### Units of Instruction

**Unit 1 - Measuring and Describing Motion**
The focus of this unit is on measurement and quantitative observations, including tables, graphs, and equations, used describing the motion of objects.

### Notes:
- Aug. 13-23 - Teacher Service Days (no students)
- Aug. 24 - Teacher Preparation Day (no students)

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
### Units of Instruction

**Unit 1 - Measuring and Describing Motion**
The focus of this unit is on measurement and quantitative observations, including tables, graphs, and equations, used describing the motion of objects.

**Unit 2 - Motion in One Dimension**
In this unit, students use kinematic equations and graphical vector addition to describe motion in one dimension including speed, velocity, distance, displacement, frame of reference and acceleration.

**Unit 3 - Gravitational Force**
Students are introduced to the four fundamental forces in physics. The rest of this unit focuses on the principles and calculations of gravitational force.

### Notes:
- Sept. 3 - Labor Day
- Sept. 10 - Teacher Service Day (no students)
- Sept. 21 - Early Dismissal / Staff Development

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
# 2018-2019 Pacing Calendar

## Units of Instruction

### Unit 3 - Gravitational Force
Students are introduced to the four fundamental forces in physics. The rest of this unit focuses on the principles and calculations of gravitational force.

### Unit 4 - Forces and Laws of Motion
The focus of this unit is describing the effect of forces on the motion of objects. Students calculate the effect of forces including the law of inertia, the relationship between force, and acceleration, and the nature of force pairs between objects using methods including free-body force diagrams.

### Unit 5 - Motion in Two Dimensions
Students continue analyzing motion using vectors and kinematic equations for projectile and circular motion.

## 2018 October

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**Notes:**
- Oct. 19 - Early Dismissal / Staff Development
- Oct. 29-Nov. 2 - Snapshot 1

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.

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### 2018-2019 Pacing Calendar

#### Units of Instruction
- **Unit 5 - Motion in Two Dimensions**
  Students continue analyzing motion using vectors and kinematic equations for projectile and circular motion.

- **Unit 6 - Mechanical Energy, Momentum and Impulse**
  The focus for this unit is for students to calculate momentum, power, mechanical energy, and apply the impulse-theorem in physical systems.

- **Unit 7 - Work-Energy Theorem and Energy Transformations**
  In this unit, students investigate and calculate examples of the work-energy theorem and investigate examples of energy transformations.

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**Notes:**
- Oct. 29 - Nov. 2 - Snapshot 1
- Nov. 9 - Early Dismissal / Staff Development
- Nov. 19-23 - Thanksgiving Break

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
## 2018-2019 Pacing Calendar

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### Notes:
- Dec. 3-20 - DLA (Biology)
- Dec. 21 - Teacher Preparation Day (no students)
- Dec. 24-Jan 4 - Winter Break

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**Units of Instruction**

**Unit 7 - Work-Energy Theorem and Energy Transformations**
In this unit, students investigate and calculate examples of the work-energy theorem and investigate examples of energy transformations.

**Unit 8 - Conservation of Energy and Momentum**
After calculating momentum and energy in various situations, students demonstrate and apply the laws of conservation of energy and momentum in one dimension.

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### 2019 January

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**Notes:**
- Dec. 24-Jan 4 - Winter Break
- Jan. 18 - Early Dismissal / Staff Development
- Jan. 21 - Martin Luther King, Jr. Day
- Jan. 28-Feb. 1 - Snapshot 2

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
### February

#### Units of Instruction

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**Notes:**
Jan. 28-Feb. 1 - Snapshot 2
Feb. 15 - Early Dismissal / Staff Development

**Unit 12 - Electromagnetic Waves and Image Formation**
Students investigate characteristics and behaviors of transverse waves such as electromagnetic waves and investigate, describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

**Unit 13 - Electric and Magnetic Forces**
This unit focuses on electric and magnetic forces and the relationship between the two. Students calculate the electric force between objects and investigate the relationship between electric and magnetic forces in everyday applications such as generators, motors and transformers.

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
### Units of Instruction

**Unit 14 - Electric Circuits**
In this unit, students characterize materials as conductors or insulators based on their electric properties. Students also investigate, construct and analyze series and parallel circuits using calculation for potential difference, resistance, and power used by electric circuit elements in both series and parallel combinations.

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**Notes:**
Mar. 11-15 - Spring Break
Mar. 25-29 - Mock STAAR (Biology)
### April 2019

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**Notes:**
- Apr. 19 - Spring Holiday

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**Units of Instruction**

**Unit 15 - Photoelectric Effect and Atomic Physics** Students investigate atomic and quantum phenomena including the dual nature of light. Calculate and describe the application of mass-energy equivalence.

**Unit 16 - Applications of Atomic and Nuclear Physics** Students investigate examples of atomic, nuclear, and quantum phenomena in everyday applications.

**Unit 17 - STEM Project/Individual Research** Students plan and implement scientific investigations through real-life applications of current science issues.

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This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
### 2018-2019 Pacing Calendar

**Science – Physics**

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**Notes:**
- May 27 - Memorial Day

- **Unit 17** - STEM Project/Individual Research
  - Students plan and implement scientific investigations through real-life applications of current science issues.

This document offers suggestions for pacing instruction and does not replace the HISD Planning Guides.
## 2018-2019 Pacing Calendar

### Units of Instruction - Science – Physics

<table>
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<th>SUNDAY</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
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**Notes:**

- June 3 - Teacher Preparation Day (no students)

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