LESSON 1: STRUCTURAL SPAN

MATERIAL REQUIRED
1. STRAWS
2. TAPE

TIME REQUIRED
30 MIN

CONCEPT
1. VARIOUS BRIDGE TYPE AND EXAMPLES
2. TRUSS CONSTRUCTION
3. TRIANGLE VS RECTANGLE
LESSON 1: STRUCTURAL SPAN
LESSON 2: MECHANICAL MOVEMENT

MATERIAL REQUIRED
1. STRAWS
2. TAPE
3. NEWSPAPER

TIME REQUIRED
30 MIN

CONCEPT
1. FRICTION
2. BASIC ASSEMBLY
3. CIRCLE VS OVAL

MAINTAIN EQUAL RADIUS

ONE POINT OF CONTACT

FRICTION
LESSON 3: HARVESTING ENERGY

MATERIAL REQUIRED
1. 3 TEMPLATE PRINTED ON 8.5” X11”
2. NEWSPAPER FOR SUPPORT
3. SCISSOR
4. TAPE
5. PAPER CLIP
6. 1 Electrical Fan

TIME REQUIRED
30 MIN

CONCEPT
1. WINDMILL
2. BASIC ASSEMBLY
LESSON 3: HARVESTING ENERGY
LESSON 4: FOLDABLE CONSTRUCTION

MATERIAL REQUIRED
1. CARD WITH TEMPLATE
2. SCISSOR

TIME REQUIRED
30 MIN

CONCEPT
1. FOLDING TECHNIQUE
2. ARCHITECTURAL DRAWING
3. 2D TO 3D
4. CREATE A PLAN WITH STUDENT’S NAME

LINETYPE
- CUT
- FOLD DOWN
- FOLD UP
LESSON 5: PERFORATED LANTERN

MATERIAL REQUIRED
1. 4 PIECE OF LETTER SIZE PAPER
2. SCISSOR
3. TAPE

TIME REQUIRED
30 MIN

CONCEPT
1. FOLDING & CUTTING TECHNIQUE
2. STRUCTURE
3. HISTORY OF CHINESE LANTERN

CORRUGATION

PERFORATION
LESSON 5: PERFORATED LANTERN
LESSON 6: PRIMITIVE HOUSING

MATERIAL REQUIRED
1. NEWSPAPER
2. SCISSOR
3. TAPE

TIME REQUIRED
60 MIN

CONCEPT
1. HISTORY OF HOUSING
2. HABITABLE CONSTRUCTION
3. CONSTRUCT CURVE SURFACE OUT OF STRAIGHT MODULE
LESSON 6: PRIMITIVE HOUSING

A VILLAGE OF IGLOOS
LESSON 6: PRIMITIVE HOUSING
LESSON 6: PRIMITIVE HOUSING
LESSON 7: URBAN PLANNING

MATERIAL REQUIRED:
1. 20 SHEET OF NEWSPAPER PER STUDENT
2. SCOTCH TAPE
3. SCISSORS

CONCEPT:
1. BUILDING STRUCTURE AND SURFACE
2. SUNLIGHT
3. NEIGHBORHOOD PLANNING

TIME REQUIRED
1hr 30min
LESSON 7: URBAN PLANNING
LESSON 7: URBAN PLANNING
LESSON 8: TESSELLATION

MATERIAL REQUIRED:
1. TOOTHPICK
2. HANDMADE CLAY

TIME REQUIRED
1hr

CONCEPT:
1. BUILDING REGID FORM USING METHOD OF TESSELLATION
2. SUBDIVISION
3. WEIGHT VS FORM
LESSON 8: TESSELLATION
LESSON 9: HIGH-RISE CONSTRUCTION

MATERIAL REQUIRED:
1. NEWSPAPER
2. MASKING TAPE

TIME REQUIRED
1.5hr

CONCEPT:
1. COMBINE ALL BUILDING KNOWLEDGE
2. COMPETE TO BUILD THE HIGHEST TOWER
3. COMPETE TO BUILD THE BEST DESIGN

A  PERFORATED TOWER
B  TESSELLATED TOWER
C  BUNDLE TOWER
D  STICK TOWER
LESSON 9: HIGH-RISE CONSTRUCTION
LESSON 9: HIGH-RISE CONSTRUCTION
LESSON 10: BOAT MAKING

MATERIAL REQUIRED:
1. WOODEN POPSICLE STICKS
2. PAPER
3. RUBBER BANDS
4. CONTAINER

TIME REQUIRED
1hr 30min

CONCEPT:
1. BUILDING BUOYANT STRUCTURE AND INVESTIGATING HOW LIGHTNESS PROMOTES PERFORMANCE
2. INVESTIGATION WHAT SAIL FORMS BEST HARNESS WIND ENERGY
LESSON 10: BOAT MAKING
LESSON 10: BOAT MAKING
LESSON 10: BOAT MAKING
WEEK 11: PLAYGROUND PLANNING

MATERIAL REQUIRED:
1. 3 SHEET OF LETTER PAPER
2. SCOTCH TAPE
3. SCISSORS

TIME REQUIRED
1hr 30min

CONCEPT:
1. BUILDING MOVABLE STRUCTURE
2. SUNLIGHT
3. PLAYGROUND PLANNING
WEEK 11: PLAYGROUND PLANNING

SWING

SPIN

SLIDE
CLASS OF SUMMER 2013