

***Chemical Investigations for Chemistry for Changing
Times 14th edition Hill Solutions Manual***

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Appendix B – Common Materials List

Material	Specification	Investigations
A		
Acrylic, clear spray		1
Aftershave		23
Ajax [®] laundry detergent (liquid)		2
Almonds, sliced		50
Aluminum cans		38
	lids	10
Aluminum foil		10, 25, 27, 30, 32, 45
Ammonia cleaning product		22, 23, 63
Anise seeds		53
Antacid tablets	Alka-Seltzer [®]	21, 51
	Tums [®]	21
	Rolaids [®]	21, 51
Antifreeze nontoxic		2
Aspirin	aged commercial	55
	fresh commercial	55
Astringent		62
B		
Baby oil		62
Baking powder		51
Baking soda		51
Balloons, large party		5
Battery	9 V	6
Beets		22
Bleach, chlorine		23, 25, 27, 63
Bloodstains		49
Borax [®]	powdered	61
	4% solution	31
	8% solution	31
Brake fluid		2
Bread, white		50
Butter		56
Butter beans		50
C		
Cabbage, red		22
Can lids		10

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Candle	emergency size	8
	small birthday	36
Cardboard for lid to Styrofoam [®] cup		3
Castille soap (or Ivory Snow [®])		61
Charcoal, activated		38
Cheese, Swiss		50
Cheesecloth		50, 59
Cigar, little		37
Cigarettes	filtered	37
	non-filtered	37
Citrus fruits	orange, lemon, or grapefruit	45
	juices	46
Clay (soil)		59
Cleansing cream		62
Cloth		17
Coffee, instant granules		54
Coins	different metals	25, 45
	pennies	33
Cologne	(or inexpensive perfume)	23, 62
Container with lid (plastic)	at least 200 mL capacity	33
Copper	tokens (coins)	1
	wire, insulated	6
Cork	small	2
	ground pieces	4
Corn syrup	1% solution	57
Cotton balls		44, 45, 62
Cotton swabs		20, 49
Cottonseed oil		60
D		
“Dirty” water		38
Dish washing detergent	machine	23
	hand	18, 23
Downy [®] fabric softener		2
Drain cleaner		22, 23
Drinking Straws		19, 36
Drink mixes (fruit)		13
Dry ice		38, 39, 40
E		
Egg, raw		47, 65
Elmer’s Glue [®]		31

Excedrin [®] (extra strength)		54
F		
Fabric dyes		38
Fertilizer (inorganic)		58
Food to test for proteins		50
Food colors	common 4	28, 30, 38, 52
	blue	63
	green	2, 20
	red	61
FD&C food dyes	common seven	52
Fritos [®]		56
Fruit juices with vitamin C	apple	46
	orange	46
G		
Gelatin, unflavored		47
Grape juice, concentrate		22
Gum, chewing		17
H		
Hair		47, 63
Hair spray		23, 62
Handi-Tak [®] (or other removable gum adhesive)	or modeling clay	49
Honey	pure	18
	1% solution	57
Hot air dryer		43, 54
I		
Ice		2, 20, 34, 55
Incandescent bulb (with socket)		8
Isopropyl alcohol (rubbing)		18
Ivory Snow [®] (or castille soap)		61
K		
Karo [®] syrup	dark	2
	light	2
Ketchup		18
Key		64
Knives		22
L		
Lead samples (at least 1%)		65
Lemon juice		22
Lipstick		62

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M

Magnet	handheld	4
Marbles, glass		18, 33
Margarine	liquid	56
	solid	56
Marker, permanent		10
Marshmallow, puffs		50
Matches		23, 37, 44
Meat, lean white (chicken or turkey)		50, 56
Metal pellets		41
M&M's [®] candies		52
Milk		47, 50
Mineral oil		2, 44
Molasses		2
Motor oil (30 wt.)		2
Mulch or other humus		59

N

Nailclippers		47
Nail polish remover		23
Notebook paper		9

O

Oil, Olive		56
Oil, cooking (vegetable)		2, 17, 18, 56
Oven cleaner		23

P

Paint thinner		23
Paper clips	large metal	30, 52, 54, 55, 59
	aluminum	2, 31, 45
	plastic	2
Paper towels		25, 27, 28, 40, 45, 62, 64
Paper, white sheets		11, 13, 32, 64
Paraffin		2
Paring knife		48
Peanut butter		17
Peanut oil		56
Pencil		52, 54, 55
Plaster of Paris		6
Plastic sleeve, clear, letter size		11, 13
Plastic wrap	(or foil for covering beaker)	52, 54, 55

Poppy seeds		53
Potato, raw		48, 56
Potato chip		56
Power steering fluid		2
R		
Radish		50, 56
Rice		50
Rubber bands		3, 44, 50, 59
Rubber, small pieces	(stopper, rubber band, eraser)	2
Ruler, metric		1, 15, 19, 20, 30, 31, 43, 54
S		
Sand		4, 59
Sandpaper		15
Scented oil		60
Scissors		7
Shampoo, clear or white		22, 63
Silt		59
Silver piece (tarnished)		27
Skittles [®] candies		52
Smoke detector		32
Soap	bar	62
	liquid, softsoap, bodywash	17, 27, 62
Soft drink, clear		22
Soil samples (three)		59
Stapler and staples		52
Starch, soluble		18
Steel wool, fine		12, 45
Storage bags, plastic zippered		33
Straw, drinking		32
Styrofoam [®] cups	10-oz	3, 31, 41
	8.5-oz	42
	6.4-oz	42
Sugar, table	powdered, 1% solution	57
	granulated	4, 50
	1% solution	57
Sunglasses		64
Sunscreens, 3 different SPFs		64
Syrup		17

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T

Tape, clear		7, 49, 59, 62, 63
Tea bags (standard dark tea)		54
Thread		15
Thumbtacks	metal	2,
Tide [®]		61
Toilet bowl cleaner		23
Transmission fluid		2

V

Vanilla extract		23
Vegetable cooking oil		2, 17, 18, 56
Vick's VapoInhaler [®]		53
Vinegar		22, 23, 63
Vitamin C tablets	250 mg	46
Vivarin [®] (or No-Doze [®]) tablets		54

W

Wire to form a stirrer		3
Wool, undyed or natural color	yarn or fabric	52