Natural Soap Making Adventures - Program Proposal

Description
Cold process soap making brings patrons to the library to participate in learning that is practical, creative, and collaborative. In the program session, patrons work in groups to mix and mold soap. They return the following day after the soap is unmolded to pick up soap.

Audience
Teen/Adult

Budget/Costs
Durable Goods Investment: $124.00
Consumables: $45.53
Cost of consumables/participant: $1.87

Number of participants
24 (3 classes of 8)

Program Time
1.5 hours plus .5 hours staff setup time

Collection and Dewey Connections
Soapmaking - 668.12
Handicrafts - 745.593
Essentials Oils - 615.321

STEAM Tie-ins
Science: chemical reactions, five senses
Art: colors and textures
Math: reading gauges, measuring liquids and calculating time

Adventures in Soapmaking (Cold Process) http://www.diynatural.com/how-to-make-soap-2/

Ingredients

- ⅔ cup coconut oil – to produce good lather
- ⅔ cup olive oil – which makes a hard and mild bar
- ⅔ cup other liquid oil – like almond oil, grapeseed, sunflower or safflower oil
- ¼ cup lye – also called 100% sodium hydroxide, or lye in crystal form
- ¾ cup cool water – use distilled or purified

Method [TOTAL TIME: 90 minutes]

(Session 1: Prep - Cleanup - 60 minutes)

Prepare area: 15 minutes

1. Arrange ingredients and equipment. Cover your work area with newspaper.
2. Introduce yourself and any experts. Provide overview, timeline, and safety precautions.
    a. Lye is caustic when mixed with water. While mixing:
    Mix in a well ventilated area and wear a mask to avoid fumes
    Wear heavy duty gloves and safety goggles to prevent chemical burn.
    b. Ingredients reach about 120 degrees.
    Handle ingredients with caution to prevent spills and burns.
3. Overview process: mix lye and water; mix and heat oils; choose additives; mix lye and oils; divide batch; mix in additives; pour in molds; cover.
4. Briefly describe additives and options. Participants choose from pre-made bars of soap.
5. Divide into 2 groups, one to mix lye and one to mix oils.
6. Put your gloves and other protective wear on.

Mix and Cool Ingredients: 15 minutes

1. Measure the water into the quart canning jar. Have a spoon ready. Measure the lye, making sure you have exactly ¼ cup. Slowly pour the lye into the water, stirring as you go. Stand back while you stir to avoid the fumes. When the water starts to clear, allow it to sit. Test temperature.
2. In the pint jar, measure and add the three oils together. They should just make a pint. Heat in a microwave for 30-60 seconds (start with 30 seconds and add 10 seconds at a time until the oil reaches 120°), or place the jar of oils in a pan of water to heat. Check the temperature of the oils – it should be about 120° or so. The lye should have come down by then to about 120°.
3. Wait for both to cool somewhere between 95° and 105°. *This is critical for soap making.* Too low and it'll come together quickly, but be coarse and crumbly.
    While waiting, participants While the mixtures are cooling, participants
    - plan finished product and choose scents, colorants, and other additives
    - cut enough parchment paper for unmolding and pickup the next day.
    - show this video to see what trace (the state when the final mix is ready to pour into molds) looks like.

Mix Ingredients and Pour into Mold: 15 minutes

1. When both the lye and oils are at the right temperature, pour the oils into a mixing bowl.
2. Slowly add the lye, stirring until it's all mixed. Stir by hand for a full 5 minutes. It's very important to get as much of the lye in contact with as much of the soap as possible. After about 5 minutes, you can keep stirring or you can use an immersion blender. The soap mixture will lighten in color and become thick. When it looks like vanilla pudding it's at "trace" and you're good to go.
3. Divide the soap into 2 parts.
4. To each part, add herbs, essential oils or other additions. Stir thoroughly to combine.
5. Pour each mixture into mold(s) and cover with plastic wrap.
6. Set in an old towel and wrap it up. This will keep the residual heat in and start saponification.

Clean up: 15 minutes

1. Rinse the equipment that has been exposed to lye with white vinegar to neutralize the lye, and then wash the equipment well as you normally would.
2. For the rest of it, wash items with dish soap and hot water. If space allows, you can let items sit for several days. Why? Because when you first make soap, it's all fat and lye. If you wait, it becomes soap and all it takes to clean it is a soak in hot water.

(Session 2: Unmold and pickup - 30 minutes) *After 24 hours*

1. Check your soap. If it's still warm or soft, allow it to sit another 12-24 hours. When it's cold and firm, turn it out onto a piece of parchment paper or baking rack.
    a. If using a loaf pan as your mold, cut into bars.
    b. If using individual molds, smooth edges.
2. Put the soap on parchment paper so patrons can pick up soap and curing instructions (see below).

