


Mathematics – Discrete Mathematics for Problem Solving

2021-2022 Pacing Calendar

Units of Instruction

Unit 1 – Introduction to Graph Theory
Students explore the relationships among lines and points without regard to position or length.

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	23	24	25	26	27	28
		Unit 1 (8 45-min. class periods)				
29	30	31	01	02	03	04
	Unit 1 (8 45-min. class periods)					
05	06	Notes: Aug. 16-20 - Teacher Service Days (no students)				

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Units of Instruction

Unit 1 – Introduction to Graph Theory
Students explore the relationships among lines and points without regard to position or length.

Unit 2 – Eulerian Graphs
Students investigate Eulerian graphs and their applications.

Unit 3 – Simple Trees
Students examine applications of simple graphs (trees).

2021		September				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30	31	01 Unit 1 (8 45-min. class periods)	02	03 • Extend • Review • Assess • Reteach	04
05	06 Labor Day	07 Unit 2 (6 45-min. class periods)	08	09	10	11
12	13 Unit 2 (6 45-min. class periods)	14	15 • Extend • Review • Assess • Reteach	16 Fall Holiday	17 Teacher Service Day (no students)	18
19	20 Unit 3 (8 45-min. class periods)	21	22	23	24	25
26	27 Unit 3 (8 45-min. class periods)	28	29	30 • Extend • Review • Assess • Reteach	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 4 – Planning and Scheduling

Students examine methods and algorithms to optimize project scheduling.

Unit 5 – Packing Optimization Applications

Students examine methods and algorithms to optimize packing problems.

2021		October					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
26	27	28	29	30	01 • Extend • Review • Assess • Reteach	02 END OF CYCLE 1	
03	04 Teacher Service Day (no students)	05 Unit 4 (12 45-min. class periods)	06	07	08	09	
10	11 Unit 4 (12 45-min. class periods)	12	13 • Extend • Review • Assess • Reteach	14 Unit 4 (12 45-min. class periods)	15	16	
17	18 Unit 4 (12 45-min. class periods)	19	20	21	22 • Extend • Review • Assess • Reteach	23	
24	25 Unit 5 (12 45-min. class periods)	26	27	28	29 • Extend • Review • Assess • Reteach	30	
31	01	Notes: Oct. 4 - Teacher Service Day (no students)					

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Units of Instruction

Unit 5 – Packing Optimization Applications
Students examine methods and algorithms to optimize packing problems.

Unit 6 – Group Decision Making
Students apply mathematical decision-making models to weighted voting systems to evaluate and compare election procedures.

2021		November					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
31	01 Unit 5 (12 45-min. class periods)	02	03	04	05 • Extend • Review • Assess • Reteach	06	
07	08 Unit 5 (12 45-min. class periods)	09	10	11	12 • Extend • Review • Assess • Reteach	13 END OF CYCLE 2	
14	15 Unit 6 (20 45-min. class periods)	16	17	18	19 • Extend • Review • Assess • Reteach	20	
21	Thanksgiving					27	
28	29 Unit 6 (20 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 6 – Group Decision Making

Students apply mathematical decision-making models to weighted voting systems to evaluate and compare election procedures.

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

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Units of Instruction

Unit 6 – Group Decision Making

Students apply mathematical decision-making models to weighted voting systems to evaluate and compare election procedures.

Unit 7 – Fair Decision

Students apply fair division and distribution methods in a variety of allocation scenarios.

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

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Units of Instruction

Unit 7 – Fair Decision

Students apply fair division and distribution methods in a variety of allocation scenarios.

Unit 8 – Introduction to Game Theory

Students explore introductory competition theory to represent optimal strategies.

2022		February				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
30	31	01 Unit 7 (22 45-min. class periods)	02	03	04	05
06	07 Unit 7 (22 45-min. class periods)	08	09	10	11 • Extend • Review • Assess • Reteach	12
13	14 Unit 7 (22 45-min. class periods)	15	16	17	18 • Extend • Review • Assess • Reteach	19
20	21 Teacher Service Day (no students)	22 Unit 7 (22 45-min. class periods)	23	24 • Extend • Review • Assess • Reteach	25	26 END OF CYCLE 4
27	28 Unit 8 (14 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 8 – Introduction to Game Theory
 Students explore introductory competition theory to represent optimal strategies.

2022		March				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	01 Unit 8 (14 45-min. class periods)	02	03	04 • Extend • Review • Assess • Reteach	05
06	07 Unit 8 (14 45-min. class periods)	08	09	10	11 • Extend • Review • Assess • Reteach	12
13	14	15	16	17	18	19
Enrichment Opportunities				Spring Break		
20	21 Unit 8 (14 45-min. class periods)	22	23	24	25 • Extend • Review • Assess • Reteach	26
27	28 Chávez / Huerta Day	29 Unit 8 (14 45-min. class periods)	30	31 • Extend • Review • Assess • Reteach	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 9 – Applications of Game Theory

Students apply competition theory to model and calculate optimal strategies in a variety of game scenarios.

Unit 10 – Theory of Moves

Students investigate moves and countermoves within a strategic scenario to analyze, model, and plan the nature of a conflict over time.

2022		April					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
27	28	29	30	31	01 Unit 9 (12 45-min. class periods)	02	
03	04 Unit 9 (12 45-min. class periods)	05	06	07	08 • Extend • Review • Assess • Reteach	09	
10	11 Unit 9 (12 45-min. class periods)	12	13	14 • Extend • Review • Assess • Reteach	15 Spring Holiday	16	
17	18 Unit 9 (12 45-min. class periods)	19	20	21	22 • Extend • Review • Assess • Reteach	23 END OF CYCLE 5	
24	25 Unit 10 (20 45-min. class periods)	26	27	28	29 • Extend • Review • Assess • Reteach	30	
01	02	Notes: Apr. 15 - Spring Holiday					

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Units of Instruction




Unit 10 – Theory of Moves

Students investigate moves and countermoves within a strategic scenario to analyze, model, and plan the nature of a conflict over time.

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

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Units of Instruction

2022		June				
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30	31	01 • Extend • Review • Assess • Reteach	02 	03 	04
05	06 	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)				