

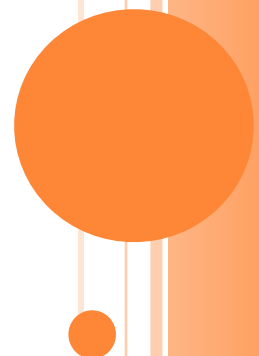
INSTRUCTIONAL DESIGN MEDIA PACKAGE

DIY Natural Laundry Detergent

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Prepared for ISD 621

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INSTRUCTIONAL GOAL

3.1.1 – Goal Statement

Upon gathering the needed ingredients, the learners will be able to make natural laundry detergent from their own home using step-by-step instructions and pictures in order to use for approximately 80 loads.

3.1.2 – Goal Analysis

Many different brands of laundry detergent are available for purchase. However, many of the detergents that are on the market contain ingredients that can be harmful to our overall health and be very costly. Conventional detergents can include ingredients such as fragrances, phenols, sulfates, and other chemicals. Borax, a salt of boric acid, will be included as an ingredient in this natural laundry detergent. It has a safety rating of 1, which is the same as salt or baking soda. This instructional product will provide a step-by-step lesson on how to make natural laundry detergent that is not harmful to one's health and can be used for approximately 80 loads for less than \$20. The main steps include mixing the powder ingredients then including the grated soap and essential oils.

INSTRUCTIONAL ANALYSIS

3.1.3 – Sub skills Analysis

Motor skills- Be able to mix and prepare ingredients to make homemade premium laundry detergent.

Attitude- Promotes a healthier and more cost- efficient lifestyle

Verbal information- Be able to verbally instruct the steps to create homemade laundry detergent.

1. Prepping Ingredients.

a. Soap

- i. Select a real bar soap (not a “Beauty Bar”). Options include Kirk’s Castille or Grandma’s Lye soaps
- ii. Select an effective knife for cutting
- iii. Put on dust mask or bandana to avoid inhaling the soap
- iv. Cut the bar of soap into chunks
- v. Grate the soap with a fine cheese grater

1. As an alternate, throw the chunks into a food processor and grate the soap into fine pieces

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2. Preparing Mixture

a. Preparation

- i. Clean a large bowl with lid
- ii. Put on gloves

b. Mixing ingredients

- i. Mix the Borax, washing soda, and baking soda into bowl
- ii. Stir in the grated/ powdered soap bar
- iii. Replace lid and shake bowl

c. After mixing ingredients

- i. Allow the dust to settle a few times then shake bowl again
- ii. Open container
- iii. Include drops of essential oil

3.1.4 – Entry behaviors

Entry behaviors include being able to navigate the internet, download a pdf file, locate the correct ingredients, measure, and grate the soap.

3.1.5 – Learner Analysis

Intended learners can range from ages 7-12 that are interested in living a healthier lifestyle, learn how to create a household item and to help save more money.

3.1.6 – Performance Context Analysis

Every individual in a household that wears clothing requires washing and/or cleaning the items to get them sanitized and ready for another wear. Some schools and other work environments may also have an area that is designed for washing clothes in the event that clean clothes are needed immediately.

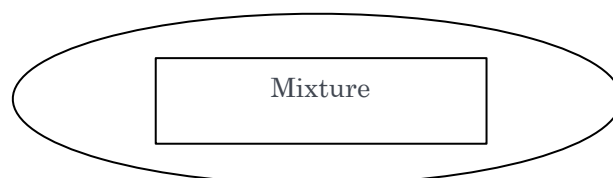
3.1.7 – Learning Context Analysis

The learning context is the web- based instruction that can be accessed by students in the classroom, home or anywhere there is internet access.

