Classroom Paper Recycling

Student Worksheet:

Engineering Teamwork and Planning

You are a team of engineers given the challenge of creating a new system for creating recycled paper. When engineers take a fresh look at a product or system and develop improvements, the process is called "re-engineering." Bear in mind that a screen is a very efficient method for both shaping the paper and removing moisture. You review current procedures both for use in classroom and in manufacturing facilities and re-engineer your improved system. You may also incorporate a system for adding color, texture, or designs to your paper -- or come up with a design that uses less water, requires less space, or dries faster. You may add other ingredients to the pulp mixture provided to you including dried herbs, leaves, flowers, seeds, thread, or spices that may add color.

Planning and Design Phase

In the box below (or a separate piece of paper) draw a diagram of your planned recycled paper system, and include a list of materials you plan to use both in the system and in additions to the pulp below.

Materials Required for Building:
Materials to be added to pulp, if any:

Classroom Paper Recycling

Student Worksheet

Classroom Review

Present your plan to your class, gather feedback, answer questions, and determine if you wish to make changes to your original plan.

Construction Phase

1. Build your frame or system for making paper.
2. Test the frame by making recycled paper with the pulp provided by your teacher.
3. Be sure to dry your paper thoroughly before removing from whatever frame you create.

Reflection

1. How similar was your paper recycling system to your written design?

2. If you found you needed to make changes during the construction phase, describe why your team decided to make revisions.

3. Did you add materials to the pulp mixture? If so, did they have the effect in the paper that you intended? How?

4. Do you think this exercise will encourage you to recycle materials? Why?

5. What other materials do you think could be recycled?

6. Do you think that recycling methods have changed over the past twenty years? What technological innovations might have impacted how efficient recycling is today?

7. What impact do you think that engineering has had on recycling around the world?