

SCIENCE EXPLORATIONS 2010

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) SORTING CEREMONY 2) INTRO TO CAMP AND OVERVIEW OF ACTIVITIES, SCHEDULE AND SHOWCASE	COOL CHEMISTRY I) INVESTIGATE WATER HARDNESS/SOFTNESS II) MAKE BATH BOMBS	BLASTING ENGINEERING MAKE A PUTT PUTT STEAM-POWERED BOAT LOCATION: POND OUTSIDE VARI HALL	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 OPTIONAL ACTIVITY: FLOWER DISSECTION	ENGINEERS WITHOUT BORDERS WORKSHOP: WATER FOR THE WORLD <ul style="list-style-type: none"> • SET-UP • PRESENTATION • ACTIVITY GUEST SPEAKERS:
9:45-10:30am	3) MAKE NAME TAGS AND GROUP SPIRIT YORK U WALKING TOUR AROUND THE CAMPUS INTRODUCE: 1) YORK OBSERVATORY 2) GREENHOUSE 3) BUS LOOP 4) OTHERS ONGOING ACTIVITIES: 1. GEODESIC DOME 2. DNA MODEL	ENVIRONMENTAL SCIENCES/PLANT BIOLOGY I) PLANTING A RAINBOW FIELD (CROPS/SEEDS) II) FACTORS THAT AFFECT GROWTH OF PLANTS 1. TEMPERATURE 2. MOISTURE 3. NUTRIENTS 4. LIGHT 5. PH			
10:30-10:45am	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
10:45-12:00pm	COLOURFUL AND CREATIVE CHEMISTRY TIE DYE CAMP T-SHIRTS	KINESIOLOGY AND HEALTH SCIENCES RESPIRATORY AND CIRCULATORY SYSTEMS LUNG MODEL	NATURAL SCIENCES AND WEATHER REFLECTING RADIANT RAINBOWS	PHUN PHYSICS MAKE A SUNDIAL/WATER CLOCK	COURAGEOUS CHEMISTRY HOT ICE CRYSTALLIZATION

12:00-1:00pm	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep
1:00-1:45pm	SCIENCE EXPLORATIONS PROJECT: URBAN PLANNING <ul style="list-style-type: none"> • INTRODUCTION • MATERIALS • METHODS • REQUIREMENTS • THEMES 	ASTONISHING ASTRONOMY GUEST SPEAKERS FROM SPACE SCIENCES AND DEMONSTRATIONS CRATER DEMO	CRAZY CO₂ CHEMISTRY (DEMO) 1. EXTINGUISH A CANDLE WITH CO₂ 2. BLOWING BALLOONS WITH CO₂	ENVIRONMENTAL SCIENCES RECYCLING STYROFOAM	WILD ENGINEERING BUILD A WATER BALLOON LAUNCHER
1:45-2:30pm	ANIMAL BEHAVIOURAL BIOLOGY/ZOOLOGY EARTH FRIENDLY BIRD FEEDERS/HOUSES	BLOWING, BURSTING CHEMISTRY BUBBLE MAKING TESTING STRENGTH AND DURATION THROUGH LOOPS <ul style="list-style-type: none"> • LARGEST • STRONGEST • LONGEST 	SCIENCE EXPLORATIONS PROJECT: URBAN PART II: TRANSPORTATION	MAGICAL CHEMISTRY SHOW FUN WITH DRY ICE	SCIENCE EXPLORATIONS PROJECT: URBAN PART IV: LESSON: RESIDENTIAL, CONSERVATIONS AND PARKS
2:30-2:45pm	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
2:45-4:00pm	PHYSICAL SCIENCE, ENGINEERING AND TECHNOLOGY BUILD A SIMPLE MAGNETIC CAR	SCIENCE EXPLORATIONS PROJECT: URBAN PART I: LESSON: AGRICULTURE AND LAND USE	STRUCTURAL AND MATERIALS ENGINEERING SKATEBOARD PARK CONSTRUCTION	SCIENCE EXPLORATIONS PROJECT: URBAN PART III: LESSON: COMMERCIAL, INDUSTRIAL AND BUSINESSES	SCIENCE CHALLENGE WEEK 1 WHO WANTS TO BE A SUPER SCIENTIST?
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

