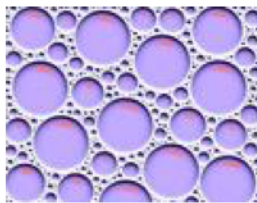


The Chemistry of Clean

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Vetted Project: Everyone uses soap, hopefully. This project allows students to investigate chemical reactions, hydrophilic and hydrophobic properties, acids and bases, organic molecules and lab safety and procedures while producing something useful and fun. Driving Question: What are the chemical properties of soap that allow it to clean things? How, when, where and why was soap developed? What are the chemical processes behind soap making? Many soaps include fragrance, what is the chemical structure of fragrance and how does it interact with the human body? Student Reflection: "Working as a group to come up with the desired qualities by exploring the types of soaps was the best work we did. I really think during this stage I got my wants across and communicated to the others so we could all work together as one." Teacher Reflection: Our project, The Chemistry of Clean, was fun while still being rigorous. The product, the soap, came out well and we were able to sell most of it. Students were able to connect the acid-base reaction with our chemistry studies. Chemistry often feels abstract. This project allowed students to connect chemistry to every day life. Lessons Learned: Making soap is a relatively quick process, but the soap takes weeks to cure to a useable product. In order to give students a chance to revise their recipe, plan to make their first batch of soap well in advance. Teacher Rating: Likely to recommend

I. Authenticity

Performing: Students had to create a product that actually works - soap. Demonstrating: Students sold soap to the public and had to describe/explain their product to students, teachers, and members of the public.

Performing

Realistic Role

Speech or Spoken Word Performance

Demonstrating

Event

Lab Activity

Marketing / Sales

Producing / Revising

Execute Multiple Drafts

Product

Revise a Product or Service

Spec / Design

Test for Quality / Integrity

II. Media Produced

Tactile

Cosmetics, Make-up & Fragrances

Print Media

Print Advertising

Technical Writing

Budget, Cost Analysis or ROI

Instruction / How to Use

Lab / Research Report

Physical Drawings & Fine Arts

Logo, Package Art, Trademark Design

III. Challenging Problems

Questions

Self Reflection & Evaluation

Themes

Field-based Work

Research-based

Topics: Physical World

Human Body

Topics: Humans in the World

Civilizations & Cultures

Consumers & Industry

Health, Fitness & Diet

Historical Times & Periods

IV. Achieved Literacy Skills

Project / Work

Address Setbacks / Criticism

Adjust to Schedules / Contexts

Balance Various Roles / Responsibilities

Manage Time / Workload

Leadership

Balance Diverse Views

Present a Professional Appearance

I. Parameters & Feasibility

Project Timeframe

7-8 Weeks

Assessment Timeframe

More than a Class Period

of Project Members

Individual

Small Group

Authentic Audience / Evaluators

Peers

Teachers & Administrators

Consumers / Clients

II. Intended Learning Outcomes

Creativity

Brainstorm

Design / Create

Envision / Invent

Improve / Refine

Recognize Limits

Communication

Engage Creatively

Sales Pitch

Terms, Concepts or Calculations

Collaboration

Assume Shared Responsibility

Encourage Others

Incorporate Feedback

Manage People / Team

Value Contributions Made by Others

Work with Diverse Teams

Critical Thinking

Balance / Weigh Alternatives

Quantify

Rational, Objective Decision-making

Reflect Critically on Learning

Instilled Citizenship Values

Civic Activities / Organizations

III. Success Skills & Depth of Knowledge

Assessment Structures / Resources: Labs

Cognitive Demand

Comprehending / Understanding

Applying

Analyzing

Evaluating

Creating

Social & Emotional Skills

Self-awareness

Self-management

Group-awareness

Group-management

Learning Styles / Intelligences

Bodily / Kinesthetic

Interpersonal / Social

Intrapersonal / Introspective

Logical / Mathematical

Naturalist

Verbal / Linguistic

Assessment Structures / Resources

Checklists

Graphic Organizers

IV. CTEs & Disciplines

Career & Technical

Advertising, Public Relations & Marketing

Agriculture & Agribusiness

Business / Entrepreneurship

Consumer Sales, Services & Products

STEM Research & Applications

Business

Advertising / Marketing Communications

Communication / Media

Mass Media

History

World History

Mathematics

Basic Math

Sciences

Biology

Chemistry

Health



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