Dental Impression Instructions

- This part of the lab is completed at home.
  - It takes about ½ hour and is best done over/near a sink.
  - It is also best done early in the week so that the cast has a chance to dry well.
- As with all labs, this is a voluntary exercise. If you do not want to make a cast of your own teeth, you may substitute an object.
  - Be aware that the plaster may stick to the object, so do not use any thing that you treasure or that is valuable.
  - You CAN’T take a cast of any other person.
- Read these instructions carefully. I suggest you go through a dry run (mimic all the steps first, before you actually implement the process).
- I suggest you do it very soon after receiving the materials, in case you have questions or difficulties.

Equipment

1. Dental alginate
   A casting material made from kelp used for making the negative impression of the teeth. This is the same material use by dentists.

2. Molding plaster
   A high-grade cement used for making the positive impression of the teeth.

3. Dental impression trays set
   1 upper and 1 lower (do not use if you plan to take a mold of something other than your teeth).

4. Modeling clay
   Use to create “dam” at end of each tray so the plaster will not run out the ends.

5. 1 large/2 small disposable mixing cups
   Use the large cup to mix the plaster, the two small cups are for the 2 batches of alginate.

6. Measuring cups & measuring spoons
   For measuring the water and alginate.

7. 3 plastic spoons or stir sticks
   For stirring all your stuff.

8. Felt-tip pen
   Optional: To mark the cups.

9. Disposable gloves
   Optional: Ask for these if you want to use gloves).

10. Disposable mask
    Optional: Ask for this if you have allergies or prefer to use while mixing materials).

11. Material labels
    Create labels so you can tell which bag is plaster and which are alginate.
This part of the lab comes in two parts:

- Part 1 is where you make the negative impression (the mold).
- Part 2 is where you make the positive impression (the copy of your teeth).

**Part 1 - Mixing the Alginate and Taking the Negative Impression**

1. Mixing the alginate (for one tray):
   a. **Measure out 2 level tablespoons** (6 teaspoons [US]) of the dental alginate and place into the disposable cup.
   b. Add in 20 mL (about 4 teaspoons because 1 teaspoon [US] = about 5 ml or ¼ cup) of COLD water. The warmer the water, the faster the set-up time for the mixture, so use coldest water available.
   c. Using either a plastic spoon or a stir stick, stir for about 1 minute.
   d. The mixture is ready when you have achieved a creamy mixture.

2. Making the negative impression:
   a. Fill the tray (NOT as much as in the picture, say more like level).
   b. You do not have much time so work quickly.
   c. Rinse your mouth with warm water.
   d. Insert filled tray; press gently into position: pull lip over side of tray and hold immovable for 1 minute after stickiness vanishes.
   e. **Use the leftover alginate in your mixing cup to tell when the alginate in your mouth is completely solidified.** The alginate is ready when it is firm to the touch and it doesn't leave a residue on your finger.
   f. When the alginate is set, remove from mouth by using the tab as a handle, next gently jiggle the tray side to side to release the vacuum. Your finished impression should somewhat resemble this. The greater detail your mold the better your dental cast will be in Part 2.
   g. Remove the tray and rinse impression thoroughly under running water to remove saliva and debris.

3. **Repeat this process** for the second impression tray.

**Part 2 - Mixing the Impression Material and Making the Positive Impression**

1. **Special Note**: Pour impression material immediately to achieve the most accurate results.
2. Preparing the trays for pouring:
   a. Obtain a small amount of modeling clay. Shape the clay into four small, flat pieces
   b. Use one piece of clay to box off the open end of each back tooth so that the impressions will be able to hold liquid plaster. The impressions can now be used as molds for casts.
3. Mixing:
   a. Put about 2/3 cup LUKEWARM H₂O (about 150 grams) into a disposable cup.
   b. **Put about 225 grams** of molding plaster into the same cup and sprinkle on top of the water, until the molding plaster settles on top and looks like a dry river bed.
   c. Mix until you get a nice creamy consistency, work out all lumps. Molding plaster will not be as thick as the alginate was (more like pancake batter).
   d. Add extra water in small amounts if you felt the consistency is too thick.
4. Making the negative impressions (both trays):
   a. Gently spoon/pour some of the mixed molding plaster into the front of the mold, getting it into the impression of the front teeth. But don't fill all the way to the top -- just start with the front and pour enough to cover the indentations.
   b. Holding the dental tray by its tab, gently tap mold on the corner of the table to remove air bubbles and fill in the rest of the mold.
   c. Let sit for about 10 minutes. While you are waiting, occasionally stir the remaining molding plaster to slow its setting time.
   d. After the first coat has started to set use the extra mixture and slowly fill to the top of the mold, filling in the extra space.
   e. Do not pour too quickly or you will have bubbles in your mold or it will splash out of the tray.
   f. **Scrap the mixture even** with the top of the impression tray.

5. Unmolding:
   a. Let mold sit for about 12 hours or overnight.
   b. After mold has had plenty of time to cure, gently pull dental tray from mold.
   c. Discard negative alginate mold. Do not attempt to make additional impressions from the same alginate mold.
   d. Discard any extra alginate. Return any extra plaster to class.

Conversion calculations:

**Water:**
- 1 gallon of weighs about 8.3 pounds (or 3628.73896 g)
- So…

<table>
<thead>
<tr>
<th>Pounds of plaster (60%)</th>
<th>Volume of H₂O (40%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 pounds or 2722 g</td>
<td>2 quarts or 1815 g</td>
</tr>
<tr>
<td>3 pounds or 1361 g</td>
<td>1 quart or 907 g</td>
</tr>
<tr>
<td>1.5 pounds or 680 g</td>
<td>1 pint or 453g</td>
</tr>
<tr>
<td>0.75 pounds or 340 g</td>
<td>1 cup or 227 g</td>
</tr>
<tr>
<td>0.5 pounds or about 225 g</td>
<td>2/3 cup or about 150 g</td>
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</tbody>
</table>
Sources
