

"Enjoying God's World of Nature"

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Apologia's Physical Science, 3rd Edition

Alphabetical listing of items in the kit, quantity, location of item within the kit, and in which lesson items are used.

| Item Number | ltem Name | Quantity | Bag | Used in Module |
|--------------|--------------------------------------|----------|-----|--------------------|
| 40236-3ft | Aluminum Foil, 3 Ft | 1 | 2 | 7, 11 |
| E40262-3tb | Baking Soda, 3 tbsp | 1 | 2 | 2, 5, 7, 13 |
| 40220-lg | Balloons | 8 | 3 | 2, 4, 7, 7, 11, 13 |
| 40820 | Batteries, 9 Volt | 2 | 6 | 2, 5 |
| 40229-ba | Batteries, D Cell, 1 single | 1 | 6 | 11 |
| 40229-ba | Batteries, D Cell, 2 pk | 1 | 6 | 10 |
| 40646-2tbsp | Beads, Green, 1 tbsp | 1 | 3 | 3 |
| 50652 | Beakers, 100 ml | 1 | 8 | 2, 7 |
| 50653 | Beakers, 250 ml | 4 | 8 | 1, 2, 4, 5 |
| 40738 | Candle, Tealight | 1 | 5 | 9 |
| 40282 | Cardboard, Chipboard, 8 ½ x 11" | 1 | 1 | 6 |
| 40528-1 | Cardstock | 1 | 1 | 1 |
| 40284-1 | Chalk Pieces | 2 | 3 | 12 |
| 40475-1/4 | Construction Paper, Black ¼ sheet | 1 | 1 | 10 |
| E40241-1/2c | Cooking Oil, 120 ml, ½ c, 4 oz | 4 | 4 | 2, 4 |
| 40250 | Cork | 4 | 3 | 2 |
| E40721-1/2c | Corn Syrup, 120 ml, ½ c, 4 oz | 2 | 4 | 2 |
| 40825-box | Cornstarch, 16 oz | 1 | 2 | 12 |
| 40354-red | Crayon, Red, 1 crayon | 1 | 3 | 10 |
| 40420 | Cup, Plastic, 12 oz | 7 | 7 | 13, 14 |
| 40471 | Cup, Styrofoam, 10 oz | 1 | 7 | 4 |
| 45020 | Digital Scale | 1 | 8 | 1 |
| E40264-10ml | Dish Soap, 10 ml | 1 | 4 | 4 |
| E40264-2 | Dish Soap, 60 ml, ¼ c, 2 oz | 1 | 4 | 5 |
| 46915 | Dropper Pipettes, Plastic | 4 | 7 | 4, 12, 14 |
| 40272 | Effervescent Antacid Tablet | 1 | 2 | 1 |
| 40270 | Electrical Tape | 1 | 6 | 11 |
| E40822-3 | Epsom Salt, ¼ cup | 2 | 2 | 5 |
| 22562 | Flashlight, large | 1 | 6 | 10 |
| 41230 | Food Coloring, 4 pk | 1 | 2 | 2, 4, 5 |
| 51723 | Funnel | 1 | 7 | 14 |
| 23603 | Glue Stick | 1 | 1 | 3 |
| 46615 | Hanger, metal | 2 | х | 3 |
| E41223-120ml | Hydrogen Peroxide, 120 ml, ½ c, 4 oz | 2 | 4 | 5 |
| 40341-1 Bulk | Index Cards, single | 2 | 1 | 7, 13 |