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	KINESIOLOGY HERCULES BALL THROW CUSTOM DESIGN SPECIALIZED “DISTANCE NERF BALL” 1. DESIGN THE BALL 2. DESIGN SPECIAL THROWING TECHNIQUE	FREAKY FORENSICS CRIME SCENE INVESTIGATION (REVISITED) VISIT DNA FINGERPRINTING LAB RUN DNA ON GEL ELECTROPHORESIS	PADDLE POWER PHYSICS AND ENGINEERING VIKING SHIP DESIGN CHALLENGE COMPETITION SITE: POND OUTSIDE VARI HALL	SCIENCE EXPLORATIONS CHALLENGE AND SCIENCE OLYMPICS LEVEL 1: STATION CHALLENGES TESTING YOUR KNOWLEDGE ON DIFFERENT CHEMICAL AND PHYSICAL EXPERIMENTS AND REACTIONS LEVEL 2: CHEMISTRY AT WORK KEEP-A-CUBE PROTECT AN ICE CUBE FROM MELTING	PHYSICS AND CHEMISTRY IN ACTION BUILD A GIANT AIR CANNON
9:45-10:30am	MUMMIFICATION AND PRESERVATION TECHNIQUES BEST AND LONGEST PRESERVED APPLE		CRAZY CHEMISTRY (DEMO) ELEPHANT TOOTHPASTE		SPACE SCIENCES AND CHEMISTRY LEMON JUICE ROCKETS
10:30-10:45am	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
10:45-12:00pm	EGGS-ITED ENGINEERING EGG BUNGEE JUMP CHALLENGE	CHEMISTRY/NATURAL SCIENCE AND DISASTERS CHALLENGE: OIL SPILLS SOLUTIONS	SUPER ELECTRICAL PHYSICS TWO-CAN MOTOR AND SPINNING CUP VISIT CSE COMPUTER LAB	SCIENCE OLYMPICS LEVEL 3: PHYSICS AND ENGINEERING- SIMPLE AIR-POWERED CAR DESIGN WITH MATERIALS PROVIDED	EVOLUTIONARY BIOLOGY NATURAL SELECTION AND DARWIN’S FINCHES
12:00-1:00pm	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep

1:00-1:45pm	SCIENCE EXPLORATIONS PROJECT: URBAN PART V: LESSON: ECO-FRIENDLY PRACTICES	FUN ENGINEERING CHALLENGE SOLAR WATER HEATERS	SCIENCE EXPLORATIONS PROJECT: URBAN PART VII: LESSON: IMPORT, EXPORT AND TRADING	GUEST SPEAKER/ WORKSHOP/DEMO SPACE ENGINEERING REGINA'S CREW: 1. SATELLITE WORKSHOP 2. LIMBO COMPETITION 3. YORK U MARS ROVER TEAM	JEOPARDY CUMULATIVE CHALLENGE QUIZ YOUR KNOWLEDGE END OF WEEK PARTY!
1:45-2:30pm					SCIENCE EXPLORATIONS PROJECT FINALIZED AND SET-UP FOR SHOWCASE
2:30-2:45pm	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
2:45-4:00pm	SPACE ENGINEERING BUILD A SPEEDY SPACE SURVIVAL SHELTER (STURDY AND EASY TO ASSEMBLE)	SCIENCE EXPLORATIONS PROJECT: URBAN PART VI: LESSON: TOURIST ATTRACTIONS	BRILLIANT BIOCHEMISTRY CONSTRUCT STRONGEST COLLAGEN STRUCTURE	SCIENCE EXPLORATIONS PROJECT: TESTING, FINALIZE, PRESENTATION AND EXHIBITION SET-UP	SCIENCE EXPLORATIONS END OF SESSION SHOWCASE-FOR PARENTS AND FRIENDS CAMP VIDEO SHOW
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

