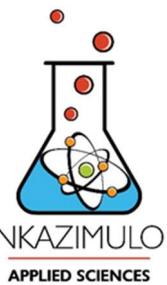




ChemStart

Unleashing the Scientist in you

GRADE 10



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FIRST THINGS FIRST: SAFETY

This section of the manual is the most important of all. Please take care to follow the rules carefully.

GENERAL RULES

1. Conduct yourself in a responsible manner always with the kit.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, rather wait to ask your teacher at school or send us a message on info@nkazisciences.co.za.
3. Never work alone, always have someone older than you around.
4. Perform only those experiments in the kit. Unauthorized experiments are not allowed.
5. Do not eat food, drink beverages, or chew gum while conducting experiments.
6. Horseplay, practical jokes and pranks are dangerous and prohibited.
7. Be prepared for your work. Read all procedures thoroughly before starting with any experiment.
8. Always work in a well-ventilated area.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times.
10. Dispose of all chemical waste properly as indicated in the manual.
11. Keep hands away from face, eyes, mouth, and body while using chemicals or lab equipment. Wash your hands with soap and water after performing all experiments.
12. Experiments must be personally monitored at all times. Do not wander around the room.

CLOTHING

1. Protective gear has to be comfortable.
2. Any time chemicals, heat, or glassware are used, wear safety goggles. NO EXCEPTIONS TO THIS RULE!
3. Contact lenses may not be worn in the laboratory.
4. Dress properly during an experiment. Long hair, dangling jewellery, and loose or baggy clothing are a hazard. Shoes must completely cover the foot. No sandals to be worn when conducting experiments.

ACCIDENTS AND INJURIES

1. If there is a spillage, wash with water.
2. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water for at least 20 minutes.

HANDLING CHEMICALS

1. All chemicals in the kit are to be considered dangerous. Avoid handling chemicals with fingers. When making an observation, keep at least 1 meter away from the reaction. Do not taste, or smell any chemicals.
2. Check the label on all chemical bottles twice before removing any of the contents. Take only as much chemical as you need.

3. Never return unused chemicals to their original container.
4. Never remove chemicals or other materials from the kit.

HANDLING GLASSWARE AND EQUIPMENT

1. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass.
2. Do not immerse hot glassware in cold water. The glassware may shatter.

HEATING SUBSTANCES

1. Do not operate a hot plate by yourself. Take care that hair, clothing, and hands are a safe distance from the hot plate at all times. Use of hot plate is only allowed in the presence of an adult.
2. Never look directly into a container that is being heated.

CONTENTS

CHEMICALS	APPARATUS
Acetic acid 50ml	Aluminium foil
Ammonium chloride 10g	Beaker-glass 1
Barium chloride 10g	Beakers-100ml 3
Calcium chloride 10g	Balloons 2
Copper chloride 10g	Burner and stand 1
Copper sulphate 10g	Calci-vita tablet 2
Ethanol 50ml	Chalk 2
Hydrochloric acid diluted 100ml	Chromatographic paper 3
Hydrogen peroxide 20ml	Clay dough and tooth picks 1
Iodine crystals 2g	Conical flask with stopper-100ml 1
Isopropanol 20ml	Cotton cloth 1
Lead nitrate 10g	Copper wire - 5metres 1
Lithium chloride 10g	Glass rod 1
Methylated spirit 100ml	Graph paper 5
Phenolphthalein 20ml	Lighter/match 1
Potassium chloride 10g	Measuring cylinder-50ml 1
Potassium iodide 5g	Pasteur pipette 2
Potassium nitrate 10g	Paper cup 2
Potassium permanganate 10g	Polystyrene cup with lid 1
Silver nitrate 0.1m 20ml	Silk cloth 1
Sodium bicarbonate 20g	Slinky spring 1
Sodium chloride 20g	Spatula 1
Sodium chloride 0.1m 25ml	Test tube 4
Sodium hydroxide 15g	Test tube rack 1
Sodium hydroxide diluted 100ml	Test tube holder 1
Sugar 20g	Thermometer 1
Zinc granules 5g	Watch glass 4
	Wooden splint 2
	Safety goggles 1
	Gloves 2