| Item Number | Item Name | Quantity | Bag | Used in Module |
|--------------|--------------------------------------|----------|-----|------------------|
| C50699 | lodine (no dropper needed) | 1 | 4 | 14 |
| E40732-1/2c | Isopropyl Alcohol, 120 ml, ½ c, 4 oz | 2 | 4 | 2 |
| 40461 | Jar, Glass, 12 oz | 1 | 4 | 4 |
| 40728 | Limestone | 1 | 9 | 1, 7, 12 |
| 64008 | Magnifier, Economical | 1 | 7 | 1 |
| 40238-bulk | Marbles | 4 | 5 | 2, 7 |
| 40224-1 | Marker, Black | 1 | 1 | 10 |
| 40256-roll | Masking Tape, roll | 1 | 1 | 1, 2, 6, 8 |
| 40276 | Matchbook | 1 | 3 | 9 |
| 40747 | Measuring Cup, Plastic, 2 cup | 1 | 7 | 2, 12, 14 |
| 22551 | Measuring Spoons, metal | 1 | 2 | 5, 12, 13 |
| 40042 | Microscope Slides, 2 pk | 1 | 8 | 4 |
| 23555 | Mirror, 3x4", rectangle | 1 | 3 | 10 |
| 45054 | Mirror, 4x6", large | 1 | 3 | 10 |
| 40826 | Nail, 3 in | 1 | 3 | 11 |
| 46181 | Nylon Casting Line | 1 | 5 | 3, 7 |
| 51748 | Packing Peanut, single | 1 | 3 | 5 |
| 40450-1 | Paper Towels, 1 oz | 1 oz | 2 | 4, 6 |
| 40233 | Paper, White | 3 | 1 | 10 |
| 40530-5 | Paperclips, 5 pk | 1 | 1 | 2, 4 |
| 40531-2 | Paperclips, lg, 2 pk | 1 | 1 | 1, 11 |
| 40421 | Pen, retractable | 1 | 1 | 4, 10 |
| 40239-S | Pencils | 5 | 1 | 1, 7, 8 |
| 40827 | Pie Pan | 1 | 5 | 12 |
| 40920 | Ping-Pong Ball | 1 | 5 | 14 |
| 40835 | Pipe Cleaners, white | 30 | 3 | 3 |
| 40281 | Plastic Bag 10x13" | 1 | 7 | 13 |
| 40277 | Plastic Bag 6x6" | 3 | 7 | 12 |
| 40922 | Plastic Tub | 1 | 7 | 9 |
| 40933 | Plate, Styrofoam, 6" | 2 | 5 | 12 |
| 41233 | Prism, Acrylic | 1 | 3 | 10 |
| 40833 | Protractor | 1 | 1 | 1, 10 |
| 40836 | Pumice, Lava Rock | 1 | 9 | 12 |
| 40839 | Push Pins, Red and Blue pk | 1 | 3 | 3 |
| 40832-1 | Rice, 1 tsp | 1 | 2 | 9 |
| 40840 | Rocks | 2 | 9 | 9 |
| 50620 | Rubber Stopper, 25 mm, no hole | 1 | 3 | 7 |
| 40245-lg | Rubberbands, lg, 5 pk | 1 | 1 | 8, 9, 13 |
| 40333 | Ruler | 1 | 1 | 1, 6, 8, 10 |
| 50681 | Safety Goggles | 1 | 6 | multiple modules |
| E40778-1tbsp | Salt Substitute | 1 | 2 | 15 |
| E40240-1/4 | Salt, ¼ cup | 1 | 2 | 12 |
| 40221-lg | Scissors, large | 1 | 1 | multiple modules |
| 40247-7 | Skewers, 7" with point | 2 | 3 | 3 |

| Item Number | Item Name | Quantity | Bag | Used in Module |
|-------------|---------------------------|----------|--------|------------------|
| 40449-4 | Spoons, Plastic, 4 pk | 1 | 7 | 2 |
| 40729-1/2 | Steel Wool, ½ pc, lg. pc | 1 | 2 | 5 |
| 50711-6 | Stirring Rod, 6" | 1 | 8 | 1 |
| 40533 | Stopwatch | 1 | 8 | multiple modules |
| 40288-2lg | Straws, lg, 2 pk | 1 | 7 | 4, 7 |
| 40544-6 | String, 6 ft | 1 | 3 | 1, 8 |
| 40231 | Styrofoam Balls, 2″ | 2 | 5 | 3 |
| 40225 | Tape Measure | 1 | 3 | 6, 7, 8, 9 |
| 40235 | Tape, Clear | 1 | 1 | 7, 8, 9, 10, 11 |
| 23607 | Tennis Ball | 1 | 5 | 8 |
| 51745-2 | Test Tubes, Plastic, 2 pk | 1 | 7 | 5 |
| 50631 | Thermometer, Dual Scale | 1 | In Box | 5 |
| 40350 | Thermometers, Student | 3 | 8 | 10, 13 |
| 40223 | Thread | 1 | 3 | 11 |
| 40549-100 | Toothpicks | 1 | 2 | 4, 14 |
| 40261-32 | Vinegar, qt | 1 | х | 5, 7, 12, 13 |
| 41028-1 | Vitamin C, 2 pk | 1 | 2 | 14 |
| 40271-5 | Washers, 5 pk | 1 | 5 | 1, 2 |
| 40551 | Water Bottle Lid, Plastic | 1 | 7 | 13 |
| 40269 | Water Bottle, Plastic | 1 | 7 | 13 |
| 40445 | Wax Paper, 12x12" | 1 | 2 | 4 |
| 40538-2 | Wire, 2 ft, insulated | 1 | 6 | 11 |
| 40538-9in | Wire, 9", insulated | 2 | 6 | 2 |
| 40735-2 | Yeast, 1 Tbsp | 1 | 2 | 5 |

Apologia's Physical Science, 3rd Edition Lesson-by-lesson chart of what you will need, in which bag to find it, and what you will need to provide.

