

Zoznamy úloh v zbierkach Vernier

Zbierky úloh sú originálne učebnice vydané v angličtine. Zbierky označené znakom **(SK)** majú aj slovenské preklady úloh určených pre študentov. Tieto preklady dodávame na CD-ROM bezplatne pri zakúpení danej zbierky. Informácie: spisak.peter@pmsdelta.sk

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Amusement Park Physics (2nd edition)

(obj. kód: AMPK)

Zbierka popisuje rôzne metódy zberu údajov pri jazde na dráhach v zábavných parkoch. Vhodným senzorom pre tieto aktivity je Vernierov bezdrôtový senzorový systém WDSS

Chemistry Investigations for AP

(obj. kód: APCHEM)

1. Investigating Food Dyes in Sports Beverages
2. Determining the Copper Content in Brass
3. Investigating Water Hardness
4. The Acidity of Juice and Soft Drinks
5. Separating Molecules
6. Identifying an Unknown Substance
7. Investigating the Purity of a Mixture
8. Determining the Percent Peroxide in a Commercial Product
9. Investigating the Components of a Commercial Tablet
10. The Effect of Acid Rain on a Marble Structure
11. Investigating the Kinetics of a Crystal Violet Reaction
12. Investigating Commercial Hand Warmers
13. Investigating LeChatelier's Principle
14. Investigating Acid-Base Titrations
15. The Buffering Ability of Commercial Products
16. Testing the Effectiveness of a Buffer

Agricultural Science with Vernier

(obj. kód: AWW)

1. Introduction to Data Collection
2. Acids and Bases
3. Diffusion through Membranes
4. Conducting Solutions
5. Osmosis
6. Respiration of Sugars by Yeast
7. Reflection and Absorption of Light
8. Soil pH
9. Soil Salinity
10. Soil Temperature
11. Soil Moisture
12. a. Photosynthesis and Respiration (CO₂)
12. b. Photosynthesis and Respiration (O₂)
12. c. Photosynthesis and Respiration (CO₂ and O₂)
13. Transpiration
14. a. Cell Respiration (CO₂)
14. b. Cell Respiration (O₂)
14. c. Cell Respiration (CO₂ and O₂)
15. The Greenhouse Effect
16. Energy in Food
17. a. Enzyme Action: Testing Catalase Activity
17. b. Enzyme Action: Testing Catalase Activity
18. a. Lactase Action
18. b. Lactase Action
19. Oxygen Gas and Human Respiration
20. Biochemical Oxygen Demand
21. Animal Temperature
22. Lemon "Juice"
23. Ohm's Law
24. Energy Content of Fuels
25. Photovoltaic Cells
26. Wind Power
27. Watershed Testing
28. Interdependence of Plants and Animals
29. Biodiversity and Ecosystems

Advanced Biology with Vernier

(obj. kód: BIO-A)

- 01A Membrane Diffusion
- 01B Osmosis
- 02 Enzyme (O₂)
- 02 Enzyme (Pressure)
- 03 Mitosis and Meiosis
- 04A Plant Pigment Chrom
- 04B Photosyn Spectro
- 04B Photosynthesis
- 05A Cell Respiration (CO₂ and O₂)
- 05B Cell Respiration (CO₂)
- 05C Cell Respiration (O₂)
- 05D Cell Respiration (Pressure)
- 06A pGLO™ Bacterial Transformation
- 06B Analysis of Precut Lambda DNA
- 06B Forensic DNA Fingerprinting
- 07 Genetics of Drosophila
- 08 Population Genetics and Evolution
- 09 Transpiration
- 10A Blood Press as a Vital Sign
- 10B Heart Rate and Fitness
- 11 Animal Behavior
- 12A Dissolved Oxygen in Water
- 12B Primary Productivity
- 13 The Visible Spectra of Plant Pigments
- 14 Determination of Chlorophyll in Olive Oil
- 15 Enzyme Analysis using Tyrosinase
- 16 Introduction to Neurotransmitters using AChE
- 17 Macromolecules: Experiments with Protein

Investigating Biology through Inquiry

(obj. kód: BIO-I)

- 1 Investigating Buffers
- 2 Diffusion
- 3 Investigating Osmosis
- 4 Chemistry of Membranes
- 5 Investigating Protein: The Bradford Assay
- 6 Testing Catalase Activity (O₂)

