



"Enjoying God's World of Nature"

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Discovering Design with Physics

Quick Reference Chart

Alphabetical listing of items in the kit, quantity, bag number where the item is found, and the chapters where the item will be used.

Item #	Name	Quantity	Bag #	Used in Chapter
40236-3	Aluminum Foil, 3ft.	1	1	13, 14, 15, 16
40220-sm	Balloons	6	4	3, 13, 14
40820	Battery, 9-Volt	2	3	14, 15, 16
40521-1	Battery, AA	1	3	14
40282	Cardboard - 8 1/2"x11" Chipboard	1	1	12
40282-8.5x11	Cardboard - 8 1/2"x11" Corrugated	1	1	6
40253	CD, compact disc	1	1	8
40922	Circular Container, plastic	1	5	1
40555-1	Clay, modeling clay	1	4	8
50032	Compass	1	1	16
51840-18	Copper Pipe , 18 inch	1	LIB	16
40274	Film Canister	1	4	14
40469	Funnel	1	5	3, 10
40275	Glass Jar, 8 oz.	1	5	13, 14
40249	Golf Ball	1	2	2, 3, 6, 7, 8
51839-L	Jug with Lid, 1/2 gal.	1	LIB	3
40351	Lid for Styrofoam Cup	1	1	13
40252	Magnet	1	3	16
40238-2	Marble, large	1	2	1, 2, 5, 7
40238-5md	Marbles, med.set of 5	1	2	9
40224-1	Marker	1	1	5
22550-1	Measuring Cups	1	5	3, 8, 10, 15
51838	Measuring Scoop, 1/4 tsp	1	4	15
40225	Measuring Tape	1	4	1, 2, 5
51836	Mirror, magnifying	1	1	12
40826	Nail, 3 inch	1	3	14
40923	Nut, hex-nut	1	3	9
40531-5	Paper Clips, 5 pk.	1	3	8, 13, 14
40233-1	Paper, plain white	1	1	3, 7, 12
40239	Pencil, unsharpened	1	1	3, 6, 7, 9
51837	Pie Pan, 8 in.	1	LIB	4
40920	Ping Pong Ball	1	2	2, 3
40277	Plastic bag, 6"x6"	1	1	3
51841-18	Plastic Pipe, 18 inch	1	LIB	16
40922	Plastic Tub	1	5	1
40833	Protractor	1	1	4, 12

Item #	Name	Quantity	Bag #	Used in Chapter
46109	Push Pin	1	3	7
51842-1	Ramp, cardboard substitution for wood board	1	LIB	2
41227	Rubber Ball	1	2	8
40245-3.5x1/4-Lg	Rubberbands	3	4	7, 11
46196	Ruler	1	1	5, 6, 8, 9, 10
40240-1Tbsp	Salt, 1 Tbsp	1	4	14, 15
40221-Lg	Scissors	1	1	Multiple lessons
40930	Spring, with loops	1	3	10
40729-1	Steel Wool	1	3	14
23550	Straw, bendable	1	1	5
40288-2lg	Straws, straight, 2 pk.	1	1	4
40544-30	String, 30 ft	1	4	3, 6, 9, 10
40471	Styrofoam Cups, 10 oz	6	5	1, 3, 4, 6
40235	Tape, clear	1	4	Multiple lessons
40223	Thread	1	4	3, 8
40269	Water Bottle with Lid	1	LIB	8, 10

Chapter-by-Chapter

Below is a **Chapter-by-Chapter** chart of the items that you will need for each chapter, where the items are located within the kit, and what you will need to provide. To maintain the organization of the kit, return each re-usable item to its original bag. This chart will guide you through the kit with ease.

Large items are located *Loose -in-the-Box*, **LIB**.