Note: YDS = You Do Science

| Module 1 In Your Kit: | Bag # | You Provide: |
|------------------------------------------------|-------|--------------|
| Beaker, 250 mL | 8 | Water |
| Cardstock | 1 | |
| Digital Scale | 8 | |
| Effervescent Tablet (in place of Alka-Seltzer) | 2 | |
| Limestone Rock (small object) | 9 | |
| Magnifier | 7 | |
| Masking Tape | 1 | |
| Paper Clip, large | 1 | |
| Pencil | 1 | |
| Protractor | 1 | |
| Ruler | 1 | |
| Stirring Rod | 8 | |
| Stopwatch | 8 | |
| String (cut as needed) | 3 | |
| Washers | 5 | |

| Module 2 In Your Kit: | Bag # | You Provide: |
|-----------------------------------------------------|-------|---------------------|
| Baking Soda | 2 | A Helper |
| Balloon, large, 9" YDS | 3 | Grapes or Raisins |
| Battery, 9-volt | 6 | Hot and Cold Water |
| Beaker, 100 mL | 8 | Jar, quart size |
| Beakers, 250 mL | 8 | lce |
| Cooking Oil (use 2 1/2 C bottles, save excess) | 4 | Paper Towel |
| Cork | 3 | Pennies |
| Corn Syrup (use 2 1/2 C bottles, save excess) | 4 | |
| Food Coloring set | 2 | Note: 2/3 C =150 mL |
| Isoprop. Alcohol (use 2 1/2 C bottles, save excess) | 4 | |
| Marbles | 5 | |
| Masking Tape | 1 | |
| Measuring Cup | 7 | |
| Paper Clips, small | 1 | |
| Safety goggles | 6 | |
| Spoons, plastic | 7 | |
| Stopwatch | 8 | |
| Washers | 5 | |
| Wire, Insulated, 9" | 6 | |

| Module 3 In Your Kit: | Bag # | You Provide: |
|-----------------------|--------|--------------|
| Fishing Line | 5 | Color Cards |
| Glue Stick | 1 | |
| Pipe Cleaners | 3 | |
| Plastic Beads | 3 | |
| Pins, blue | 3 | |
| Pins, red | 3 | |
| Scissors | 1 | |
| Skewers, bamboo | 3 | |
| Styrofoam Balls | 5 | |
| Wire Hangers | In Box | |

| Module 4 In Your Kit: | Bag # | You Provide: |
|---------------------------------------------------|-------|------------------------|
| Balloon, Iarge, 9" | 3 | Bowl |
| Beakers, 250 mL | 8 | Butter |
| Cooking Oil, 1/2 C (2 containers are allocated) | 4 | Ice Cubes |
| Cooking Oil, (Exp. 4.3, use excess from Module 2) | 4 | Knife, serrated |
| Dish Soap, 10 mL | 4 | Microwave |
| Food Coloring, blue and red | 2 | Pan |
| Jar, glass, 12 0z. YDS | 8 | Paper Towel |
| Paper Clip, small | 1 | Spoon |
| Paper Towels | 2 | Toilet Paper |
| Pen | 1 | Water |
| Pipettes | 7 | |
| | | Continued on next page |

| Module 4 - Continued | In Your Kit: | Bag # | You Provide: |
|----------------------|--------------|-------|--------------|
| Safety Goggles | | 6 | |
| Salt, YDS | | 2 | |
| Scissors | | 1 | |
| Straw, large | | 7 | |
| String, YDS | | 3 | |
| Styrofoam Cup | | 7 | |
| Toothpicks | | 2 | |
| Wax Paper | | 2 | |
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| Module 5 In Your Kit: | Bag # | You Provide: |
|------------------------------|--------|--------------------------|
| Baking Soda, 1 TB | 2 | 1 or 2-Liter Soda Bottle |
| Battery, 9-volt | 6 | Stirring Spoon |
| Beaker, 250 mL | 8 | Water |
| Dish Soap, 1/4 C, YDS | 4 | |
| Epsom salts, 1/4 C | 2 | |
| Food Coloring, YDS | 2 | |
| Hydrogen Peroxide, 1/2 C | 4 | |
| Hydrogen Peroxide, 1/2 C YDS | 4 | |
| Measuring Spoons | 2 | |
| Packing Peanut | 3 | |
| Safety Goggles | 6 | |
| Salt Substitute | 2 | |
| Steel Wool | 2 | |
| Stopwatch | 8 | |
| Test Tubes, plastic | 7 | |
| Thermometer | In Box | |
| Vinegar | In Box | |
| Yeast, 1TB, YDS | 2 | |