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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 SCHEDULE AND SHOWCASE 2) SORTING CEREMONY 3) YORK U WALKING TOUR AROUND CAMPUS	PHYSICAL SCIENCE, ENGINEERING AND TECHNOLOGY BUILD A SIMPLE MAGNETIC CAR	MUMMIFICATION AND PRESERVATION TECHNIQUES BEST AND LONGEST PRESERVED APPLE	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	ENGINEERS WITHOUT BORDERS WORKSHOP II: WATER FOR THE WORLD <ul style="list-style-type: none"> • SET-UP • PRESENTATION • ACTIVITY
9:45-10:30am	ONGOING ACTIVITIES: 1. GEODESIC DOME 2. DNA MODEL ENVIRONMENTAL SCIENCES AND PLANT BIOLOGY PLANTING A RAINBOW FIELD (CROPS/SEEDS)	EVOLUTIONARY BIOLOGY NATURAL SELECTION AND DARWIN'S FINCHES	BLASTING ENGINEERING MAKE A PUTT PUTT STEAM-POWERED BOAT LOCATION: POND OUTSIDE VARI HALL	OPTIONAL ACTIVITY FLOWER DISSECTION	GUEST SPEAKERS: CRAZY CHEMISTRY (DEMO) ELEPHANT TOOTHPASTE
10:30-10:45am	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
10:45-12:00pm	CHEMISTRY/NATURAL SCIENCE AND DISASTERS CHALLENGE: OIL SPILLS CLEAN-UP	PHUN PHYSICS MAKE A SUNDIAL/WATER CLOCK	KINESIOLOGY AND HEALTH SCIENCES RESPIRATORY AND CIRCULATORY SYSTEMS LUNG MODEL	SCIENCE EXPLORATIONS CHALLENGE AND SCIENCE OLYMPICS CHEMISTRY AT WORK KEEP-A-CUBE PROTECT AN ICE CUBE FROM MELTING	MAGICAL CHEMISTRY SHOW FUN WITH DRY ICE
12:00-1:00pm	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep	Lunch & Prep

1:00-1:45pm	SCIENCE EXPLORATIONS PROJECT: (DAY 1) URBAN PLANNING <ul style="list-style-type: none"> • INTRODUCTION • MATERIALS • METHODS • REQUIREMENT • THEMES ACTIVITY: BLUEPRINT	ASTONISHING ASTRONOMY GUEST SPEAKERS FROM SPACE SCIENCES AND DEMONSTRATIONS CRATER DEMO	EGGS-ITED ENGINEERING EGG BUNGEE JUMP CHALLENGE	GUEST SPEAKER/ WORKSHOP/DEMO SPACE ENGINEERING REGINA'S CREW: <ol style="list-style-type: none"> 1. SATELLITE WORKSHOP 2. LIMBO COMPETITION 	JEOPARDY CUMULATIVE CHALLENGE QUIZ YOUR KNOWLEDGE END OF WEEK PARTY!
1:45-2:30pm	CRAZY CO₂ CHEMISTRY (DEMO) <ol style="list-style-type: none"> 1. EXTINGUISH A CANDLE WITH CO₂ 2. BLOWING BALLOONS WITH CO₂ (YEAST FERMENTATION) 	SCIENCE EXPLORATIONS PROJECT: (DAY 2) AGRICULTURE, CONSERVATIONS, PARKS, LAND USE AND TRANSPORTATION	SCIENCE EXPLORATIONS PROJECT: (DAY 3) COMMERCIAL, RESIDENTIAL, INDUSTRIAL AND BUSINESSES (CITY FOCUS)	3. THE YORK U MARS ROVER TEAM	SCIENCE EXPLORATIONS PROJECT FINALIZED AND SET-UP FOR SHOWCASE
2:30-2:45pm	Break & Snack	Break & Snack	Break & Snack	Break & Snack	Break & Snack
2:45-4:00pm	SUPER ELECTRICAL PHYSICS TWO-CAN MOTOR AND SPINNING CUP VISIT CSE COMPUTER LAB	COOL CHEMISTRY HOT ICE CRYSTALLIZATION	BLOWING, BURSTING CHEMISTRY BUBBLE MAKING TESTING STRENGTH AND DURATION THROUGH LOOPS <ul style="list-style-type: none"> • LARGEST • STRONGEST • LONGEST 	SCIENCE EXPLORATIONS PROJECT: (DAY 4) TOURIST ATTRACTIONS AND ECO-FRIENDLY PRACTICES	SCIENCE EXPLORATIONS END OF SESSION SHOWCASE-FOR PARENTS AND FRIENDS CAMP VIDEO SHOW
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