- 7 Testing Catalase Activity (Gas Pressure)
- 8 Introduction to Biofuels: Enzyme Action
- 9 Analysis of Enzymes using Tyrosinase
- 10 Cellular Respiration
- 11 Sugar Metabolism with Yeast
- 12 Fermentation with Yeast
- 13 Photosynthesis by Chloroplasts
- 14 Transpiration of Plants
- 15 Plant Pigments
- 16 Heart Rate
- 17 Investigating Dissolved Oxygen
- 18 Investigating Primary Productivity
- 19 Modeling Population Dynamics
- 20 Water Monitoring
- 21 Evolution of Cellobiase in Fungi
- 22 Introduction to Molecular Evolution
- 23 Evolution of Yeast: Artificial Selection

Biology with Vernier (SK)

(obj. kód: BWV)

- 01 Energy in Foods
- 02 Limits on Cell Size
- 03 Acids and Bases
- 04 Membrane Diffusion
- 05 Conducting Solutions
- 06A Enzyme (O₂)
- 06B Enzyme (Pressure)
- 07 Photosynthesis
- 08 Alcohol and Membranes
- 09 Biological Membranes
- 10 Transpiration
- 11A Cell Resp (O₂)
- 11B Cell Resp (CO₂)
- 11C Cell Resp (Pressure)
- 11D Cell Resp (CO₂ and O₂)
- 12A Yeast Respiration (CO₂)
- 12B Fermentation (Pressure)
- 13 Population Dynamics
- 14 Plants and Animals
- 15 Biodiversity
- 16A Temp-Respiration (CO₂)
- 16B Temp-Ferment (Pressure)

17 Aerobic Respiration
18 Acid Rain
19 Dissolved Oxygen
20 Watershed Testing
21 Physical Profile Lakes
22 Osmosis
23A Temp Cold-Blooded (O₂)
23B Temp Cold-Blooded (CO₂)
24A Lactase Act (CO₂)
24B Lactase Act (Pressure)
25 Primary Productivity
26 Human Respiration
27 Heart Rate & Fitness
28 Monitoring EKG
29 Ventilation Heart Rate
30 Oxygen and Human Resp
31A Photo-Resp (O₂)
31B Photo-Resp (CO₂)
31C Photo-Resp (CO₂ and O₂)

Advanced Chemistry with Vernier**(SK)**

(obj. kód: CHEM-A)

01 The Determination of a Chemical Formula
02 The Determination of the Percent Water in a Compound
03 The Molar Mass of a Volatile Liquid
04 Using Freezing-Point Depression to Find Molecular Weight
05 The Molar Volume of a Gas
06 Standardizing a Solution of Sodium Hydroxide
07 Acid-Base Titration
08 An Oxidation-Reduction Titration: The Reaction of Fe²⁺ and Ce⁴⁺
09 Determining the Mole Ratios in a Chemical Reaction
10 The Determination of an Equilibrium Constant
11 Investigating Indicators
12 The Decomposition of Hydrogen Peroxide
13 Determining the Enthalpy of a Chemical Reaction
14A Separation and Qualitative Analysis of Cations

14B Separation and Qualitative Analysis of Anions
15A The Synthesis of Alum
15B The Analysis of Alum
16 Conductimetric Titration and Gravimetric Determination of a Precipitate
17 Determining the Concentration of a Solution: Beer's Law
18 Liquid Chromatography
19 Buffers
20 Electrochemistry: Voltaic Cells
21 Electroplating
22 The Synthesis and Analysis of Aspirin
23 Determining the K_{sp} of Calcium Hydroxide
24 Determining K_a by the Half-Titration of a Weak Acid
25 The Rate and Order of a Chemical Reaction
26 The Enthalpy of Neutralization of Phosphoric Acid
27 Radiation α , β , and γ
28 Radiation Shielding
29 The Base Hydrolysis of Ethyl Acetate
30 Exploring the Properties of Gases
31 Determining Avogadro's Number
32 Potentiometric Titration of Hydrogen Peroxide
33 Determining the Half-Life of an Isotope
34 Vapor Pressure and Heat of Vaporization
35 Rate Determination and Activation Energy

Investigating Chemistry through Inquiry

(obj. kód: CHEM-I)