| Module 6 In Your Kit: | Bag # | You Provide: |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------|
| Cardboard Masking Tape, YDS Paper Towels Ruler Safety Goggles Scissors Stopwatch, YDS Tape Measure, YDS | 1 1 2 1 6 1 8 3 | 4 Eggs A Helper, YDS Books Cookie Sheet |

| Module 7 In Your Kit: | Bag # | You Provide: |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Aluminum Foil Balloon, large, 9", YDS Baking Soda, 2 tsp Beaker, 100 mL Fishing Line, YDS Index Card Limestone Rock, YDS Marble Pencils Rubber Stopper Saftey Goggles Scissors Stopwatch, YDS Straw, large, YDS Tape, clear, YDS | Bdg # 2 3 2 8 5 1 9 5 1 3 6 1 8 7 1 | 2-liter Bottle Aluminum Pie Pan Egg, hard-boiled Egg, raw Chair, YDS Coin Heavy book Small Piece of Paper |
| Vinegar | 3 In Box | |

| Module 8 In Your Kit: | Bag # | You Provide: | |
|--------------------------|-------|------------------------|--|
| Masking Tape | 1 | A Helper | |
| Pencil | 1 | Basketball, YDS | |
| Rubber bands, large | 1 | Bathroom Scale | |
| Ruler | 1 | Hand Weight, 1 pound | |
| Safety Goggles | 6 | Stairway | |
| Stopwatch | 8 | | |
| String | 3 | | |
| Tape, clear | 1 | | |
| Tape Measure | 3 | | |
| Tape Measure, YDS | 3 | | |
| Tennis Ball, YDS | 5 | | |
| | | | |

| Module 9 In Your Kit: | Bag # | You Provide: |
|--------------------------------|-------|--------------------------|
| Balloon, large, 9", YDS | 3 | 1 or 2 Liter Soda Bottle |
| Candle, tealight | 5 | A Helper |
| Matchbook | 3 | Bowl |
| Rice | 2 | Glass bottle |
| Rocks, med-sz | 9 | Plastic Wrap |
| Safety Goggles | 6 | Pot |
| Scissors | 1 | Sidewalk |
| Stopwatch | 8 | Water |
| Tape, clear | 1 | Wooden Spoon |
| Tape Measure | 3 | |

| Module 10 In Your Kit: | Bag # | You Provide: |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Batteries for Flashlight, D-Cell Construction Paper, black, 1/4 sheet Flashlight Mirror, 4x6" Mirror, small (remove plastic covering before use) Pen Prism, YDS Protractor Red Crayon Ruler Safety Goggles Scissors Stopwatch Tape, clear Thermometers, plastic backed, 3 White Paper White Paper, YDS | 6 1 6 3 1 3 1 3 1 3 1 6 1 8 1 8 1 8 1 1 | Bowl, opaque, YDS Cake Pan Dark Room Glass Pan Milk Quarter, YDS Spoon Sunny Window Water Water, YDS |

| Module 11 In Your Kit: | Bag # | You Provide: |
|------------------------|-------|---------------|
| Aluminum Foil | 2 | |
| Balloons, large | 3 | A Clear Glass |
| Battery, 1.5V, D-Cell | 6 | Pliers |
| Electrical Tape | 6 | |
| Nail, 3 inch | 3 | |
| Paper Clip, large | 1 | |
| Safety Goggles | 6 | |
| Scissors | 1 | |
| Tape, clear | 1 | |
| Thread | 3 | |
| Wire, insulated | 6 | |

| Module 12 In Your Kit: | Bag # | You Provide: |
|--------------------------------|--------|---------------------|
| Allimunum Pie Pan | 5 | Bowl, large |
| Bag, zip close, 6x6" | 7 | Freezer, YDS |
| Chalk, YDS | 3 | Pan with Lid |
| Cornstarch | 2 | Pot Holders |
| Limestone Rock, YDS | 9 | Spoon |
| Measuring Cup | 7 | Stove |
| Measuring Spoons | 2 | Water |
| Pipette, YDS | 7 | Water, YDS |
| Pumice (lava rock), YDS | 9 | |
| Safety Goggles | 6 | |
| Salt | 2 | |
| Styrofoam Plates, YDS | 5 | |
| Vinegar, YDS | In Box | |

