

# SCIENCE EXPLORATIONS 2009

FACULTY OF SCIENCE AND ENGINEERING



## WEEK 1-CURRICULUM AND SCHEDULE

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00 am	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers
9:00-9:45am	1) INTRODUCTION TO CAMP AND OVERVIEW OF ACTIVITIES, SCHEDULE AND SHOWCASE  2) SORTING CEREMONY  3) MAKING NEW FRIENDS	PLANT BIOLOGY  MUDDY BUDDY GRASS PETS	ARCHITECTURE AND STRUCTURAL ENGINEERING  DESIGN AND BUILD WORLD'S TALLEST SKYSCRAPER	FUN CHEMISTRY  COOL COLOURFUL CRYSTALLIZATION  GROWING CRYSTALS -HOW TO CREATE DIFFERENT SIZES AND SHAPES?	AMAZING ARCHAEOLOGY AND ANTHROPOLOGY  FOSSIL SCAVENGER HUNT (OUTDOOR) AND CAST MAKING • DINOSAURS • RUINS OF POMPEII • FOSSILS
9:45-10:30am	4) MAKE NAME TAGS AND GROUP SPIRIT	SCIENCE EXPLORATIONS PROJECT: DESIGN AND BUILD A SUSTAINABLE HOUSE	PHYSICS-ELECTRICITY AND CIRCUITS  CIRCUITS WITH FRUIT BATTERIES	MAGIC MICROSCOPE MICROBIOLOGY AND BIOLOGY  THE STUDY OF CELLS 8 SPECIMEN STATIONS: 1) CHEEK CELLS 2) ONION CELLS 3) BANANA CELLS 4) POLLEN 5) FINGERNAIL 6) CHICKEN/FISH CELLS 7) EGG CELLS 8) A DIRTY SPOT IN THE CLASSROOM	ENCOURAGE TO BRING IN FOR FOSSILIZATION (HARD TOY)  SCIENCE AND FLIGHT TECHNOLOGY  MAKE AND FLY A KITE  (EXTRA ACTIVITY/ WEATHER DEPENDENT)
	YORK U WALKING TOUR AROUND THE CAMPUS  INTRODUCE: 1) YORK OBSERVATORY 2) GREENHOUSE 3) BUS LOOP 4) OTHERS	-INTRODUCTION - TATERIAL USE - EOUSE PLANNING  TOPIC: -HOUSE CONSTRUCTION -INSULATION-ROOF AND INTERNAL			
10:30-10:45am	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
10:45-12:00pm	COLOURFUL AND CREATIVE CHEMISTRY  TIE DYE RECYCLED • T-SHIRTS	KINESIOLOGY AND HEALTH SCIENCES  RESPIRATORY AND CIRCULATORY SYSTEMS	SCIENCE EXPLORATIONS PROJECT: DESIGN AND BUILD A SUSTAINABLE HOUSE	ENVIRONMENTAL SCIENCES AND RECYCLING  RECYCLABLE COSTUME	GEOLOGICAL SCIENCES ROCK, AND MINERAL • COLLECT ROCKS • IDENTIFICATION