01 Physical Properties Water
02 Baking Soda and Vinegar
03 An Investigation of Urea-Containing Cold Packs
04 Conductivity of Aqueous Solutions
05 Identifying Pure Substance

- 06 Energy Content Foods
- 07 Energy Content Fuels
- 08 Evaporation and Intermolecular Attractions
- 09 Enthalpy Changes
- 10 Reaction Stoichiometry
- 11 Beers Law
- 12 Colligative Properties of Solutions
- 13 Long Term Water Monitoring
- 14 Vapor Pressure and Heat of Vaporization
- 15 Acid-Base Properties of Household Products
- 16 The Effect of Acid Deposition on Aqueous Systems
- 17 Acid-Base Titrations
- 18 Conductimetric Titrations
- 19 Oxidation-Reduction Titrations
- 20 Voltaic Cells
- 21 Baking Soda Vinegar Revisited
- 22 Reaction Rates
- 23 Enzyme Activity
- 24 Sugar Fermentation by Yeast
- 25 Nuclear Radiation

Organic Chemistry with Vernier (obj. kód: CHEM-O)

- 1 Determining Melting Temperature
- 2 Recrystallization of Benzoic Acid and Aspirin
- 3 Determination of a Boiling Point: Simple and Fractional Distillation
- 4 Identifying an Unknown Analgesic by Melting Temperature and Thin-Layer Chromatography
- 5 Separation of Organic Compounds by Acid-Base Extraction Techniques
- 6 Understanding Polarimetry
- 7 Identification of Organic Unknowns Using Polarimetry
- 8 Investigating Gas Chromatography
- 9 Fractional Distillation of Esters
- 10 Understanding Intermolecular Forces Using a Gas Chromatograph: Enthalpy of Vaporization
- 11 Investigating Thermodynamic Relationships of Substituted Hydrocarbons

- 12 Extraction of Spinach Pigments and Analysis by Electronic Absorption Spectroscopy
- 13 SN1: Synthesis of t-butyl chloride
- 14 SN2: Synthesis of 1-bromobutane
- 15 Observing the Reaction Kinetics of Sucrose with Polarimetry
- 16 The Synthesis and Analysis of Aspirin
- 17 Isolation and Epoxidation of a Natural Product: Limonene
- 18 Synthesizing Ethyl Acetate by Fisher Esterification
- 19 Synthesis of Dibenzalacetone by Aldol Condensation
- 20 The Diels-Alder Reaction of Anthracene with Maleic Anhydride
- 21 Friedel-Crafts Acylation of Ferrocene
- 22 Grignard Formation of Crystal Violet
- 23 Synthesis of Fluorescein
- 24 Synthesis of Methyl Orange and Its Application to Textiles
- 25 Analysis of Natural ProductsU
- 26 Using a Gas Chromatograph: Identifying an Unknown Compound

Chemistry with Vernier (SK) (obj. kód: CWV)

- 01 Endo- and Exothermic
- 02 Freeze Melt Water
- 03 Another Look Freezing
- 04 Heat of Fusion
- 05 Find the Relationship
- 06 Boyle's Law
- 07 Pressure-Temperature
- 08 Fractional Distillation
- 09 Evaporation
- 10 Vapor Pressure
- 11 Beer's Law
- 12 Temp and Solubility
- 13 Electrolytes
- 14 Conductivity Solutions
- 15 Freezing Pt Depression
- 16 Energy of Foods
- 17 Energy of Fuels
- 18 Hess's Law
- 19 Heat of Combustion Mg
- 20 Equilibrium Constant
- 21 Household Acids
- 22 Acid Rain

- 23 Titration Curves
- 24 Acid-Base Titration
- 25 Titration Diprotic Acid
- 26 Conductivity Eq Point
- 27 Acid Dissociation K
- 28 Microvoltaic Cells
- 29 Lead Batteries
- 30 Rate Crystal Violet
- 31 Vitamin C
- 32 Buffer Lemonade
- 33 Free Chlorine
- 34 Iron in Vitamins
- 35 Phosphoric Acid
- 36 Microscale Titration

Den of Inquiry Volume 1

(obj. kód: DEN)

