



**46130 – Laboratory Equipment Set
For Alpha-Omega Grade 10**

Item	Quantity	Item Number
3" Nail	4	40826
Alcohol Lamp with Stand (Fuel not included)	1	50708
Aluminum Foil	2	40236-1
Battery, 6 volt	1	46133
Beaker, glass, 250 ml	2	50653
Bouillon Cube	1	40734-1
Calcium Hydroxide (lime water), 20mL	1	51734
Chalk (calcium carbonate)	1	40284
Cheesecloth, 36"x36"	1	40459-36
Concave (Depression) Slide Set	1	40036
Copper Sulfate Solution, 3%, 5 mL	1	51732-5
Corn Starch, 3Tbsp	1	40825-1
Corn Syrup, 15 mL	1	40721-15ml
Cotton Balls (2pk)	1	40436-2
Cotton String, white, 30 ft.	1	40544-30
Coverslips & Blank Slides, 10 each	1	50701
Dropper – 3in	1	50418
Economical Magnifier	1	64008
Economy Dissection Tool Kit	1	50520
Electrolysis Kit	1	46138
Filter Paper (12.5 – 10pk)	1	50712
Flour (1c)	1	40237-1
Foil Baking Pan	2	40630
Food Coloring	1	40263
Friction Pad, wool	1	45050
Glass Jar with Lid (8oz)	2	40275
Gloves (Non-Latex) (5 pair pack)	1	40348-5
Glucose Test Strips, 25 pack	1	46112-25
Household Ammonia, 50 ml	1	45055
Hydrochloric Acid, 15 ml	1	45128-15
Iodine Solution (Lugol's), 15ml	1	50699
Large Balloons	2	40220-1g
Lime, granular (Calcium Oxide Pellets)	1	46131
Litmus Paper, blue and red, 10 each	1	50705
Marble Set (Set of 5, small)	1	40238-5sm
Match Box	1	41122
Methylene Blue, 1%, 15 ml	1	50700
Nylon Stocking	1	40733

Peat Moss, ½c	1	40325-½	
Pen Light	1	46184	
Petri Dish, plastic	3	50637	
Phenolphthalein Solution, 10 ml	1	51735	
AO Biology Slide Set – 46136	Allium (onion) root tip, l.s.	1	50683
	Ascaris mitosis	1	50675
	Cardiac (heart) muscle	1	50753
	Diatoms (yellow-green algae), w.m.	1	50697
	Frog ovary, c.s.	1	46145
	Frog sperm, smear	1	46146
	Human blood, Wright's stain, smear	1	46137
	Human liver, c.s.	1	50767
	Neuron, motor, smear	1	46140
	Skeletal (striated) muscle	1	50752
	Smooth (stomach) muscle	1	50760
	Spirogyra (green algae), w.m.	1	50688
	Ulva (green algae), w.m.	1	46149
Ring Stand with Base	1	50540	
Safety Goggles	1	50681	
Saltine Crackers	1 pack	40742	
Sand, ½c	1	40456-½	
Sand, 1c	1	40456-1	
Screen, 20 mesh, steel, 4x4"	1	50548	
Seeds, baby lima bean, pack	1	46141	
Seeds, grass, ½ cup	1	46142	
Seeds, marigold, pack	1	46143	
Seeds, radish, pack (60 seeds)	1	46144	
Sodium Sulfate, 15 g	1	51741	
Soil, ½c	1	46135-½	
Spool of Thread	1	40223	
Stirring Rod, glass	1	50711	
Styrofoam Cup	4	40471	
Sugar, 1 Tbsp	2	40266-3	
Sugar Packets	2	40266-packet	
Tea Light Candle	1	40738	
Test Tubes, 15x125 mm	3	50706	
Test Tubes, 25x150 mm	3	50605	
Thermometer Clamp	1	50544	
Thermometer, Celsius, 12"	3	50630	
Thistle Tube	1	46134	
Toothpicks, Set of 10	1	40549-10	
Small Wooden Splints (5pk)	1	46142-5	
Yeast, 3 Tbsp	1	40735-3	



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Unit 1

Page 19: Use a Dichotomous Key

In Your Kit:	You Provide:
Pictures are provided on page 19 if specified fruits are unavailable	Apples (red), Oranges, Bananas, Cherries, Lemons, Pears, Tomatoes, Watermelons (oblong), Cantaloupes, Plums (red)

Unit 2

Page 11: Explore Electric Charge

In Your Kit:	You Provide:
2 Balloons Thread String Friction pad (Wool) Nylon stocking	Piece of white paper

Page 14: Investigate Water as a Solvent

In Your Kit:	You Provide:
Chalk Filter paper Alcohol lamp & stand Safety goggles Lime, crushed Phenolphthalein 2 Beakers	<i>None</i> Fuel for Alcohol Burner (Lamp)

