Making Paper Experiment

Concepts: Recycling, Materials Science

Equipment:
- Used Paper (have students bring in paper from home or use paper recycling from school. Also: egg cartons, cards, paper bags, construction paper, napkins, etc. Avoid too much ink.)
- Window screening, stapled to a wooden mold (use an old picture frame)
- Large plastic basin (large enough to completely immerse the frame)
- Blender or Food Processor
- Liquid Starch
- Wooden spoon or other stirring implement
- Sponge
- White Felt or Flannel fabric, cut into squares the size of the frame, one per student.
- 2 Cookie sheets
- Long clothesline or sheets newspaper, for drying sheets, enough for one per student

Process:
1) Tear up paper into small pieces. Students can mix the different types of paper to create a unique “class paper”.
2) Fill the blender halfway full with paper bits, then completely fill with warm water.
3) Blend, starting slow and gradually increasing speed, until pulp is smooth. (30-40 seconds)
4) Repeat 2x.
5) Fill big basin halfway with water, add three blender-loads of pulp, and stir.
6) Add two teaspoons of liquid starch (prevents inks from getting into the paper fibers)
7) Place the window-screen mold into the mixture, wiggle it side to side until the pulp on the screen appears even
8) Slowly lift the screen and allow most of the water to drain, until it stops dripping.
9) Check paper consistency. If too thick, remove some pulp from the basin. If too thin, add some pulp and stir again.
10) Once the paper stops dripping, carefully and gently place one edge of the paper directly on the felt fabric. Use a sponge to press out as much water as possible, wringing the excess back into the basin.
11) Have a friend hold the fabric square flat, and slowly lift the screen mold. The paper should stick to the fabric. If it is sticking to the screen, try sponging out more water, or lifting slower. Press out bubbles or loose edges.
12) Stack the fabric-paper sheets on a cookie sheet, alternating materials (paper-fabric-paper-fabric, etc)
13) When all the papers have been made, go outside, place a final fabric square on top, and use another cookie sheet to press all the water out of the entire stack. (Messy!)
14) Gently separate the fabric-paper sheets and let them dry on a clothesline or by laying them flat on sheets of newspaper.
15) After they have dried (next day) they can be peeled off the fabric. Voila, paper!