		1) LUNG MODEL 2) HEART PUMP	TOPIC: -LANDSCAPE DESIGN, GARDEN AND GARAGE	DESIGN -PREP FOR FASHION SHOW AT SHOWCASE	<ul style="list-style-type: none"> <li>HARDNESS SCALE</li> <li>ROCK CYCLE</li> </ul>
12:00-1:00pm	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep
1:00-1:45pm	PHYSICS MAGNETIC POWER  MAKING A COMPASS TO GUIDE YOUR WAY	<b>GEOLOGICAL SCIENCES AND SUPER STURDY STRUCTURES</b>  <b>VISIT EARTHQUAKE SHAKE TABLE LAB- PETRIE BUILDING</b> <ul style="list-style-type: none"> <li>TOUR</li> <li>DEMOS</li> </ul> <b>GUEST SPEAKER(S):</b>	NATURAL SCIENCES/ WEATHER/DISASTERS  TORNADO TWISTER IN A BOTTLE	<b>SHOWTIME:</b>  <b>CRAZY CHEMISTRY MAGIC SHOW</b>  <b>DEMONSTRATORS: SCOTT FIELDER &amp; CHRISTOPHER DARES</b>	<b>ASTONISHING ASTRONOMY</b>  <b>STAR THEATER 2: IN- CLASS PLANETARIUM WITH INTERACTIVE METEOR MAKER</b>
1:45-2:30pm	ENVIRONMENTAL SCIENCES AND RECYCLING  MAKING RECYCLED PAPER AND GREETING CARDS	<b>CHALKY CHEMISTRY</b>  <b>MAKING COOL DRAWING CHALKS</b>	<b>PHUN PHYSICS-AIRPLANE RACE</b>  <b>MAKING AIRPLANES</b>		<b>SCIENCE EXPLORATIONS PROJECT: DESIGN AND BUILD A SUSTAINABLE HOUSE</b>  <b>TOPIC: - SOLAR PANELS -WINDMILLS</b>
2:30-2:45pm	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
2:45-4:00pm	<b>BLOWING, BURSTING CHEMISTRY</b>  <b>BUBBLE MAKING TESTING STRENGTH AND DURATION THROUGH LOOPS</b> <ul style="list-style-type: none"> <li>LARGEST</li> <li>STRONGEST</li> <li>LONGEST</li> </ul>	<b>PHYSICS AND ENGINEERING-MAY THE FORCE BE WITH YOU</b>  <b>BUILDING A MARSHMALLOW LAUNCHER</b>	<b>SPACE ENGINEERING</b>  <b>REBELLING ROCKETS</b>  <b>ROCKET LAUNCHING COMPETITION FOR GREATEST HEIGHT</b>	<b>PHYSICAL SCIENCE, ENGINEERING AND TECHNOLOGY</b>  <b>BUILD A SIMPLE CAR</b> <b>1) ELASTIC-POWERED</b> <b>2) MAGNETIC CAR</b>	<b>SCIENCE CHALLENGE</b>  <b>WEEK 1 WHO WANTS TO BE A SUPER SCIENTIST?</b>  <b>END OF THE WEEK PARTY!</b>
4:00-5:00 pm	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games

## WEEK 2-CURRICULUM AND SCHEDULE

<b>Time</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>8:00-9:00 am</b>	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers	Drop Off at York Morning Activities Ice Breakers
<b>9:00-9:45am</b>	<b>PHANTASTIC PHYSICS SOUNDS AND MUSICAL SCIENCES SE ROCK BAND</b>  <b>MAKING INSTRUMENTS WITH SCIENCES</b> <b>1. SUPER SOUNDING DRUM</b> <b>2. GUITARS</b> <b>3. STRAW KAZOO</b> <b>4. H<sub>2</sub>O &amp; GLASS XYLOPHONES</b> <b>5. STEREO-HANGERS</b> <b>6. BELLS</b> <b>7. CANDEMONIUM</b>	<b>FREAKY FORENSICS- CRIME SCENE INVESTIGATION (REVISITED)</b>  <b>VISIT DNA FINGERPRINTING LAB</b>	<b>ENGINEERS WITHOUT BORDERS</b>  <b>WORKSHOP II: WATER FOR THE WORLD</b> • <b>SET-UP</b> • <b>PRESENTATION</b> • <b>ACTIVITY</b>  <b>GUEST SPEAKERS: TYLER USTRZYCKI ETC.</b>	<b>SCIENCE EXPLORATIONS CHALLENGE AND SCIENCE OLYMPICS</b>  <b>PART A-ACTIVITIES: LEVEL 1: SPACE AND ASTRONOMY</b> TESTING YOUR KNOWLEDGE OF THE NIGHT SKY -FROM PLANETS, STARS TO GALAXIES  <b>LEVEL 2: ENVIRONMENTAL SCIENCE AND TECHNOLOGY- POLLUTION-PURIFYING WATER WITH LIMITED RESOURCES</b>	<b>ASTONISHING ASTRONOMY</b>  <b>GUEST SPEAKERS FROM SPACE SCIENCES AND DEMONSTRATIONS</b>  <b>PET A COMET (DRY ICE)</b>
<b>9:45-10:30am</b>	<b>COURAGEOUS CHEMISTRY</b>  <b>CARTESIAN DIVER</b>				<b>NATURAL SCIENCES/WEATHER</b>  <b>MAKING REFLECTING RAINBOWS</b>
<b>10:30-10:45am</b>	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
<b>10:45-12:00pm</b>	<b>EGG ENGINEERING</b>  <b>SAVE THE EGGS- EGG DROP</b>  <b>(EGG DROP PERFORMED OUTSIDE)</b>	<b>BRILLIANT BOTTLE BIOLOGY BUILD A BOTTLED ECOSYSTEM(S)</b>  <b>ECOSYSTEM AND HABITATS AND CONSERVATION</b>  <b>-BRING YOUR OWN BOTTLES</b>	<b>SCIENCE EXPLORATIONS PROJECT: DESIGN AND BUILD A SUSTAINABLE HOUSE</b>  <b>TOPIC: -GREEN ROOF</b>  <b>GREEN ROOF TOUR AT COMPUTER SCIENCE BUILDING</b>	<b>SCIENCE OLYMPICS</b>  <b>PART B-ACTIVITIES: LEVEL 3: CHEMISTRY- POLISHING PENNY</b> TRANSFORM A DULL PENNY TO A SHINY PENNY  <b>LEVEL 4: PHYSICS AND ENGINEERING-SIMPLE</b>	<b>COOL COLOURFUL CHROMATOGRAPHY CHEMISTRY</b>  <b>MYSTERIOUS COLOURS</b> • <b>CANDY</b> • <b>LEAF</b> • <b>COLOURED PENS</b>