Equipment Notes (See also complete supplies list)
You will need:

- access to a sink and a way to heat the oils. A microwave works best.
- equipment that will not be used for cooking. Stainless steel, tempered glass and enamel are all good choices. *Don't use copper or aluminum, they will react with the lye.*
    - Mixing bowls - Don't use plastic; it may melt.
    - Spoons - silicone or styrene plastic
- molds - throwaway molds like milk cartons or yogurt containers, molds from a local craft store, or silicone baking pans that allow the mold to peel right off.
- a stainless steel thermometer that reads between 90° and 200°
- a pint and a quart canning jar
- newspaper, old towels, and any additions

Troubleshooting Tips - http://www.modernsoapmaking.com/tag/troubleshooting/

Additives

There many variations. Here are the basics of additives:

Herbs

All herbal material must be dried. Lavender is popular, as well as chamomile. Use about ¼ cup of dried plant material per batch of this size.

Essential Oils

Essential oils are from plants. They come from the roots, stems, flowers or seeds. Fragrance oils can be blends of essential oils or they can be artificially produced. Be sure you know what you have. Most oils can be used at the rate of 15-20 drops or around a teaspoon per batch of this size.

Colors

Natural colors are easy. Use cinnamon or cocoa powder for a brown soap, powdered chlorophyll for green, turmeric for yellow and beet root for orange. However, sometimes things change colors, like magenta beet powder turning yellowish orange. Avoid food colors since they don't hold up well in soap.

Other items

This includes aloe vera gel, oatmeal, dry milk powder, clays, cornmeal, ground coffee, salt and anything else you may want to use.

Follow-up Instructions (print and send home with patrons)

Your Cold Process Soap is almost ready!

Curing Instructions

Allow your soap to cure on parchment paper or a baking rack for 4 weeks or so. Be sure to turn it over once a week to expose all the sides to air (not necessary if using a baking rack).

When your soap is fully cured, wrap it in wax paper or keep it in an airtight container. Handmade soap creates its own glycerin, which is a humectant, pulling moisture from the air. It should be wrapped to keep it from attracting dust and debris with the moisture.

Enjoy!

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Enjoy!

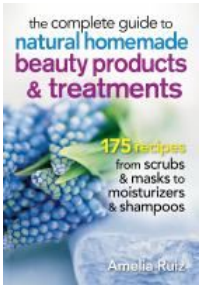
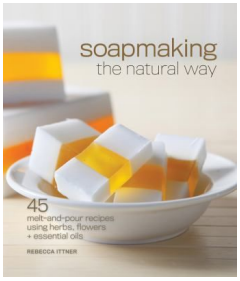
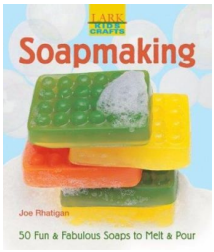
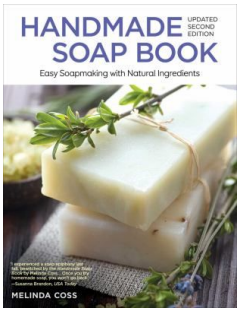
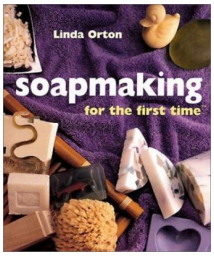
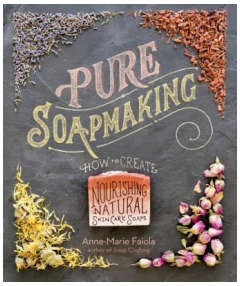
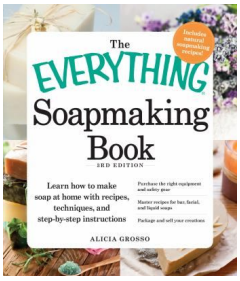
Natural Soapmaking Adventures Supplies List

Alternate sources to reduce costs
silicone molds, stainless steel mixing bowls, pyrex pitcher, mason jars at local thrift stores
5gal bucket at restaurant, renovator, or construction company

Item	Price	Quantity	Total	Where to Purchase
Equipment				
stainless mixing bowl	$6.94	1	$6.94	Chef City, dollar or department store
stainless steel measuring spoons for measuring lye	$9.99	1	$9.99	Bed, Bath and Beyond, department store
heavy duty rubber gloves for mixing lye	$9.99	1	$9.99	Hardware store or Bed, Bath, and Beyond
1 Qt. Pyrex pitcher for mixing lye	$9.99	1	$9.99	KMart
1 Pt. Mason jar for mixing oils	$0.99	1	$0.99	Hardware, grocery, or dollar store
silicone spatula	$5.99	1	$5.99	KMart, Stop&Shop, Bed, Bath and Beyond
stainless or silicone spoon	$5.99	1	$5.99	KMart, Stop&Shop, Bed, Bath and Beyond
immersion blender	$34.99	1	$34.99	Bed, Bath and Beyond
safety glasses	$1.99	8	$15.92	hardware, Home Depot or Staples http://www.staples.com/MCR-Safety-ANSI-Z87-1-Stratos-Safety-Glasses-Gray/product_562139?externalize=certona
non-latex gloves	$0.25	8	$2.00	hardware or Home Depot
molds - silicone	$12.99	1	$12.99	Chef City or Bed, Bath, and Beyond
plastic wrap	$2.19	1	$2.19	grocery store

