



Switched-On™
ONLINE

2009-2010 Curriculum Catalog

Physics

Welcome to AOP™!

We are excited that you are including AOP as part of your program of instruction, and we look forward to serving you and your students.

AOP comes complete with a full, multimedia-enriched curriculum for grades 3—12 in five core subjects and electives.

This course catalog covers the following course:

- Physics

Thanks for choosing us!

Glynlyon Curriculum Development Team

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Alpha Omega Technical Service is Switched-On Online's full-service technical support system. We exist to promote and preserve our customers' satisfaction. Our services include:

- Technical Support
- Product Configuration and Update Management

You can contact Alpha Omega Technical Services for any support need using the following contact information:

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Toll Free: 1-800-735-4193

Monday – Friday 7:00 am to 7:00 pm (CT)

Physics

Unit 1

Assignment Title
1. Introduction to the Language of Physics
2. Experiment: Making a Soda Straw Balance
3. Experiment: Making a Simple Model of the Solar System
4. Quiz 1: Measurements
5. Scalars and Vectors
6. Experiment: Oleic Acid
7. Quiz 2: Scalars and Vectors
8. Speed and Velocity
9. Quiz 3: Speed and Velocity
10. Acceleration and Acceleration Due to Gravity
11. Experiment: Determining Reaction Time
12. Quiz 4: Acceleration and Acceleration Due to Gravity
13. Vectors
14. Projectiles
15. Quiz 5: Review
16. Special Project
17. Review Game
18. TEST
19. ALTERNATE TEST

Unit 2

Assignment Title
1. Newton's First and Second Laws
2. Report: Isaac Newton
3. Quiz 1
4. Gravity
5. Quiz 2
6. Uniform Circular Motion
7. Experiment: Circular Motion
8. Quiz 3
9. Newton's Third Law and Conservation of Momentum
10. Experiment: Explosion
11. Quiz 4
12. Kepler's Laws of Planetary Motion
13. Report: Solar System
14. Experiment: Kepler's Law
15. Quiz 5
16. Special Project
17. Review Game
18. TEST
19. ALTERNATE TEST

Unit 3

Assignment Title
1. Work, Kinetic, and Potential Energy
2. Report: Nuclear Energy
3. Quiz 1
4. Conservation of Energy
5. Power and Efficiency
6. Experiment: Simple Machine
7. Quiz 2
8. Heat Energy
9. Latent Heat
10. Experiment: Latent Heat
11. Laws of Thermodynamics
12. Quiz 3
13. Special Project
14. Review Game
15. TEST
16. ALTERNATE TEST

Unit 4

Assignment Title
1. Characteristics of Waves
2. Experiment: Wave Speeds
3. Experiment: Pulses
4. Quiz 1
5. Wave Phenomena
6. Experiment: Waves
7. Experiment: Bending Waves
8. Quiz 2
9. Sound Waves
10. Experiment: Doppler Effect
11. Quiz 3
12. Special Project
13. Review Game
14. TEST
15. ALTERNATE TEST

Physics (cont.)

Unit 5

Assignment Title
1. Speed of Light: Historical Calculations
2. Properties of Light
3. Experiment: Light Angles
4. Experiment: Water Refraction
5. Quiz 1
6. Mirrors
7. Experiment: Convergence
8. Lenses
9. Quiz 2
10. Light Phenomena and Models of Light
11. Experiment: Light Observations
12. Quiz 3
13. Special Project
14. Review Game
15. TEST
16. ALTERNATE TEST

Unit 6

Assignment Title
1. Electric Charges
2. Coulomb's Law
3. Experiment: Static Electricity
4. The Transfer of Charges
5. Quiz 1
6. Electric Fields
7. Quiz 2
8. Electric Potential
9. Potential and Energy
10. Quiz 3
11. Special Project
12. Review Game
13. TEST
14. ALTERNATE TEST

Unit 7

Assignment Title
1. Sources of EMF
2. Project: Research and Report
3. Fluid Flow
4. Quiz 1
5. Resistance
6. Quiz 2
7. Ohm's Law
8. Circuits
9. Quiz 3
10. Special Project
11. Review Game
12. TEST
13. ALTERNATE TEST

Unit 8

Assignment Title
1. Fields and Forces
2. Experiment: Magnetic Fields
3. Forces
4. Quiz 1
5. Electromagnetism
6. Experiment: Magnetic Fields
7. Electromagnetic Induction
8. Quiz 2
9. Electron Beams
10. Quiz 3
11. Special Project
12. Review Game
13. TEST
14. ALTERNATE TEST

Unit 9

Assignment Title
1. Quantum Theory
2. X-Rays, Matter Waves, and the Uncertainty Principle
3. Quiz 1
4. Early Atomic Models
5. Report: Early Atomic Physics
6. Bohr Model
7. Nuclear Theory
8. Quiz 2
9. Nuclear Reactions
10. Fusion and Applications of Nuclear Energy
11. Quiz 3
12. Special Project
13. Review Game
14. TEST
15. ALTERNATE TEST

Physics (cont.)

Unit 10

Assignment Title
1. Mechanics
2. Dynamics
3. Energy
4. Quiz 1
5. Wave Motion
6. Light and Sound
7. Quiz 2
8. Electricity and Magnetism
9. Fields and Forces
10. Circuits
11. Quiz 3
12. Modern Physics
13. The Bohr Atom
14. Duality
15. Nuclear Energy
16. Quiz 4
17. Special Project
18. Review Game
19. TEST
20. ALTERNATE TEST