3.1.8 – Constraints

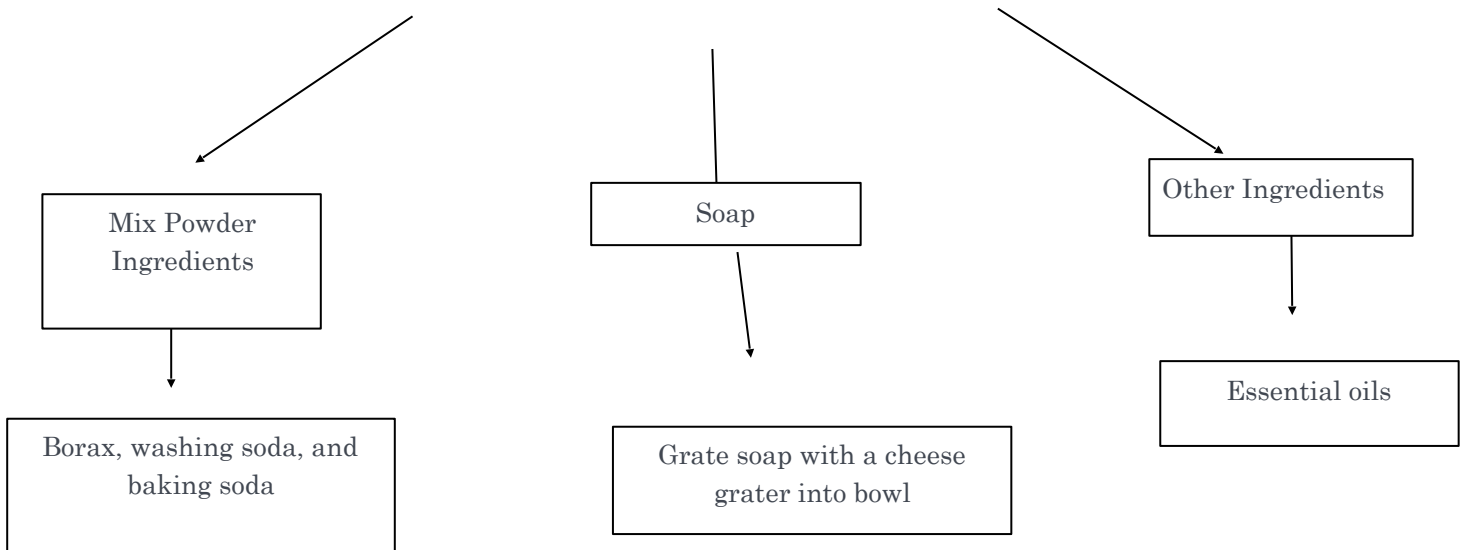
Constraints that might impact the selection of the instructional product include not being able to access the internet or access a technological device.

Hierarchy Chart



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DESIGN AND DEVELOPMENT

Objectives

Skills	Performance Objectives
1.1 Select a real bar soap (not a “Beauty Bar”). Options include Kirk’s Castille or Grandma’s Lye soap.	1.1 Given the correct location, select a Kirk’s Castille soap or Grandma’s Lye Soap with at least 100% mastery
1.2 Select an effective knife for cutting	1.2 Given pictures of the most appropriate knife, select a knife with at least 100% mastery
1.3 Put on dust mask to avoid inhaling the dust	1.3 Given direction to, put on dust mask with at least 100% mastery
1.4 Cut the bar into chunks	1.4 Given pictures of a bar of soap, cut the bar into chunks with at least 100% mastery
1.5 Grate the soap with a fine cheese grater	1.5 Given an explanation of using a cheese grater, grate the soap with at least 100% mastery