Page 15: Investigate Water as a Temperature Control

In Your Kit:	You Provide:
2 Flat aluminum pans, disposable Sand (<i>save 1 cup for Unit 4</i>) Thermometer Aluminum foil	Liter measure

Page 17: Identify Acids and Bases

In Your Kit:	You Provide:
Litmus paper	Tomato juice, Bicarbonate of soda, Tomato juice, Soup, Vinegar, Fruit juice, Other varied household liquids

Page 21: Experiment with Electrolysis

In Your Kit:	You Provide:
6-Volt Battery Electrolysis Kit Wooden Splints Candle Sodium sulfate Stirring rod Ruler (<i>in blue plastic case</i>) Matches Safety goggles Gloves	<i>None</i>

Page 24: Observe a Chemical Reaction

In Your Kit:	You Provide:
Yeast Beaker, 250 ml Limewater Sugar (1 Tbsp)	Warm water

Page 27: Test the Effect of Temperature on a Chemical Reaction

In Your Kit:	You Provide:
3 Large test tubes 3 Small test tubes 3 Thermometers Yeast Corn Syrup Alcohol lamp & stand Safety goggles	Water Ice Fuel for Alcohol Burner (Lamp)

Page 32: Test for Glucose and Starch

In Your Kit:	You Provide:
Powdered starch Beakers Glucose test strips Iodine Dropper – 3in Sugar (corn syrup)	Several fruits and vegetables

Page 36: Test for Protein

In Your Kit:	You Provide:
Copper Sulfate Ammonia Cheesecloth Bouillon Glucose test strips Flour (1c)	A variety of foods

Page 43: Observe a Catalyst

In Your Kit:	You Provide:
Hydrochloric acid Safety goggles Gloves Iodine Dropper - 3in Cornstarch Glucose test strips 2 Glass jars with lids (8oz) Saltine Crackers	Ground beef (raw)

Page 8: Identify the Parts of a Microscope

In Your Kit:	You Provide:
None	Microscope (If you need to purchase a microscope, please contact Nature's Workshop, Plus!)

Page 12: Prepare a Wet-Mount Slide

In Your Kit:	You Provide:
Microscope slide Cover slip Pin Medicine Dropper and Scissors (<i>in blue plastic case</i>)	Microscope Newspaper Water

Page 19: Grow Fungus Samples

In Your Kit:	You Provide:
None	Slice of hard cheese; 3 sealable plastic sandwich bags; Slice of bread; Orange, apple, or banana peel

Page 24: Observe Fungus Samples

In Your Kit:	You Provide:
Methylene blue stain Hand lens Penlight Depression slide Tweezers, Sharp Knife, pin and Medicine dropper (<i>in blue plastic case</i>) Cover slip Yeast Sugar (1 TBSP)	Microscope Fresh whole mushroom Cup or glass Spoon

Page 34: Grow Protozoan Samples

In Your Kit:	You Provide:
None	Rice, Quart jar, Dirty water source, 1 tsp rich black

	soil, 4 small glass jars, Handful of hay or grass clippings, Pinch of hard-boiled egg yolk
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Page 42: Observe Protozoan Samples

In Your Kit:	You Provide:
Medicine dropper Cover slips Depression slide Cotton balls	Microscope Protozoan cultures

Page 5: Observe Onion Skin Epidermis

In Your Kit:	You Provide:
Dropper – 3in Iodine Stain Microscope Slide Cover slip Forceps and Scalpel (<i>in blue plastic case</i>)	Microscope Onion Water Single-edged razor blade (use Scalpel) Paper towels

Page 7: Observe Human Cells

In Your Kit:	You Provide:
Medicine Dropper Methylene blue stain Slide Toothpick Cover slip	Microscope Water

Page 17: Transport Mechanisms

In Your Kit:	You Provide:
Food coloring Beaker, 250 ml	Water

Page 17: Model a Semipermeable Membrane

In Your Kit:	You Provide:
Screen Beaker, 250 ml Sand Marbles	Water

Page 18: Experiment with a Semipermeable Membrane

In Your Kit:	You Provide:
Beaker, 250 ml Ring stand Thistle tube Clamp Sucrose (table sugar) (2 packets)	Semipermeable membrane (sausage skin)

Page 35: Observe Muscle Cells

In Your Kit:	You Provide:
4 Prepared slides of muscle tissue: Skeletal, Cardiac, Smooth, and Motor Neuron	Microscope

Page 21: Observe Plant Growth

In Your Kit:	You Provide:
4 Types of seeds (Radish, Baby lima bean, Marigold, and Grass) Hand lens 4 Styrofoam cups Sand (1 cup for mixture) Soil (1½ cup for mixture) Scalpel (<i>in blue plastic case</i>) (<i>use for razor blade</i>)	Water

Page 14: Experiment with Heart Rates

In Your Kit:	You Provide:
None	Clock or watch

Page 28: Examine Muscle Types

In Your Kit:	You Provide:
Blunt probe and Scissors (<i>in blue plastic case</i>) 3 Prepared slides of muscle tissue: Skeletal (Striated), Cardiac (Heart), and Smooth (Stomach) Latex gloves	Raw chicken leg Microscope

