

Physics Performance Assessment Kit

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CLASSROOM MATERIALS KIT LIST

Contents

Investigation 1: SPEED, ACCELERATION, AND TRAJECTORY	2
Investigation 2: FORCE, MASS, AND ACCELERATION	2
Investigation 3: WHAT CAUSES THE SEASONS?	2
Investigation 4: BUILD AND TEST AN ELECTROSCOPE	2
Investigation 5: BUILD A DC MOTOR	3
Investigation 6: STRUCTURE-PROPERTY RELATIONSHIPS	3
Investigation 7: ENERGY CONVERSION	3
Investigation 8: BUILD YOUR OWN EGG-TRANSPORT VEHICLE	3
Investigation 9: HEATING CURVE OF WATER	4
Investigation 10: DESIGN, BUILD, AND REFINE A WIND-TURBINE ROTOR	4
Investigation 11: DISCOVERING THE SPEED OF SOUND IN OPEN AIR	4
Investigation 12: CLOTHING AND SUN PROTECTION	4
Investigation 13: SEND MESSAGES WITH A TELEGRAPH	5
Investigation 14: MODEL NUCLEAR FORCES	6
Investigation 15: URANIUM-LEAD DATING	6
Investigation 16: LIFE CYCLE OF STARS	6

SPEED, ACCELERATION, AND TRAJECTORY

Materials Included in Kit *(for 10 groups of students)*

- Hall's carriage, 10
 - Pine board (car stopper), 10
 - Plastic bag, 10
 - Pulley with table clamp, 10
 - Washers, 150
 - String thin ball, 1
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FORCE, MASS, AND ACCELERATION

Materials Included in Kit *(for 8 groups of students)*

- Hall's carriage, 8
 - Inclined plane, wood, 8
 - Aluminum support rod, 8
 - Pulley for inclined plane, 8
 - Washer, flat, stainless steel, 16
 - Wing nut, 16
 - String ball, 1
 - Pan screw, 16
 - Hex screw, 16
 - Hex nut, zinc, 16
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WHAT CAUSES THE SEASONS?

Materials Included in Kit *(for 10 groups of students)*

- Blocks of wood, with hole, 10
 - String
 - Foamball, 4-inch diameter, 10
 - Pushpins, 100
 - Wire, 8 inches, 10
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BUILD AND TEST AN ELECTROSCOPE

Materials Included in Kit *(for 8 groups of students)*

- Aluminum foil, 1 roll
 - Erlenmeyer flask, 250 mL, 8
 - Rod, hook and rubber stopper assembly, 8
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BUILD A DC MOTOR

Materials Included in Kit *(for 10 groups of students)*

- Ceramic ring magnets, 30
 - Connector cords w/ alligator clips, 20
 - Copper wire, 16 gauge, 8 ft
 - Foam block, 6" x 12" x 1", 2
 - Magnet wire, 22 gauge, 125 ft
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STRUCTURE-PROPERTY RELATIONSHIPS

Materials Included in Kit *(for 10 groups of students)*

- Polyvinyl alcohol, 4% solution, [-CH₂CH(OH)-]_n, 500 mL
 - Sodium borate, 4% solution, Na₂B₄O₇, 200 mL
 - Wood sticks, 10
 - Paper clips
 - Plastic cups, 10
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ENERGY CONVERSION

Materials Included in Kit *(for 6 groups of students)*

- Cardboard tubes, 6
 - Neodymium magnets, 12
 - Iron nails, 10
 - Sandpaper sheet
 - LED, red, 10
 - Magnet wire
 - Transparent tape
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BUILD YOUR OWN EGG-TRANSPORT VEHICLE

Materials Included in Kit *(for 15 groups of students)*

- Carabiner, 2 in., 4
 - Hooks, ceiling, 4
 - Spring scale, 1 kg
 - Nylon String
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HEATING CURVE OF WATER

Materials Required *(for 15 groups of students)*

- Balance (0.01 g precision)
- Beaker, borosilicate, 250 mL
- Graduated cylinder, 100 mL
- Hot plate
- Stirring rod
- Support clamp and stand (optional)
- Thermometer or temperature probe
- Timer
- Water, ice
- Water, room temperature

DESIGN, BUILD, AND REFINE A WIND-TURBINE ROTOR

Materials Included in Kit *(for 15 groups of students)*

- Bamboo skewers, 100
- Cap, plastic, 2
- Cork, size 11, 30
- DC motor, 1.5 V, 2
- Sandpaper, 9 x 11"
- Cardboard sheets, 8 ½" x 8 ½", 8
- Foam sheets, 8 ½" x 5 ½", 12
- Manila folder, 4
- Polystyrene sheets, 12" x 12" 4

DISCOVERING THE SPEED OF SOUND IN OPEN AIR

Materials Included in Kit *(for 8 groups of students)*

- Plastic tube, clear, 1" diameter, 2 ft, 8
- PVC tube, white, ½" diameter, 2 ft, 8
- Rubber stopper, #5

CLOTHING AND SUN PROTECTION

Materials Included in Kit *(for 10 groups of students)*

- Black construction paper, 9"x12", 2
- Cotton fabric, 7 ½" x 7", 2
- Foam board, 20 cm x 20 cm, 10
- Multifiber test fabric, 4 ft
- Pins, 600
- Sun print paper, pkg 30

SEND MESSAGES WITH A TELEGRAPH

Materials Included in Kit *(for 8 groups of students)*

- Alligator clip wire, black, 16
 - Alligator clip wire, red, 16
 - Contact keys, 8
 - Iron nail, 2", 8
 - Iron strips, 10
 - Magnet wire, 30 gauge, 600 ft
 - Pink foam, 8
 - Sandpaper, 9 in x 11 in
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MODEL NUCLEAR FORCES

Materials Included in Kit *(for 10 groups of students)*

- Bingo chips, red, pkg 120, 10
 - Bingo chips, green, pkg 120, 10
 - Dice, 6-sided, pkg 10, 10
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URANIUM–LEAD DATING

Materials Included in Kit *(for 10 groups of students)*

- Bingo chips, red, 250
 - Coarse gravel, 500 g
 - Corks, size 00, 100
 - Glass marbles, 150
 - Kidney beans, 1 lb
 - Plastic bags, 10
 - Pom poms, black, 250
 - Weighing dish, large, 10
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LIFE CYCLE OF STARS

Materials Included in Kit *(for 10 groups of students)*

- Syringes, 10
 - Syringe caps, 10
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