wax paper	$1.39	1	$1.39	grocery store
5gal bucket & lid for supplies storage	$4.35	1	$4.35	Home Depot
Stainless steel thermometer	5.27	1	5.27	https://www.amazon.com/Taylor-Precision-Products-Classic-Thermometer/dp/B00004XSC4/ref=pd_sbs_79_6?_encoding=UTF8&psc=1&refRID=BBWBM8DZACH1WZ0DB821
SUBTOTAL			**129.21**	
Consumable Supplies				
Item	**Price**	**Quantity**	**Total**	**Where to Purchase**
lye - crystal, NOT liquid	$4.49	1	$4.49	Berger Hardware - Hawthorne in plumbing section
safflower oil (1 qt)	$4.99	1	$4.99	grocery store
olive oil (750ml)	$7.49	1	$7.49	grocery store
coconut oil (16 oz)	$10.99	1	$10.99	grocery store
essential oils (3 oil set)	$14.99	1	$14.99	Bed, Bath, and Beyond
colorants (turmeric, cinnamon, cocoa) (optional)			$0.00	grocery store or home supply
distilled water	$0.89	1	$0.89	grocery store
vinegar (for safe lye cleanup and precaution)	$1.69	1	$1.69	grocery store
SUBTOTAL			**$45.53**	
TOTAL			**$174.74**	
Cost per participant (3 programs with 8 participants each)			$7.28	

Title List

	The complete guide to natural homemade beauty products & treatments : 150 recipes from scrubs to masks to moisturizers & shampoos Ruiz, Amelia, author.		Soapmaking the natural way : 45 melt-and-pour recipes using herbs, flowers & essential oils Ittner, Rebecca.
	Soapmaking : 50 fun & fabulous soaps to melt & pour Rhatigan, Joe.		Handmade soap book : easy soapmaking with natural ingredients Coss, Melinda, 1949- author.
	Soapmaking for the first time Orton, Linda.		Pure soapmaking : how to create nourishing, natural skin-care soaps Faiola, Anne-Marie, author.
	Totally cool soapmaking for kids Browning, Marie.		The everything soapmaking book Grosso, Alicia.

Total BooX Shelf: Soapmaking and Related Shelves

FAQs

What is cold process soap?

- Soap that is made by treating oils or fats (a strong base) with sodium hydroxide, lye (an akaline solution).
- The process happens at a temperature hot enough ot near boiling
- Glycerin stays in so that soap is moisturizing
- Soap is softer and will "melt" if left in water

What is saponification?

A chemical reaction: when oils, which are base, combine with lye, which is alkaline, in a specific ratio, to form a salt. The fat molecules break apart, combine with the alkali, and release glycerin.

How is handmade soap different from most commercial soaps in the store?

- Glycerin is retained for softening and moisturizing
- Natural essential oils provide scent rather than artificial fragrances
- Doesn’t contain dipropylene glycol, a solvent, which is harsh for your skin
- Doesn’t contain synthetic detergents, which are often petroleum-based and drying for the skin

What happens as the soap cures?

- The water in the bar slowly evaporates which causes the bar to become hard.
- Curing allows the bar to become more gentle.

If the soap has lye in it, isn’t it caustic and dangerous?

- Once it goes through the chemical reaction, as long as you used the correct amount of additions, the result is safe.
- Safe to use after about 12–48 hours, but is not at its peak quality for use for several weeks.

http://tonisouth.com/top-10-questions-about-handmade-soap/

http://www.soap-making-resource.com/saponification-table.html

https://en.m.wikipedia.org/wiki/Soap#Soap-making_processes

Patron Program Survey

Your response to this brief survey helps to improve programming in the short and long term. Thanks in advance for your input!

On a scale of 1 to 5, rate your knowledge of and confidence about the activity BEFORE the program.
1 - I've never heard of it.
2 - I've heard of it but don't have much knowledge of it. I haven't participated in it.
3 - I have participated in this activity once. I am a novice.
4 - I have some knowledge about the activity and have participated in it as a hobby or past time.
5 - I am an expert or professional in this field or activity.

On a scale of 1 to 5, rate your knowledge of and confidence about the activity AFTER the program.
1 - I've never heard of it.
2 - I've heard of it but don't have much knowledge of it. I haven't participated in it.
3 - I have participated in this activity once or twice. I am a novice.
4 - I have some knowledge about the activity and have participated in it as a hobby or past time.
5 - I am an expert or professional in this field or activity.

What did you like most about the activity?

How likely is it that you will recommend this program to someone?
Very likely
Not likely

If you answered "Not likely" above, why not?
It needs to be better organized.
It wasn't fun.
I didn't like the materials.
I wasn't happy with my finished product.
Other:

What suggestions do you have for making the activity better?

What suggestions do you have for other programs at the library?

Digital Learning Survey

Your response to this brief survey helps to improve programming in the short and long term. Thanks in advance for your input!

You feel more knowledgeable about using digital resources

- Agree
- Disagree

You feel more confident when using digital resources

- Agree
- Disagree

You intend to apply what you just learned

- Agree
- Disagree

You are more aware of applicable resources and services provided by the library

- Agree
- Disagree

What did you like most about the program?

What could the library do to improve your learning?

What other projects would you like to learn?