Page 8: Explore Probability

In Your Kit:	You Provide:
None	Coin Box

Page 38: Determine How Genotype and Environment Influence Phenotype

In Your Kit:	You Provide:
Radish seeds 2 Petri dishes Dropper – 3in Peat Moss (½c) Sand (½c)	Box to cover one petri dish

Page 10: Observe Mitosis

In Your Kit:	You Provide:
Prepared Slide: Allium (onion) root tip Prepared Slide: Ascaris mitosis (<i>Substitute for Whitefish Blastula</i>)	Microscope

Page 19: Dissect Planaria

In Your Kit:	You Provide:
Scalpel and Forceps (<i>in blue plastic case</i>) Hand lens Small glass jar	8 – 10 Planaria or flatworms Small piece of fresh liver about 2 cm on a side, placed in fresh water just to the top of the liver

Page 23: Observe an Onion: Part 1

In Your Kit:	You Provide:
Hand lens Scalpel (<i>in blue plastic case</i>)	Fresh onion or some other type of bulb Clean handkerchief

Page 24: Observe an Onion: Part 2

In Your Kit:	You Provide:
Screen	Mason Glass Jar Onion or other bulb

Page 28: Grow Plants from Cuttings

In Your Kit:	You Provide:
Toothpicks	Glass jar, 16 oz or larger 2 or more flowerpots, 4 inches in diameter or larger Rich loamy soil or potting mix Sweet potato Stem and Leaf cuttings: See book for details

Page 37: Observe Gametes

In Your Kit:	You Provide:
Prepared Slide: Frog ovary Prepared Slide: Frog sperm	Microscope

Page 44: Observe Human Cells

In Your Kit:	You Provide:
Prepared Slide: Skeletal muscle tissue (Striated) Prepared Slide: Liver tissue Prepared Slide: Human blood Dropper – 3in Methylene blue stain Toothpick Glass slide Cover slip	Microscope Cheek cells (from you)

Page 56: Observe Plant Life Cycles

In Your Kit:	You Provide:
Prepared Slide: Diatoms Prepared Slide: Spirogyra Prepared Slide: Ulva	Microscope

Page 62: Observe Pine and Fern Life Cycles

In Your Kit:	You Provide:
Hand lens Forceps Dropper – 3in Glass slides and cover slips	Microscope Fern leaves with sori Fresh Pine cone (closed)

Page 66: Examine the Parts of a Flower

In Your Kit:	You Provide:
Hand lens Glass slides Cover slips Scalpel, Dropper - 3, and Teasing needle (<i>in blue plastic case</i>)	Several kinds of fresh flowers

Page 26: Create a Aquarium or Terrarium

In Your Kit:	You Provide:
<i>None</i>	Gallon jar (or other large, glass container)

Page 27: Create a Quadrat

In Your Kit:	You Provide:
String 4 Large nails	Meter stick

Page 30: Inventory Plants and Animals

In Your Kit:	You Provide:
Report sheets provided in book	Area to observe plants and animals

There are no experiments in this unit.



PRECAUTIONS AND FIRST AID INFORMATION

Calcium Oxide

Warning: May cause eye and skin irritation. Harmful if swallowed.

First Aid Information: Flush eyes with plenty of water for at least 15 minutes. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. If swallowed, do not induce vomiting unless directed to do so by medical personnel. If inhaled, remove to fresh air. Get medical aid.

Hydrochloric acid, 37%

Warning: Very hazardous in case of skin contact.

First Aid Information: Flush eyes and skin with plenty of water for at least 15 minutes. If inhaled, remove to fresh air. If swallowed, do not induce vomiting unless directed to do so by medical personnel.

Iodine Solution:

Warning: Avoid contact with eyes, skin and clothing.

First Aid Information: After contact with eyes and/or skin, wash immediately with plenty of water.

If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

If inhaled, allow the victim to rest in a well ventilated area. Do not induce vomiting. Seek immediate medical attention.

Lime Water-

Warning: Causes eye irritation. May be harmful if swallowed.

First Aid Information: Immediately rinse eyes with water for fifteen minutes. If swallowed and the person is conscious, give large amounts of milk or water.

Phenolphthalein Solution

Warning: Hazardous in case of skin or eye contact. Prolonged exposure may result in skin burns and ulcerations.

First Aid Information: Flush eyes with plenty of water for at least 15 minutes. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. If swallowed, do not induce vomiting unless directed to do so by medical personnel. If inhaled, remove to fresh air. Get medical aid.

Sodium Sulfate

Warning: May cause eye and skin irritation. Harmful if swallowed.

First Aid Information: Flush eyes with plenty of water for at least 15 minutes. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. If swallowed, do not induce vomiting unless directed to do so by medical personnel. If inhaled, remove to fresh air. Call a physician.