| Module 13 In Your Kit: | Bag # | You Provide: | |
|-------------------------|--------|------------------------|--|
| Balloon, large, 9" | 3 | 1-Liter Plastic Bottle | |
| Bag, zip close, 10x13″ | 7 | Bowls, 2 | |
| Baking Soda | 2 | Empty Soda Cans, 2 | |
| Index Card, YDS | 1 | Frying Pan | |
| Measuring Spoons | 2 | Ice Cubes | |
| Plastic Cup, YDS | 7 | Stove | |
| Rubber Band | 1 | Sunny Window | |
| Safety Goggles | 6 | Tongs | |
| Thermometer | 8 | Water | |
| Vinegar | In Box | | |
| Water Bottle with Lid | 7 | | |

| Module 14 In Your Kit: | Bag # | You Provide: |
|----------------------------|-------|---------------------|
| lodine | 4 | Juice, Apple |
| Funnel, YDS | 7 | Juice, Lemon |
| Measuring Cup | 7 | Juice, Grapefruit |
| Plastic Cups | 7 | Juice, Orange |
| Ping-Pong Ball, YDS | 5 | Marshmallows, YDS |
| Pipette | 7 | Quart Jar |
| Toothpicks, YDS | 2 | Raisins, YDS |
| Vitamin C Pill | 2 | Water |
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Things You Need to Know

Thank you for choosing our supplies kit to enhance your study through the *Science in the Ancient World* text. So that you might find the kit easy to manipulate, there are a few things that you will need to know.

First, you will find a chart of all items within the kit listed alphabetically. It lists the quantity of each item, where it is found in the kit, and in which lesson the item is used. It is to be used for easy location of any item regardless of which lesson you are studying. You will also find our office item numbers in case you need to phone for replacements of any items.

Second, you will find a lesson-by-lesson break down of what you need for each individual lesson, where it is found in the kit, and the items you will need to provide. Every effort has been made to provide all reasonable items within the kit so that your study is not hampered by an absence of supplies, however, some things are unreasonable for us to provide. This will be obvious as you proceed.

Third, the best way to locate necessary items as you progress through the course is to always return supplies to their original bag when the experiments are completed. Several items will be used multiple times throughout the course and the **Bag #** will be continually referenced.

Enjoy your study!

General Safety Rules

• Before you do any experiment, read these instructions and the instructions for that experiment completely.

• Always recap each bottle when you are through with it, and keep all bottles and other materials away from younger children and pets.

• Handle chemicals with care. Caution notices and antidotes for chemicals are listed in these instructions. In the event of misuse (ingestion, inhalation, skin contact) immediately contact the United States National Poison Control Hotline @ 800-222-1222.

• A list of materials precedes each experiment. Some experiments require the use of common household items and materials. Common household chemicals not supplied in this kit can be purchased at local stores.

• Avoid contact between any chemical and your skin. Never rub your eyes or put your fingers in your mouth after handling a chemical. Always wash your hands immediately with soap and warm water after working with any chemical.

• Before you begin any activity, roll up your sleeves, put on an apron or smock, or other protective clothing. Tie long hair back from your face so it doesn't block your view or get caught in any equipment. Also, cover your work area with newspaper or a plastic sheet. Avoid splashing chemicals on wood surfaces, vinyl flooring, carpet, etc. Keep chemicals away from food areas.

• Always clean your equipment and work area after each activity. Clean your lab equipment, such as pipets and scoops, with warm, sudsy water. It's okay if a small amount of liquid or solid waste goes down the drain, but you should not dispose of waste material by flushing it. After your equipment is clean, be sure to wash the sink with lots of water. Be careful not to use a kitchen towel for clean up. Use a rag or paper towels that can be disposed of.

Disposal of Chemicals

None of the chemicals in this kit pose any significant environmental hazard. However, you should still use caution when you dispose of your waste chemicals. The waste materials from each experiment should be placed in a small plastic container, like a pill vial or film canister, and the container should be placed in a sealable bag. The contained material may then be placed in the garbage for disposal in a land fill. Never mix waste products from two different experiments in the same waste container.

Crushing and Grinding Chemicals

For some activities you will need to crush a solid chemical into a fine powder. One method is to wrap the solid in a cloth, tap the object with a hammer to break it into smaller crystals. Keep your fingers out of the way. Then pour the pieces into a clean dry jar lid, and grind them into a fine powder using the back of an old spoon.

Notebook

Even if you have a great memory, it helps to keep a written record of what you do. Include how you prepared, what steps you did, and what you observed during and after the activity. Good records often include notes, drawings, graphs, and even photographs.

Distilled Water

Unless the directions call for a specific type of water, it is best to use distilled water if possible.

Please check your order for any shortages or damaged items upon receipt. Contact us at Nature's Workshop Plus, Inc. for replacement items.

Please observe all safety precautions when doing experiments.