TAKE NOTE

Teaching Through Papermaking

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Course Outline/Overview

Why Make Paper

TAKE NOTE is the name of a papermaking business developed to teach the meaning of "recycle/reuse" to students with Intellectually Disabilities. The students make the cards and envelopes from paper recycled from teachers in the school. The paper is turned into pulp to make a new product. Then native wildflower seeds are added to the pulp so the beautiful cards can be recycled again into beautiful flowers. On the back of each card there is a label that indicates that it is made with 100% recycled paper. A testament to the fact that beauty can come from trash

Besides the obvious environmental issues, papermaking with recycled paper is a great tool to teach basic academics such as science, math and language skills. It also teaches and improves vocational and life skills such as, on-task behaviors, fine motor skills, working as a team, following directions and listening skills, especially to students with Intellectual Disabilities.

One of the best features of papermaking is that there are many steps to the process and the skill requirements for each of those steps are diverse. There is a job for every student, no matter his or her abilities or limitations. From those that tear the recycled paper, to those that measure the water for the blender, to those that pour the correct amount blended pulp, and those that roll the new paper dry, everyone is part of the team and of equal importance.

Why Make Paper (really)

Andres is shy and reserved by nature. He is a man of very few words. Numbers and letters elude him. However, when he walks into the workroom, shoulders back, head held high, the pride seen in his eyes reveals the story his lips are unable to tell. Andres knows that he has found something that he can do well that has nothing to do with numbers or letters or words. What we don't tell Andres, is that he has learned more about numbers, letters and the value of communication in the past year, making paper than he ever had sitting in a classroom in front of a chalkboard.

Goals and Objectives

The Standards/Access Points used here are from the middle school level but can easily be adapted for elementary or high school levels.

Language Arts Objectives:

Sunshine State Standards / Access Points: LA.6/7/8.1.6, LA.6/7/8.4.2, LA6/7/8.5.2,

- Develop vocabulary words associated with environmental issues.
- Develop vocabulary words associated with business.
- Demonstrate communication skills necessary to work in a group for a common cause.

Math Objectives:

Sunshine State Standards / Access Points: MA.6.A.2, MA6.A.3, MA.6.A.5, MA 6/7.G.4, MA7.G.2, MA.7.A.3

- Indicate awareness of changes in rates of movement (fast-slow).
- Indicate the next step in a sequence
- Follow 3 or more directions
- Measure capacity using cups
- Use whole numbers and one to one correspondence to obtain required amount
- Demonstrate understanding of the comparison concepts such as more or less, smaller or larger

Science Objectives:

Sunshine State Standards / Access Points: SC.7.E.6, SC8.P.9, SC.6.E.7

- Identify the sequence for a familiar routine
- Demonstrate knowledge of the impact we have on the earth
- Demonstrate knowledge that matter can undergo a variety of changes.
- Demonstrate knowledge of the water cycle

Social Studies Objectives:

Sunshine State Standards / Access Points: SS.6.G.3, SS.6/7.E.1, SS.6.E.3

- Understand how human actions can impact the environment.
- Understand fundamental concepts relevant to a market economy.
- Recognize that people use money for trade.

Environmental Objectives:

- Demonstrate understanding of the importance of preserving our natural resources.
- Demonstrate knowledge of the role we play in preserving our natural resources.
- Name alternative means of dealing with waste materials.

Life Skills Objectives:

- Demonstrate on task behaviors
- Demonstrate improved fine motor skills
- Demonstrate ability to work on a team for a common cause
- Demonstrate improved listening skills
- Demonstrate the ability to follow directions
- Identify and set up a work area with supplies and equipment needed to complete a given task

Equipment List

Go to http://www.arnoldgrummer.com for:

- Papermill Complete Kit (for cards)
- Papermill PRO Envelope and stationary Kit (for envelopes)

- A good blender (40oz or more)
- 1 or 2 Rubbermaid type containers large enough to accommodate the frames.
- 1 or 2 One cup measuring cups
- Plastic pitcher (at least 40 oz.)
- 1 or 2 cookie sheets with sides
- 1 or 2 rolling pins
- Sponges
- Towels
- Rubbing plates (From any online teaching or craft store. Be sure they are small enough to fit on the card. We have only found leaves and flowers.)
- Seeds (We use Blanket Flower. It is a native wildflower, You can use any type but they have to be small.)
- Iron
- Crayons
- Recycled paper (color and white)
- Recycled envelopes (the fibers are stronger so it makes stronger envelopes)

Teachable Moments

Pouring:

The Problem: We need 1 cup of paper pulp in the frame to make a card or an envelope

Concepts:

- Measuring using a cup
- Follow sequential directions in putting the frame together

Standards/Access Points:

- MA.6.G.4 Measure capacity using cups
- MA.6.G.4 Follow three or more directional instructions
- MA.6.A.3 Indicates the next step in a sequence

Drying:

The problem: The poured pulp needs to be rolled slowly with a rolling pin to get the water out.