				CAR DESIGN WITH MATERIALS PROVIDED	
<b>12:00-1:00pm</b>	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep
<b>1:00-1:45pm</b>	<b>SCIENCE EXPLORATIONS PROJECT: DESIGN AND BUILD A SUSTAINABLE HOUSE</b>  <b>TOPIC:</b> - EFFICIENT ENERGY/ELECTRICITY	<b>VISUAL, GRAPHICS AND ROBOTICS LABORATORY</b>  <b>-HOLODECK VISIT AND DEMOS IN LAB</b>  <b>GUEST SPEAKER: PROF MICHAEL JENKIN</b>	<b>FUN ENGINEERING CHALLENGE</b>  <b>TRAPPED ON AN ISLAND? BUILD A SURVIVAL RAFT TO ESCAPE ENERGETIC ENGINEERING</b>	<b>OPTIMISTIC OPTICS PHYSICS</b>  <b>DESIGN AND BUILD A KALEIDOSCOPE</b>	<b>ROCKIN' ROBOTICS</b>  <b>INTRODUCTION TO ROBOTICS</b>  <b>LEGO MINDSTORMS-PROGRAM A ROBOT ON COMPUTERS</b>  <b>MAXWELL COMPUTER LAB (CSE)</b>
<b>1:45-2:30pm</b>	<b>PHYSICS AND ENGINEERING</b>  <b>OUTDOOR ACTIVITY-BALLOON-POWERED BOAT</b>			<b>SCIENCE EXPLORATIONS PROJECT: TESTING, FINALIZE, PRESENTATION AND EXHIBITION SET-UP</b>	
<b>2:30-2:45pm</b>	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
<b>2:45-4:00pm</b>	<b>ENVIRONMENTAL SCIENCES AND PLANT BIOLOGY</b>  <b>1) YORK GREENHOUSE</b> <ul style="list-style-type: none"> <li>• TOUR (TROPICAL GREENHOUSE)</li> <li>• DEMOS-ROOTS</li> </ul> <b>GUEST SPEAKERS: GLEN MARLOK</b>  <b>2) FLOWER DISSECTION-LILY/GERANIUMS</b>	<b>CRAZY CHEMISTRY</b>  <b>OUTRAGEOUS OOZE-MAKING POLYMER SLIME AND GLOW-IN-THE-DARK SLIME</b>	<b>ENVIRONMENTAL SCIENCES AND RECYCLING</b>  <b>RECYCLABLE COSTUME DESIGN</b> <b>-PREP FOR COSTUME DESIGN SHOW AT SHOWCASE</b>	<b>SCIENCE EXPLORATIONS END OF SESSION SHOWCASE-FOR PARENTS AND FRIENDS</b>  <b>CAMP VIDEO SHOW</b>  Pick-up at York	<b>JEOPARDY CUMULATIVE CHALLENGE QUIZ YOUR KNOWLEDGE</b>  <b>END OF WEEK PARTY!</b>
<b>4:00-5:00 pm</b>	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games	Pick-up at York Bill Nye Videos Magic School Bus Board games		Pick-up at York Bill Nye Videos Magic School Bus Board games