

Activity Title: Dental Plaster

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Date: 5/26/2026

Grant Number: 23A60CC000005-01-00

Pathways to Accessing Training in Healthcare-Minnesota (PATH-MN)

Overview

This activity provides students with a hands-on introduction to the process of creating dental molds. Participants will use dental-themed silicone molds and authentic dental plaster to create their own plaster tooth models, which they may take home upon completion. Through this experience, students will gain insight into a common procedure used in dental practices and explore careers in the dental field.

Careers Associated: Dental Hygienist, Dental Assistant

Supplies Required

Facility Requirements: Room with tile flooring.

Materials and Equipment:

- Vibrating plates (multiple units recommended for larger groups)
- Silicone dental-themed ice cube trays, cut into individual molds (one per participant)
- Silicone mixing bowls (one per participant)
- Small baker's spatulas (one per participant)
- Tap water (approximately 1 tablespoon per participant)
- Dental plaster (approximately 2 tablespoons per participant)
- Power strip (if using multiple vibrating plates)
- Garbage can

Materials Notes: Dental plaster is available in several varieties. A product with a slower setting time is recommended for participants with little or no prior experience, as it allows more time for mixing and molding.

Time Required

- Setting up: Approximately 20 Minutes
- Instruction: 10 Minutes
- Activity: 30 Minutes

- Clean up: 15 Minutes
- **Total Time: One Hour and Fifteen Minutes**

Learning Outcomes

By the end of this activity, participants will be able to:

- Demonstrate the process of creating a dental mold using an authentic dental plaster.
- Accurately measure dental plaster and water to achieve the proper consistency.
- Explain why dental offices use dental plasters and identify alternative digital scanning methods used in modern dentistry.

Activity

Prior to the session:

- Place one silicone bowl and one baker spatula at each participant's workstation.
- Pre-measure one serving of dental plaster into each bowl according to the manufacturer's instructions (typically approximately 2 tablespoons).
- Set up and plug in the vibrating plates.
- Place one dental mold at each workstation.

Introduction

Engagement Question: "Who has ever had a dental impression taken before getting braces or other dental treatment?"

Explain that dental professionals use molds and impressions to create accurate models of patients' teeth. Today, participants will practice a simplified version of this process using real dental materials.

Activity Instructions

Demonstrate each step before participants begin:

1. Add the appropriate amount of water to the dental plaster. Typically, this is approximately $\frac{3}{4}$ tablespoon of water for every 2 tablespoons of plaster, but always follow the manufacturer's instructions.
2. Mix the plaster and water thoroughly until the consistency resembles smooth peanut butter.
3. Transfer the mixture into the dental mold.
4. Place the filled mold on a vibrating plate and activate it until visible air bubbles rise to the surface.

5. Remove the mold and allow it to set for approximately 15 minutes.
6. Encourage participants to carefully touch the mold partway through the setting process. They may notice warmth being generated, which occurs because the plaster undergoes an exothermic chemical reaction as it hardens.

Conclusion & Assessment

Assessment of Success: Successful completion of the activity is demonstrated when each participant produces a well-formed plaster tooth model. Participants may keep their completed models.

Closing Discussion: As participants remove their plaster teeth from the molds, discuss how these materials and techniques are used in dental offices to create models for treatment planning and appliance fabrication. Explain that taking impressions and creating models are important skills for dental hygienists and dental assistants, although many practices now also utilize digital scanning technologies.

Clean Up

Important: Do not wash dental plaster down the sink. Allow any remaining plaster in the mixing bowls to fully harden. Once set, flex the silicone bowls to release the plaster and dispose of it in the garbage. Clean and store reusable materials according to facility procedures.

Images