Concepts:

- Rates of speed

Vocabulary:

- Slow
- Fast
- Blotting
- Hard
- Soft

Standards/Access Points:

- MA.6.A.2 Indicates awareness of changes in rates of movement (fast and slow)
- MA.6.A.3 Indicates the next step in a sequence
- MA.6.G.4 Follow three or more directional instructions
- MA.7.G.2 Use US customary units to measure cups and gallons

Teachable Moments

Pre Papermaking:

The problem: We use a lot of natural resources.

Concepts:

- Natural resources are limited
- We need to use them responsibly

Vocabulary:

- Water and water cycle
- aquifer
- forest
- soil
- air
- natural resources
- pollution
- waste

The problem: We create a lot of waste.

Concepts:

- We must try to create less waste
- There are alternative ways to get rid of the waste we do make.

Vocabulary:

- Recycle
- Reduce
- Reuse
- Ecology
- Landfill

Standards/Access Points:

- SS.6.G.3 Recognize that humans affect the environment
- SC.6.E.7 Recognize that rain comes from clouds
- SC.7.E.6 Recognize that humans have had an impact on earth
- SC.8.P.9 Recognize an example of physical change
- LA.6/7/8.1.6 Use new vocabulary that is introduced and taught directly

Resources: The EPA has a number of great resources for on line, printable and ordered materials. (See resource page)

Teachable Moments

Tearing:

The problem: We need 7 papers to make 5 envelopes and 9 papers to make 5 cards.

Concepts:

- Count or use 1 to 1 correspondences to get the number of papers needed.
- More/Less

Standards/Access Points:

- MA.6.A.5 Compare and order whole numbers using objects
- MA.6.A.5 Match two or more objects using one to one correspondence.

Blending:

The Problem: We need 40oz of water in the blender to use with the torn paper to make paper pulp.

Concepts:

- Measuring using guide on blender
- Measuring using a cup (5 cups = 40oz.)
- Follow instructions to use the blender safely
- When you add water to paper it turns into pulp
- More/Less

Vocabulary:

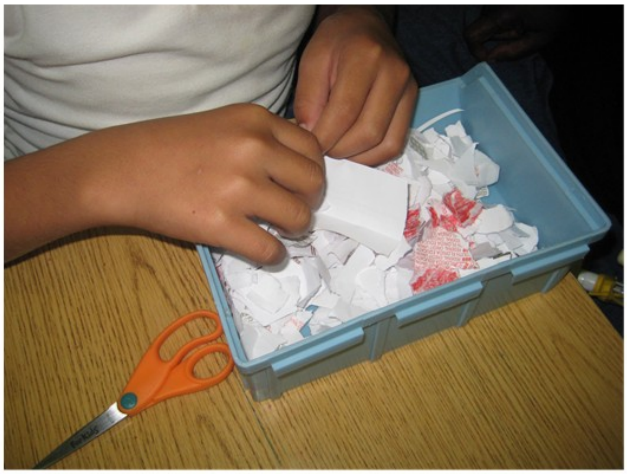
- Cup
- Ounce
- Paper pulp
- Measure
- Physical change

Standards/Access Points:

- MA.6.G.4 Measure capacity using cups
- MA.7.G.2 Use US customary units to measure cups and gallons
- MA.7.A.3 Indicates next step in a sequence for a familiar routine or activity
- LA.6/7/8.1.6.1 Use new vocabulary that is introduced and taught directly.
- SC.8.P.9 Recognize an example of a physical change.