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2.1 Clean a larger bowl with lid	2.1 Given the appropriate size of the bucket, clean bucket and lid with soap and water with at least 100% mastery
2.2 Put on gloves	2.2 Given the appropriate gloves, put gloves on with at least 100% mastery
2.3 Mix the Borax, washing soda, and baking soda	2.3 Given the correctly measured amounts, mix the borax, washing soda, and baking soda with at least 100% mastery
2.4 Stir in the grated/ powdered soap bar	2.4 Given the pre-grated soap bar, stir in grated soap bar into bucket with at least 100% mastery
2.5 Replace lid and shake bowl	2.5 Given the lid fits correctly, replace lid and shake bowl with at least 100% mastery
2.6 Allow the dust to settle a few times the shake bowl again	2.6 Given the lid fits correctly, shake the bowl again with at least 100% mastery
2.7 Open container	2.7 Given instructions on openly bowl safely, open bowl away from eyes with at least 100% mastery
2.8 Include drops of essential oil	2.8 Given pictures of different essential oils, include drops of essential oil into bowl with at least 100% mastery

Materials

Materials for the instruction will be provided in a stand- alone format using web- based creator called GoAnimate. This form of technology was selected to provide an engaging way to keep the learners engaged throughout the presentation. Any device that has access to the internet is considered appropriate.

Assessment Plan

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This project is geared toward the learners (who are aged 5-10) being able to physically make their own laundry detergent. Children will be assessed using a checklist that tracks each step that is completed through teacher observations. An overall score will be given with each step accounting for a certain amount of points. Per the number of points the learners earn, an award of "Excellent Job, Great Job, or Good Job."

Observational Checklist for (Insert Learner's Name)

Skills	Points Earned (1-Good, 2- Great, 3-Excellent)
1. Select a real bar soap (not a "Beauty Bar"). Options include Kirk's Castille or Grandma's Lye soap.	1 2 3
2.	
3. Select an effective knife for cutting	1 2 3
4.	
1.3 Put on dust mask to avoid inhaling the dust	1 2 3
5. Cut the bar into chunks	1 2 3
6.	
1.5 Grate the soap with a fine cheese grater	1 2 3
2.1 Clean a larger bowl with lid	1 2 3
2.2 Put on gloves	1 2 3
2.3 Mix the Borax, washing soda, and baking soda	1 2 3
2.4 Stir in the grated/ powdered soap bar	1 2 3

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2.5 Replace lid and shake bowl	1	2	3
2.6 Allow the dust to settle a few times the shake bowl again	1	2	3
2.7 Open container	1	2	3
2.8 Include drops of essential oil	1	2	3
Total Points:			

Instructional Strategy

Objective Sequence and Clusters: The video presentation will be divided into three segments. After each segment is completed, the learners will receive an on-screen motivator. Allow approximately 45 minutes to complete all three segments.

<u>1</u>	<u>2</u>	<u>3</u>
1.1	2.1	2.6
1.2	2.2	2.7
1.3	2.3	2.8
1.4	2.4	
1.5	2.5	

Gagne's Nine Events

1. Gaining Attention- To gain the learners attention, first the learners can be asked questions about how they can help at home or help their parents save money to buy and do more fun things with them. Colorful clip art pictures will be included in the presentation while the questions are being asked. Learners aged 5-10 generally like to please and get verbal praise so they will be excited to participate.
2. Informing learner of objective- Then examples/ pictures of dirty clothing can be shown to show the learners how important it is to wash clothes and to introduce another way they can be big helpers at home. They will also be shown a video of what laundry detergent can be used for.

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3. Stimulating recall of prerequisite learning- Entry skills such as measuring and grating will be discussed to help trigger prior learner knowledge
4. Presenting the stimulus material- The presentation will show what materials are needed to make the laundry detergent.
5. Providing learning guidance- The video will show each step that is included in making the laundry detergent.
6. Eliciting the performance- After viewing the full presentation, the learners will then be able to go back and re-play any part of the presentation that needs to be reviewed.
7. Providing feedback- Before moving on to the next step, each learner will receive verbal confirmation of whether they are on the right track.
8. Assessing the performance- A checklist will be used to assess the performance of each learner.
9. Enhancing retention and transfer- The presentation can be shared with the learners via email.