- 1 Counting by Weight
- 2 Measuring Paragraphs
- 3 Cars on the Street
- 4 Rolling Down Ramps
- 5 Pendulum
- 6 The Hanging Slinky
- 7 Normal Force
- 8 Sloppy Teeter Totter
- 9 Falling Balloons
- 10 Cooling Water
- 11 Water in the Microwave
- 12 Ohms Law, Constant Voltage
- 13 Resistivity
- 14 Slinky Standing Waves
- 15 Diffraction and Wavelength

Den of Inquiry Volume 2

(obj. kód: DEN)

- 1 Counting Clips
- 2 Measuring Paragraphs
- 3 Hooke's Law with Tension Springs
- 4 Hanging Isosceles Triangle
- 5 Buoyancy and Density
- 6 A Weight on a Table
- 7 Dynamic Teeter Totter
- 8 Rolling for Data
- 9 Rolling Down Ramps Redux
- 10 Rolling Friction
- 11 Pendulum and Energy Conservation

- 12 Falling Rulers
- 13 Kinetic Friction on a Ramp
- 14 Bouncing Balls and Energy Loss
- 15 The Elevator
- 16 Impulse: the Physics of Crashing and Bouncing
- 17 Vertical Pendulum

Investigating Solar Energy

(obj. kód: ELB-SOLAR)

- 1 Introduction to Solar Panels
- 2 Exploring Solar Energy
- 3 Introduction to the Vernier Energy Sensor
- 4 Making Connections: Circuits
- 5 Solar Panel Output: Effect of Load
- 6 Solar Panel Output: Effect of Shade
- 7 Solar Panel Output: Effect of Angle
- 8 Pumping Water with Solar Energy
- 9 Exploring Surface Temperature
- 10 Project: Solar Homes
- 11 Project: What's Cookin'?

Let's Go! Investigating Temperature (SK)

(obj. kód: ELB-TEMP)

- 1 Are We Cool or What?
- 2 Why Do We Need Thermometers?
- 3 Celsius or Fahrenheit. What's the Difference?
- 4 Getting it Just Right!
- 5 Go!Temp Spends the Night
- 6 Hold Everything! Comparing Insulators
- 7 Keepin' it Cool! Design Your Own Thermos
- 8 I'm Melting! Water Changes States
- 9 Solid, Liquid, Gas: Water Can Do it All!
- 10 Cool Reaction! The Reaction of Baking Soda and Vinegar

Investigating Wind Energy

(obj. kód: ELB-WIND)

- 1 Introduction to Wind Turbines
- 2 Exploring Wind Energy
- 3 Introduction to the Vernier Energy Sensor
- 4 Wind Turbine Output: The Effect of Load
- 5 Exploring Wind Turbine Blades
- 6 Blade Design: Pitch
- 7 Blade Design: Area
- 8 Blade Design: Quantity
- 9 Blade Design: Mass
- 10 Blade Design: Material
- 11 Project: Power Up!

Engineering Projects with LEGO EV3

(obj. kód: EP-EV3)

- 1 Introductory Project Robot Walker
- 2 Data Display and Acidity Tester
- 3 Plant Waterer
- 4 Audio Assistant
- 5 String Tension Tester
- 6 Aquarium Monitor
- 7 Cartesian Diver
- 8 Sunscreen Tester
- 9 Battery Tester
- 10 Solar Tracker
- 11 Magnet Detector
- 12 Compass
- 13 Minesweeper
- 14 Shell Game

Engineering Projects with Lego NXT**(SK)**

(obj. kód: EP-NXT)

- 1 Acidity Tester
- 2 Plant Waterer
- 3 Aquarium Monitor
- 4 Sunscreen Tester
- 5 Audio Assistant
- 6 String Tension Tester
- 7 Cartesian Diver
- 8 Battery Tester
- 9 Solar Tracker

10 Migrating Robot

11 Magnet Finder

12 Mine Sweeper

Engineering Projects with Vernier

(obj. kód: EPV)

- 1 Build a Temperature Sensor
- 2 Digital Control Systems
- 3 LED Color Mixer
- 4 Hot Wire Anemometer
- 5 DC Motor Control
- 6 Light Intensity & Stepper Motors
- 7 Servo Motors
- 8 Analyzing the Heart with EKG
- 9 Blood Pressure
- 10 Strain Gage Measurements
- 11 Propeller-Powered Pendulum
- 12 PID Ping Pong Ball Levitation