Pictorial

Color and Tear

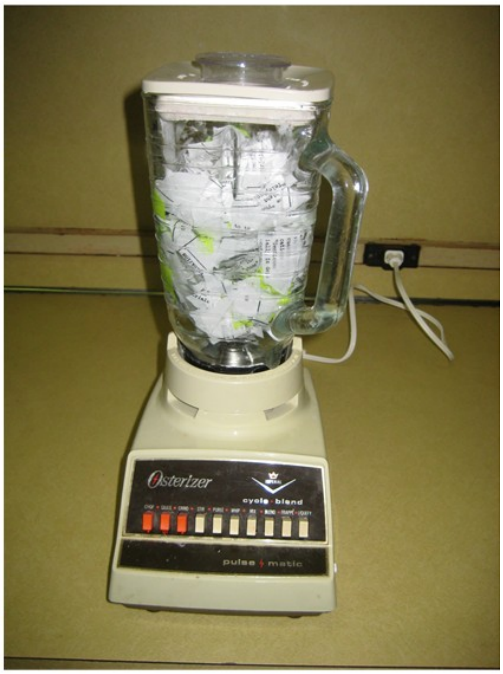


Measure water

Pictorial

Add Paper

Blend

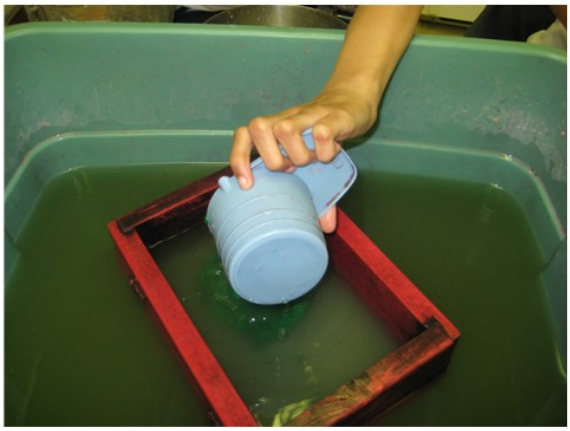


Assemble Frame

Pictorial

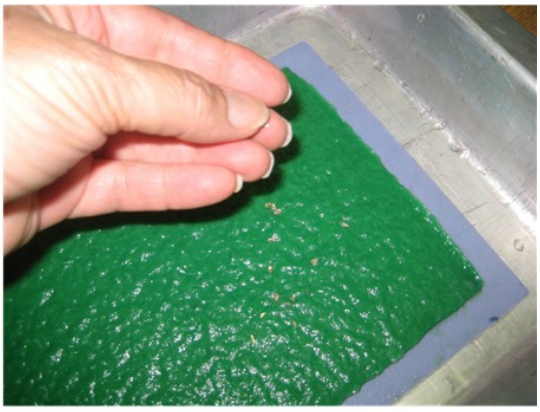
Measure Pulp

Pour



Take out of Frame

Add Seeds



Pictorial

Blot

Apply Rubbing Plate

Roll

Pictorial

Air Dry
Cards

Iron Dry
Envelopes

Package

Selling Tips

1. **Parents:** Never underestimate the power of your parents. Send home a sample of your product and a note asking for help selling it. Suggest ways for them to help (taking them to work or giving them as gifts). Many of our parents said that they did not have to sell our cards, they just had to display them and they sold themselves. One parent brought us an order for 50 sets just by displaying them at work.
2. **Staff:** You will be surprised at how supportive the people at your work site will be of your program. Make a display of the cards so everyone can see them and leave some order blanks. We did this at Christmas and could not keep up with the orders.
3. **Media:** Once you have your program running, contact your local paper. We had two articles written about us and received so many orders that it took us 3 months to catch up. Now we are receiving repeat orders and orders from people who received cards as gifts.
4. **Awards:** Look for opportunities to highlight your program. We entered three contests this year and were recognized as a winner in all three. We were highlighted on a local TV station as an innovative program teaching "green living" to students. Not only did we get cash rewards but the recognition also garnered us more sales.
5. **Businesses:** Go to local businesses and ask them about putting a display at their site. At a visit to may hairdresser, I showed her our product and she offered to sell them for us. She reports that her customers love them. Now when I go I take new cards and collect the money from the sold cards. It helps to have a personal connection to the business however don't limit yourselves to only those businesses. Consignment shops and unique gift stores are great places to display products.
6. **School Bazaars and Craft Shows:** Many event organizers will waiver the fee for you to sell your product, when they find out what your program is. We were asked to sell at a "Green Bazaar" at another school and they were willing to pay for our table.
7. **Selling Opportunities:** Keep your ears open for opportunities for special orders. One bride to be ordered 7 sets of purple cards to use as thank you notes. Any special event that your school or organization has may have a need for invitations, programs or thank you cards. Be sure to expand your product to meet the needs of the customer.