Chapter 1	In Your Kit:	Bag #	You Provide:
	Marble, large	2	Baking pan
	Measuring Tape	5	Books
	Plastic Container	5	Pen
	Styrofoam Cups	4	Step ladder
			Timing device
			Water

Chapter 2	In Your Kit:	Bag #	You Provide:
	Cardboard Ramp (Substitution for wooden board: Unroll and fold along the lines to create a "U" shaped cardboard ramp.)	LIB	Books
	Golf Ball	2	Hair dryer
	Measuring Tape	4	Table
	Marble, large	2	Timing device
	Ping-Pong Ball	2	

Chapter 3 In Your Kit:	Bag #	You Provide:
Balloons	4	Flat Surface
Funnel	5	Hair Dryer
Golf Ball	2	Pennies
Jug, 1/2 gallon	LIB	Sink
Measuring Cups	5	Water
Paper, plain white	1	
Pencil	1	
Ping-pong ball	2	
Plastic bag, 6"x6"	1	
Scissors	1	
String	4	
Styrofoam Cup	5	
Tape	4	
Thread	4	

Chapter 4 In Your Kit:	Bag #	You Provide:
Pie Pan	LIB	Bathtub
Protractor	1	PDF Map
Ruler	1	Pencil
Straws, straight, 2 pk.	1	
Styrofoam Cups, 3	5	
Tape	4	

Chapter 5 In Your Kit:	Bag #	You Provide:
Marble, large	2	Books
Marker	1	Pennies, 2
Measuring Tape	4	Pitcher
Ruler	1	Sink
Scissors	1	Table
Straw, bendable	1	Two-liter bottle
Tape	4	Water

Chapter 6 In Your Kit:	Bag #	You Provide:
Cardboard, corrugated	1	An automobile
Golf Ball	2	Book
Pencil	1	Licensed driver
Ruler	1	Parking lot
String	4	Pennies, 20
Styrofoam Cup	5	Quarter, 1
Tape	4	

Chapter 7 In Your Kit:	Bag #	You Provide:
Golf Ball	2	Nothing additional
Marble, large	2	
Paper, plain white	1	
Pencil	1	
Push Pin	3	
Rubberbands	4	
Scissors	1	
Tape	4	

Chapter 8 In Your Kit:	Bag #	You Provide:
CD	1	Books
Clay	4	Counter top
Golf Ball	2	Shower curtain rod
Measuring Cups	5	Hard floor
Paper Clip	3	Meter stick
Rubber Ball	2	Papertowel tube
Ruler	1	Smooth sided pencil
Scissors	1	Water
Tape	4	
Thread	4	
Water Bottle	LIB	

Chapter 9 In Your Kit:	Bag #	You Provide:
Marbles, 5 pk.	2	Books Sink
Nut, hex nut	3	Coffee mug Tall glass
Pencil	1	Counter Water
Ruler	1	Cushion
String	4	Egg

Chapter 10 In Your Kit:	Bag #	You Provide
Funnel	5	Four Nickles
Measuring Cups	5	Four Pennies
Ruler	1	Timing Device
Scissors	1	Towel bar
Spring	3	Water
String	4	
Tape	4	
Water Bottle	LIB	

Chapter 11 In Your Kit:	Bag #	You Provide:
Rubberband	4	Bowl

Chapter 12 In Your Kit:	Bag #	You Provide:
Cardboard	3	Flashlight
Mirror, magnifying	1	Knife
Paper, plain white	1	Shiny spoon
Protractor	1	Smooth sided pencil
Scissors	1	

Chapter 13 In Your Kit:	Bag #	You Provide:
Balloon	4	Two phones
Aluminum Foil	4	
Glass Jar	5	
Lid, plastic	1	
Paper Clip	3	
Scissors	1	

Chapter 14 In Your Kit:	Bag #	You Provide:
Aluminum Foil	1	Hammer
Balloon	4	Hair dryer
Battery, AA	3	Water
Battery, 9-Volt	3	
Film Canister	4	
Glass Jar	5	
Nail	3	
Paper Clip	3	
Salt	4	
Scissors	1	
Steel Wool	3	
Tape	4	

Chapter 15 In Your Kit:	Bag #	You Provide:
Aluminum Foil	1	Juice galses, 2
BAttery, 9-Volt	3	Water
Measuring Cups	5	
Measuring Spoon	4	
Salt	4	
Scissors	1	

Chapter 16 In Your Kit:	Bag #	You Provide:
Aluminum Foil	1	Counter top
Battery, 9-Volt	3	
Compass	1	
Copper Pipe	LIB	
Magnet	3	
Plastic Pipe	LIB	
Tape	4	

Things You Need to Know

Thank you for choosing our supplies kit to enhance your study through the *Discovering Design with Physics* 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 chapter-by-chapter break down of what you need for each individual chapter, 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.

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