Investigating Environmental Science through Inquiry

(obj. kód: ESI)

- 1 Seasons and Angle of Insolation
- 2 A Local Weather Study
- 3 Investigating Dissolved Oxygen
- 4 Water Quality
- 5 Long Term Water Monitoring
- 6 Water Treatment
- 7 Investigating Salinity
- 8 Soil Temperature
- 9 Soil Salinity
- 10 Soil pH
- 11 Soil Moisture
- 12 Soil and Acid Rain
- 13 Managing Garden Soil Moisture
- 14 Cell Respiration (CO₂)
- 15 Biodiversity in Ecosystems
- 16 Biochemical Oxygen Demand
- 17 Water Cycle Column Investigations
- 18 Decomposition Column Investigations
- 19 Ecocolumn Investigations
- 20 Global Warming
- 21 UV Investigations
- 22 Comparing Sunscreens
- 23 Primary Productivity

- 24 Modeling Population Growth
- 25 Insulation Study
- 26 Fossil Fuels
- 27 Energy Conversion
- 28 Wind Power
- 29 Photovoltaic Cells
- 30 Investigation of Passive Solar Heating
- 31 The Effect of Acid Deposition on Aquatic Ecosystems
- 32 Measuring Particulates
- 33 Investigating Indoor Carbon Dioxide Concentrations
- 34 A Pollution Study

Earth Science with Vernier

(obj. kód: ESV)

- 01 Intro Data Collect
- 02 Exploring Magnet
- 03 Where IS North
- 04 Search for Iron Ore
- 05 Sea Floor Spreading
- 06 Soil pH
- 07 Soil Salinity
- 08 Soil and Acid Rain
- 09 Soil Temperature
- 10 WQ Temp
- 11 WQ pH
- 12 WQ Turbidity
- 13 WQ TDS
- 14 Water Treatment
- 15 Salinity of Ocean
- 16 Acid Rain Water
- 17 Freeze Ocean Water
- 18 Desalination
- 19 Mapping Ocean Floor
- 20 Sunglasses
- 21 Sunscreens
- 22 UV Clothing
- 23 Reflection & Abs
- 24 Greenhouse Effect
- 25 Land Sea Breezes
- 26 Relative Humidity
- 27 Dew Point
- 28 Wind Chill
- 29 Seasons
- 30 Fossil Fuels

- 31 Solar Homes
- 32 Photovoltaic Cells
- 33 Wind Power

Elementary Science with Vernier**(SK)**

(obj. kód: EWW)

- 1. Learning to Use Go!Temp
- 2. How Do Mittens Keep You Warm?
- 3. Baggie Mittens
- 4. The Sole Purpose
- 5. Cool Reaction!
- 6. Cold as Ice
- 7. Are We Cool or What?
- 8. Why Do We Need Thermometers?
- 9. Celsius or Fahrenheit. What's the Difference?
- 10. Getting it Just Right!
- 11. Go!Temp Spends the Night
- 12. Hold Everything! Comparing Insulators
- 13. Keepin' it Cool! Design Your Own Thermos
- 14. I'm Melting! Water Changes States
- 15. Solid, Liquid, Gas: Water Can Do it All!
- 16. Learning to Use the Pressure Sensor
- 17. Get a Grip!
- 18. Under Pressure
- 19. Bubbles in Your Bread
- 20. Learning to Use Go! Motion
- 21. e-Motion
- 22. Batty About Science
- 23. Spring into Action!
- 24. Air Ball!
- 25. Driving with Energy
- 26. Weigh Station - All Trucks Stop!
- 27. Learning to Use the Force Sensor
- 28. Lift the Load
- 29. What a Drag!
- 30. Oh! My Aching Back! How Ramps Make Lifting Easier
- 31. Learning to Use the Light Probe
- 32. Distance From the Sun
- 33. Summer and Winter
- 34. Sunshine on My Shoulders

- 35. Reflectivity of Light
- 36. Learning to Use the Magnetic Field Sensor
- 37. Exploring the Poles
- 38. Making Magnets
- 39. Electromagnets
- 40. Learning to Use the Voltage Probe
- 41. Are All Batteries the Same?
- 42. Stacked Batteries
- 43. All Worn Out!

