	14	15	16	17	18	19
	Enrichment Opportunities			Spring Break		
20 C5W3	21 Unit 9 (18 45-min. class periods)	22	23	24	25	26
27 C5W4	28 Chávez / Huerta Day	29 Unit 9 (18 45-min. class periods)	30	31	01	02
03	04	Notes: Mar. 14-18 - Spring Break Mar. 28 - César Chávez/Dolores Huerta Day				

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Units of Instruction

Unit 10: Heat
Students focus on explaining the difference between heat and temperature and investigating heat transfer through solids, liquids and gases by convection, conduction and radiation. In addition, students measure the thermal conductivity of various materials and explain the results.

Unit 11: Electricity and Magnetism
Students focus on the investigation and comparison of series and parallel circuits and measure electrical conductivity of various materials and explain the results. Students solve mathematical problems on voltage, resistance and electrical current using Ohm's Law. In addition, students analyze the relationship between an electrical current and the strength of its magnetic field using simple electromagnets.

2022		April				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27 C5W4	28	29	30	31	01 Unit 10 (8 45-min. class periods)	02
03 C5W5	04 Unit 10 (8 45-min. class periods)	05	06	07	08	09
10 C5W6	11 Unit 10 (8 45-min. class periods)	12	13 • Extend • Review • Assess • Reteach	14	15 Spring Holiday	16
17 C5W7	18 • Extend • Review • Assess • Reteach	19	20	21	22	23
24 C6W1	25 Unit 11 (8 45-min. class periods)	26	27	28	29	30
01	02	Notes: Apr. 15 - Spring Holiday				

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Units of Instruction

Unit 11: Electricity and Magnetism

Students focus on the investigation and comparison of series and parallel circuits and measure electrical conductivity of various materials and explain the results. Students solve mathematical problems on voltage, resistance and electrical current using Ohm's Law. In addition, students analyze the relationship between an electrical current and the strength of its magnetic field using simple electromagnets.

Unit 12: Sound and Waves

Students investigate sound waves and the demonstration of wave types and their characteristics and wave interactions.

Unit 13: Light

Students describe the components of white light and the phenomenon of color. They describe how light can be polarized, reflected, refracted and explain its mechanisms and uses.

2022		May				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
01 C6W2	02 Unit 11 (8 45-min. class periods)	03	04	05 Unit 12 (10 45-min. class periods)	06	07
08 C6W3	09 Unit 12 (10 45-min. class periods)	10	11	12	13	14
15 C6W4	16 Unit 12 (10 45-min. class periods)	17	18	19 Unit 13 (8 45-min. class periods)	20	21
22 C6W5	23 Unit 13 (8 45-min. class periods)	24	25	26	27	28
29 C6W6	30 Memorial Day	31 Unit 13 (8 45-min. class periods)	01	02	03	04
05	06	Notes: May 30 - Memorial Day				

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2021-2022 Pacing Calendar		2022 June						
Units of Instruction		SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29 C6W6	30	31	01 • Extend • Review • Assess • Reteach	02	03	04		
05 C6W7	06 • Extend • Review • Assess • Reteach	07	08 Teacher Prep Day (no students) END OF CYCLE 6	09	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30	01	02		
03	04	Notes: Jun. 8 - Teacher Preparation Day (no students)						