IMPLEMENTATION

One-to-One Evaluation

A one- to- one evaluation was completed in order to receive feedback from another education professional and a student from the targeted audience learner, aged 8, on the effectiveness of the developed instruction. The one-to-one participants were given the opportunity to express their dislikes or problematic parts of the instruction. They were invited to review the materials that will be used to assess the learners, review each section of the video for errors, and complete a rating scale on the quality of the instruction.

Target Learners. Learners for the one-to-one evaluation were selected from a local elementary school whose focus is to academically develop students to thrive and be an asset to their community. The education professional serves as a SME with 21 years of experience.

Criteria. The following information will be reviewed during the one-to-one evaluations:

1. Appropriate objectives and outcomes
2. Clear passages
3. Adequate information

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Procedures. The evaluations were completed in 2 individual sessions in an elementary school classroom, lastly for 60 minutes, respectively. Each evaluation began by providing the learners with their rating scales. In addition, the SME was given a copy of the assessment materials. The education professional and the learner were given different rating scales that were developmentally appropriate. The targeted audience learner was shown sequential pictures that would be used in the instructional product that display how to make the natural laundry detergent. While looking through the pictures, she was given an opportunity to ask questions and verify understanding. Notes were taken during the discussion as a reference. The SME was also shown the sequential pictures to be used during the instructional product, reviewed the assessment materials, and completed the evaluation rating scale.

SME Rating Scale

	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Appropriate objectives and outcomes	Did not have appropriate objectives and outcomes	Developed with the target audience in mind	Easy to follow progression through instruction
Clear passages	Did not have clear passages	Clear passages and flow	Easy to follow progression through instruction
Adequate information	Did not have adequate information	All needed steps included	All steps were represented

Targeted Audience Learner Rating Scale

	Meets Expectations	Does Not Meet Expectations
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I can learn from this video	YES	NO
I can read the steps	YES	NO
This video shows me all the steps to make laundry detergent	YES	NO

Outcomes. It was determined that the objectives were developmentally appropriate for the learners. There were a few typos within the instructional product but were corrected accordingly. The information included in the instruction seemed to adequately accommodate the learners' needs.

Small Group Evaluation

The purpose of the small group evaluations was to present the complete instructional design product to an audience of targeted learners. The evaluation took place in a elementary school classroom.

Target Learners. The small group participants included 4 target audience learners (aged 7,8, and 10). They were randomly selected by two teachers and parental consent forms were sent home with the selected learners.

Criteria. The following information will be reviewed during the one-to-one evaluations:

1. Learner understanding of objectives being presented
2. Retention of instruction

Procedures. The learners were invited to sit at two tables with two students sitting at each table. The learners were separated between the two tables to reduce distractions while as providing them an opportunity to have peer support while following the steps of the tutorial video. While the learners completed each step, the observation checklist was completed. After the learners were done making the detergent, data was collected from the observations to identify problems with the instruction.

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Outcomes. The average completion time of the instruction was 48 minutes. The learners had some difficulty grating the soap in a timely manner. In order to alleviate this problem, students can be given the option to purchase the soap in a grated form or use a food processor to grate the soap.

Field Trials

After all previous problems with the instruction have been corrected, field trials will begin. When completing field trials of the completed instruction, a representative from multiple elementary schools would be selected. Each representative must be employed at educational facility with elementary aged learners. The representative from each school will then select a group of learners.

Pending parental consent, the learners will be given an opportunity to complete the instruction at a set time along with the other learners that were selected from their school. The representative will complete the same procedures included in the small group evaluations. Data will be collected from the observations to identify problems with the instruction.

Summative Evaluation

Summative evaluations can be administered to the learners on a 2- point scale. The scale would include statements about the instruction. The statements would refer to the effectiveness of the presentation, the venue, and the organization of the material. Learners can select one of the following responses for each statement: yes/ no

Here is an example of a statement on the summative evaluation:

The video was fun. YES or NO (circle one)

After the evaluations have been completed, the responses can be used to modify the instruction or clarify any remaining problems.

ADDITIONAL APPENDICES

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