Forensics with Vernier

(obj. kód: FWV)

- 01 Tracks of a Killer
- 14 Hot Air Cold Body
- 02 Bouncing Back
- 03 Name That Tune
- 04 Flipping Coins
- 05 The Ink is Still Wet
- 06 Measuring Momentum
- 07 Drug Tests
- 08 No Dumping
- 09 Killer Coffee
- 10 Dropped at Scene
- 11 Ashes to ashes
- 12 Hit and Run
- 13 Life in the Fast Lane
- 14 Chill Out: How Hot Objects Cool

Human Physiology with Vernier

(SK)

(obj. kód: HP-A)

- 01 Warming Function
- 02 Skin Temperature
- 03 Heart Rate Vital Sign
- 04 Heart Rate and Exercise
- 05 Heart Rate Response
- 06 Effect of Coughing
- 07 Blood Press Vital Sign
- 08 Blood Pressure Exercise
- 09 Diurnal Blood Pressure
- 10 Heart Rate BP Vital Signs
- 11 Heart Rate BP Exercise
- 12 Analyzing Heart EKG
- 13 Introduction to EMG
- 14A Reflexes with ACC

- 14B Reflexes without ACC
- 15 Muscle Funct Analysis
- 16 Compare Grip Strength
- 17 Grip Strength Fatigue
- 18 EMG and Muscle Fatigue
- 19 Lung Volumes
- 20 Respiratory Response
- 21 Analyze Lung Function
- 22 Aerobic Metabolism
- 23 O₂ Extraction
- 24 Effect of Dead Space

Hands-On Introduction to NI LabVIEW

(obj. kód: LWV)

- 1 Open and Run an Example VI
- 2 Read Microphone Data
- 3 Analyze Microphone Data
- 4 Continuous Read and Analyze Microphone Data
- 5 Read Temperature Data
- 6 Above Threshold Warning of Temperature Data
- 7 Create a Temperature Conversion SubVI
- 8 Control Analog Out, Digital Out and Pulse Out
- 9 Build a Sensor Control Program

Middle School Science with Vernier

(SK)

(obj. kód: MSV)

- 01 A Hot Hand
- 02 Heat Land and Water
- 03 Greenhouse Effect
- 04 Relative Humidity
- 05 Soil Study
- 06 Radiant Energy
- 07 Reflectivity of Light
- 08 Schoolyard Study
- 09 A Good Sock
- 10 What Causes Seasons
- 11 Solar Homes
- 12 Ocean Floor Mapping
- 13 Boiling Water
- 14 Freezing Water

- 15 How Low Can You Go
- 15B Ziplock Ice Cream
- 16 A Good Cold Pack
- 17 Lemon Juice
- 18 Get a Grip
- 19 Fun With Pressure
- 20 Hard Water Study
- 21 Diffusion
- 22 Water Field Study
- 23 Shaq vs Susie
- 24 Yeast Beasts
- 25 Heart Rate Position
- 26 Heart Rate Exercise
- 27 Magnetic Field
- 28 Electromagnets
- 29 Friction
- 30 First Class Levers
- 31 Pulleys
- 32 Buoyancy
- 33 Graphing Motion
- 34 Velocity
- 35 Indy 100
- 35B Pencil Car
- 36 Crash Dummies
- 37 Falling Objects
- 38 A Speedy Slide

Nuclear Radiation with Vernier (SK)
(obj. kód: NRV)

- 1 Alpha, Beta and Gamma
- 2 Distance and Radiation
- 3 Lifetime Measurement
- 4 Statistics
- 5 Background Radiation Sources
- 6 Radiation Shielding

Advanced Physics with Vernier - Beyond Mechanics
(obj. kód: PHYS-ABM)

1. Behavior of a Gas
2. Heat Engines
3. Standing Waves on a String
4. Standing Waves in a Column of Air
5. Doppler Effect
6. Electrostatics
7. Coulomb's Law

8. Mapping Electric Potential
9. Factors Affecting Electrical Resistance
10. Series and Parallel Circuits
11. Faraday's Law: Moving Magnet
12. Faraday's Law: Alternating Current
13. Capacitors and Inductors
14. RLC Circuits
15. Curved Mirrors and Images
16. Thin Lenses and Real Images
17. Thin Lenses and Virtual Images
18. Aperture and Depth of Field
19. Interference
20. Diffraction
21. Spectrum of Atomic Hydrogen
22. Planck's Constant

