**Fabulous Foamcore**

**Materials**
- X-Acto knife (NOT math knife)
- Metal ruler with cork or masking tape on backside (reduces slipping)
- Map pins or long push pins
- Cut piece of Newsprint pad works well

**Cutting & Safety**
- Ruler guides blade (press blade down, lightly grip ruler)
- Hold edge of ruler farthest distance from blade
  - good resistance to side force from blade
- Cut with ruler protecting good part:
  - (slips will ruin scrap, not work piece)
  - One cut = 3 strokes:
    - 1st stroke scores surface paper
    - 2nd stroke cuts surface paper & some foam
    - 3rd stroke cuts remaining foam & bottom paper

**Think!**
- NEVER SQUAT ON RULER TO HOLD IT WHILE CUTTING: it cuts knee:
  - Knife: Rolls Off: Table tricks:
  - Hot glue burns
- Elmer's Glue
- Hot melt glue gun (see care)
-Elmer's Glue

**Joints**
- Butt Joint
  - quick, easy
- Overlap Joint
  - looks great
- Mitre Joint
  - need tool to hold blade at 45°

**Hinges**
- can be used to hold pieces together while glue dries
- Elmer's easy to control
  - dries in a couple hours
  - Minimal thickness (thin)
  - Thermally safe
- Hot Melt
  - messy: (whistlers)
  - dries in a couple seconds
  - Filler (thick)
  - Hot glue burns
**START OUT SQUARE !!!**

1. **CUT ONE EDGE**
   - Measure over 2 points and make a parallel cut.

2. **MEASURE OVER 2 POINTS AND MAKE A PARALLEL CUT**
   - Use one edge and cut other side.

3. **PICK TOP BOTTOM EDGE AND CUT 45° TO IT WITH A LARGE TRIANGLE**
   - Some edge

**Joints: Sharp**

3. **With the butt of an X-Acto, force a furrow in the frame.沿 the cut line using the ruler as a guide.**
   - Take several passes.
   - Don't force it in one pass.

4. **CUT DOWN TO, BUT NOT THROUGH THE 2ND SHEET OF PAPER**
   - Bend sheet back on itself.

4. **THE FURROW SHOULD LOOK LIKE THIS**
   - Note that the furrow is the depth of the frame.

   Use the edge of the X-Acto to break furrow edges into 45° angles.
**Joints: Lap Joint**

1. Mark off fume thickness by using fume-core scrap.

2. Flick off 3/16" piece of fume and paper. A quick flicking action should only remove excess fume and leave paper in tack. If fume remains, clean off.

**Joints: Lap Joint with Rubber Cement Tape**

1. Lay down rubber cement tape along joint edge.

2. Cut through adhesive but not through tape backing. Remove backing to leave adhesive on joint.

3. Rub down joint.

4. Edge overhang may require trimming.
Joints: Slight Radius

1. Cut down to but not through 2nd side of paper. Do not bend sheet back on itself.

2. Score furrow with butt of X-ACTO but carefully control the depth of the furrow.

3. The depth of this furrow will determine the character of the radius: DEEPER = SHARPER, SHALLOW = SOFTER.

4. Carefully break edges to 45° angles make sure you don't force the furrow deeper. If you don't break these edges, the radius will distort. 45°

5. Run a bead of hot glue in completed furrow.

For a strong joint, run foam core strip up folded sheet to complete a hot glue fillet.

Joints: Larger Radius

1. Cut 1/8 inch strips through first layer of paper and about 1/2 way through foam.

2. Strip off the 1/8" strips of paper. Strip by strip. This is harder than it sounds because the paper tends to pe-laminate as it is stripped off, do the best you can without damaging foam.

3. Bend the sheet going past the intended angle of the final joint. (This releases stress on the joint)

4. Check radius by eyeing on a circular template. It may take several tries to get the right size radius.

5. Adjust size by making more or less 1/8 slots.

Write down final number of strips for reference.

If stability of the joint is required or you are going to cut close to the radius do the following.

Notice that after bending the radius the flattening out the foam has been deformed into "V" shape grove. By forcing hot glue into these "V's" and folding the sheet you will end up with a strong structural joint.
MEASURING

1. IN THEORY, IF YOU HAVE
   - 12" BETWEEN CUPS

   THEN YOU'LL HAVE
   - 12" BETWEEN SIDES.

   NOT QUITE!!!
   JOINTS ALWAYS PICK UP SOME DIMENSION WHEN YOU FOLD THEM UP. YOU MUST EXPERIMENT AND LEARN TO SUBTRACT THE DIMENSION GAINED.

2. SCALE OR DRAW A REFERENCE LINE. BEND THE JOINT UP TO 90°.

3. MEASURE DISTANCE FROM OUTSIDE SURFACE AND SUBTRACT REF DISTANCE.
   \[ X = 1" = \text{DISTANCE GAINED} \]
   THE LONGER THE RADIUS, THE GREATER DISTANCE GAINED

4. MEASURE FROM OUTSIDE WALL.
   \[ -12" = \text{DISTANCE GAINED} \]

A SIMPLE PANEL

1. CUT SIDES SO THEY WILL FORM A PANEL WITH SIDES 2" LONGER THAN REQUIRED

2. CUT PANEL DOWN TO SIZE AND VOLA...

IF YOU CUT PIECES EXACTLY TO SIZE, YOU'LL GO CRAZY!!
A SIMPLE BOX

1. A SIMPLE BOX IS CONSTRUCTED USING 3 PARTS

2. HOT GLUE ASSEMBLY:
   - Joint Assembly Order
   - Glue one side at a time, on both end caps

3. RUBBER CEMENT ASSEMBLY
   - Join lap joint to form a tube
   - Add lap joint ends (with rubber cement tape on joints)
   - Check box for squareness

4. Sided Center Section
   - Pick longest joint to be a foam-core bend joint

 NEED 2 END CAPS

REMOVE 3/16 OIL AROUND FOR LAP JOINTS.
1. Cut side parts & bottom
2. Cut curved top
3. Assemble top
4. Assemble bottom
5. Put in top guides
6. C'est finis!