

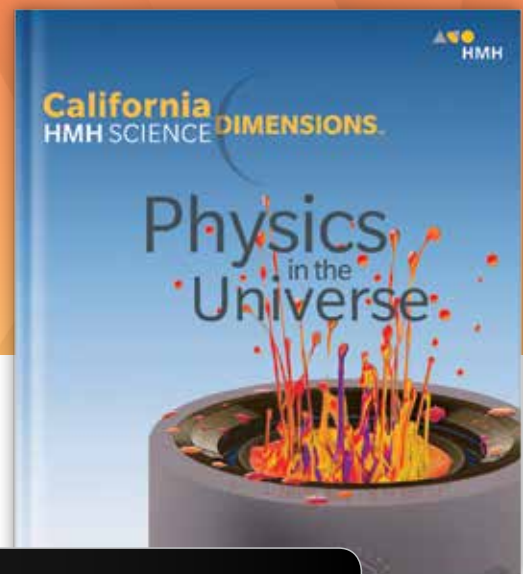
California  
HMH SCIENCE DIMENSIONS™

# Physics

in the  
Universe

GRADES 9–12

## Scope and Sequence



### Unit 1: Motion and Forces

Lesson 1: Motion in One and Two Dimensions

Lesson 2: Force, Mass, and Acceleration

Lesson 3: Engineering

*Thing Explainer:* Tall Roads

### Unit 2: Momentum and Collisions

Lesson 1: Momentum

Lesson 2: Collisions and Tectonic Plates

*Thing Explainer:* Sky Boat Pusher

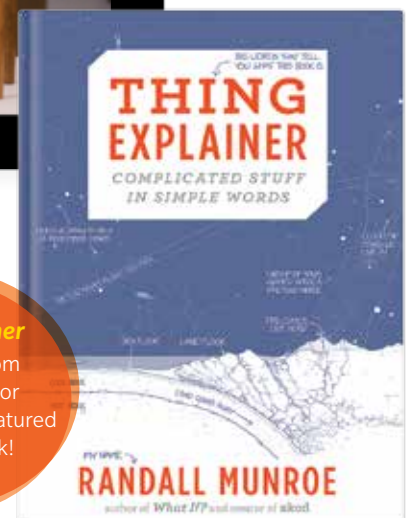
### Unit 3: Forces at a Distance

Lesson 1: Gravitational Force and Planetary Motion

Lesson 2: Electrostatic Force

Lesson 3: Forces in Materials

*Thing Explainer:* US Space Team's Up Goer Five



#### Thing Explainer

Illustrations from  
xkcd.com author  
Randall Munroe featured  
in the textbook!

## Unit 4: Energy Conversion

Lesson 1: Conservation of Energy

Lesson 2: Work

*Thing Explainer:* Under a Car's Front Cover

## Unit 5: Electricity and Magnetism

Lesson 1: Electricity

Lesson 2: Magnetism

Lesson 3: Electrical Energy

*Thing Explainer:* Food-Heating Radio Box



## Unit 6: Nuclear Processes

Lesson 1: The Nucleus

Lesson 2: Radiometric Dating and Earth's History

*Thing Explainer:* Heavy Metal Power Building

## Unit 7: Waves

Lesson 1: Waves and Matter

Lesson 2: Earthquakes and Seismic Waves

Lesson 3: Electromagnetic Radiation

Lesson 4: Information and Energy Transfer

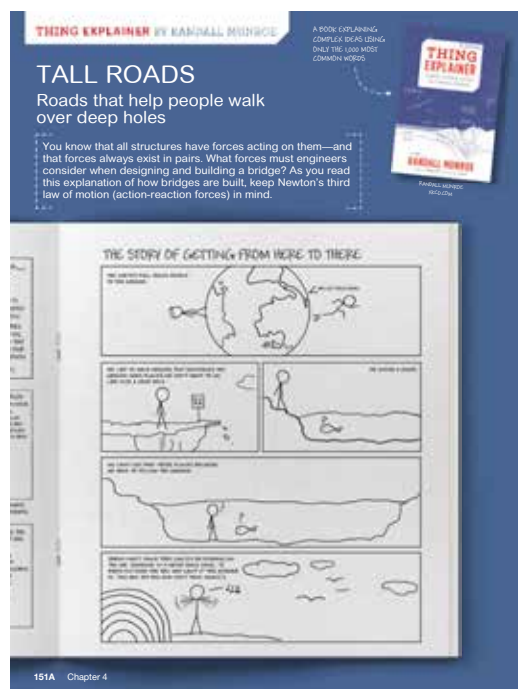
*Thing Explainer:* Colors of Light

## Unit 8: Stars and the Universe

Lesson 1: Stars and Space

Lesson 2: Evidence for the Big Bang

*Thing Explainer:* Our Star



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