Advanced Physics with Vernier - Mechanics (obj. kód: PHYS-AM)

- 1 Motion on an Incline
- 2 Error Analysis
- 3 Newton's First Law
- 4 Newton's Second Law
- 5 Newton's Third Law
- 6 Projectile Motion
- 7 Energy Storage and Transfer: Elastic Energy
- 8 Energy Storage and Transfer: Kinetic Energy
- 9 Energy Storage and Transfer: Gravitational Energy
- 10A Impulse and Momentum (Motion Detector)
- 10B Impulse and Momentum (Photogate)
- 11A Momentum and Collisions (Motion Detectors)
- 11B Momentum and Collisions (Photogates)
- 12A Centripetal Acceleration
- 12B Centripetal Acceleration
- 13 Rotational Dynamics
- 14 Conservation of Angular Momentum
- 15 Simple Harmonic Motion: Mathematical Model

- 16 Simple Harmonic Motion:
Kinematics and Dynamics
- 17 Pendulum Periods
- 18 Physical Pendulum
- 19 Center of Mass

Physical Science with Vernier (SK)

(obj. kód: PSV)

- 01 Temp Response
- 02 Boiling Temp Water
- 03 Freeze Melt Water
- 04 Evaporation Alcohols
- 05 Endo Exothermic
- 06 Neutralization
- 07 Mixing Warm Cold
- 08 Heat of Fusion
- 09 Energy of Fuels
- 10 Energy of Foods
- 11 Radiant Energy
- 12 Insulated Bottle
- 13 A Good Sock
- 14 Insolation Angle
- 15 Solar Homes
- 16 Conducting Solutions
- 17 Saltwater Conductivity
- 18 Acid Strengths
- 19 Frictional Force
- 20 First-Class Levers
- 21 Pulleys
- 22 Inclined Plane
- 23 Reflectivity of Light
- 24 Polaroid Filters
- 25 How Bright is Light
- 26 Electromagnets
- 27 Magnetic Field
- 28 Household Acids
- 29 Acid Rain
- 30 Pressure and Volume
- 31 Pressure and Temp
- 32 Fun with Pressure
- 33 Lemon Juice
- 34 Lead Batteries
- 35 Graphing Motion
- 36 Velocity
- 37 It's Race Day
- 38 Momentum
- 39 Newton's 2nd Law

- 40 Falling Objects

Physics with Video Analysis

(obj. kód: PVA)

- 01 Rolling Ball
- 02 Big Small
- 03 Velocity Change
- 04 Velocity Speed
- 05 Velocity Acceleration
- 06 Constant Acceleration
- 07 Demon Drop
- 08 Moon Jump
- 09 Pool Ball
- 10 Galileo Then
- 11 Galileo Now
- 12 Projectile Vectors
- 13 Friction Cart
- 14 Juggler
- 15 CoM Motions
- 16 Spring Constant
- 17 NetWork-KE
- 18 Oscillations
- 19 Wave Speeds
- 20 Wave Superposition
- 21 Wave Pulse Eq
- 22 Doppler Water
- 23 Doppler Sound
- 24 Heat Engine
- 25 Coulomb
- 26 Discharge Rate
- 27 Line Charge
- 28 Ohms Law
- 29 Capacitor Spacing
- 30 Capacitor Network
- 31 RC Circuits
- 32 Faradays Law
- 33 Snells Law

Physics with Vernier (SK)

(obj. kód: PWV)

- 01 Graph Matching
- 02A Back and Forth Motion
- 03 Cart on a Ramp
- 04 Determining g on Incline
- 05 Picket Fence Free Fall
- 06 Ball Toss

- 07 Bungee Jump
- 08 Projectile Motion
- 09 Newtons Second Law
- 10 Atwoods Machine
- 11 Newtons Third Law
- 12 Static Friction
- 13 Air Resistance
- 14 Pendulum Periods
- 15 Simple Harmonic Motion
- 16 Energy of a Tossed Ball
- 17 Energy in SHM
- 18 Momentum, Energy
- 19 Impulse and Momentum
- 20 Centripetal Turntable
- 21 Accel in Real World
- 22 Ohms Law
- 23 Series and Parallel Circ
- 24 Capacitors
- 25 Magnetic Field in a Coil
- 26 Magnetic Field in Slinky
- 27 Electrical Energy
- 28 Polarization of Light
- 29 Light and Distance
- 30 Newtons Law of Cooling
- 31 Permanent Magnet
- 32 Sound Waves and Beats
- 33 Speed of Sound
- 34 Tones Vowels and Phones
- 35 Mathematics of Music

Renewable Energy with Vernier

(obj. kód: REV)

- 1. Renewable Energy: Why is it So Important?
- 2. What is Energy?
- 3. Project: Energy Audit
- 4. Voltage and Circuits
- 5. Current and Resistors
- 6. Mechanical Power
- 7. Generators
- 8. Exploring Wind Turbines
- 9. Effect of Load on Wind Turbine Output
- 10. Blade Variables and Power Output
- 11. Solidity
- 12. Turbine Efficiency
- 13. Power Curves

- 14. Power and Energy
- 15. Project: Maximum Energy Output
- 16. Project: Build a Wind Farm
- 17. Exploring Solar Panels
- 18. Effect of Load on Solar Panel Output
- 19. Variables Affecting Solar Panel Output
- 20. Effect of Temperature on Solar Panel Output
- 21. Project: Build a Solar Charger
- 22. Exploring Passive Solar Heating
- 23. Variables Affecting Passive Solar Heating
- 24. Exploring Solar Collectors
- 25. Variables Affecting Solar Collectors
- 26. Project: Solar Cooker

Real World Math with Vernier

(obj. kód: RWV)

- 1 Walk the Line - Straight Line Distance Graphs
- 2 Making Cents of Math: Linear Relationship between Weight and Quantity
- 3 Pool Plunge - Linear Relationship between Water Depth and Pressure
- 4 Funnel Volumes - Volume and Weight
- 5 Keep It Bottled Up - Rates of Pressure Increase
- 6 Mix It Up - Mixing Liquids of Different Temperatures
- 7 Spring Thing - Newton's Second Law
- 8 Stretch It to the Limit - The Linear Force Relation for a Rubber Band
- 9 What Goes Up - Position and Time for a Cart on a Ramp
- 10 That's the Way the Ball Bounces - Height and Time for a Bouncing Ball
- 11 Walk This Way - Definition of Rate
- 12 Velocity Test - Interpreting Graphs
- 13 From Here to There - Applications of the Distance Formula
- 14 Under Pressure - The Inverse Relationship between Pressure and Volume
- 15 Light at A Distance - Distance and Intensity
- 16 Chill Out: How Hot Objects Cool

- 17 Charging Up, Charging Down - Charging a Capacitor
- 18 Bounce Back - The Pattern of Rebound Heights
- 19 Sour Chemistry - The Exponential pH Change
- 20 Swinging Ellipses - Plotting an Ellipse
- 21 Lights Out! - Periodic Phenomena
- 22 Tic, Toc: Pendulum Motion
- 23 Stay Tuned: Sound Waveform Models
- 24 Up And Down: Damped Harmonic Motion
- 25 How Tall? Describing Data with Statistical Plots
- 26 And Now, the Weather - Describing Data with Statistics
- 27 Meet You at the Intersection: Solving a System of Linear Equations
- 28 Titration Curves: An Application of the Logistic Function
- 29 Clock Design: Period and Length of a Simple Pendulum
- 30 Graph It in Pieces: Piecewise Defined Functions
- 31 Stepping to the Greatest Integer: The Greatest Integer Function
- 32 Crawling Around: Parametric Plots

Water Quality with Vernier (SK)

(obj. kód: WQV)

- 01 Temperature
- 02 pH
- 03 Turbidity
- 04 Total Solids
- 05 Dissolved Oxygen
- 06 Biochemical Oxygen Demand
- 07 Phosphates
- 08 Nitrate
- 09 Fecal Coliform
- 10 Ammonium Nitrogen
- 11 Alkalinity
- 12 Total Dissolved Solids
- 13 Calcium and Water Hardness
- 14 Total Water Hardness
- 15 Cl and Salinity
- 16 Stream Flow
- 17 Physical Profile of a Lake
- 18 PAR Attenuation in Water