Concrete – Steppingstone

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Description:

Learn to mix, place, and finish concrete.

## What’s in the Bucket?

### Materials:

Cement

Sand

Gravel (3/8”)

Non-Stick spray (for form release)

Decoration/stones (optional)

### Tools:

Form (baking pan)

Wood float

Steel concrete trowel

Plastic Cup

5 gal bucket

Gardener’s Trowel

Gloves (optional)

## Before you start!

Concrete sticks and hardens. Before you start be sure that you are working in an area that will be easily cleaned like a driveway or garage. Be sure to clean tool immediately. Avoid contact with concrete as it will dry your hands. Important: Extra concrete CANNOT be washed down the sink or storm drain. Place on newspaper of plastic, after it has hardened place in the garbage.

Review: <https://youtu.be/CQfyUj9UDPg>

## Procedure:

1. You will use the bucket to mix the concrete.
2. Spray the pan with cooking spray (the “release agent” so the concrete will not stick.
3. Optional: Place the decorations in the bottom of the pan. REMEMBER that this will the top so decorations should face down.
4. Using the plastic cup measure out the dry ingredients in a 1-2-3 ratio into the bucket. The number of cups will depend on the size of your form. Always add ingredients in this ratio.

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| --- | --- |
| Cement | 1 Cup |
| Sand | 2 Cups |
| Gravel (aggregate) | 3 Cups |

1. Mix the dry ingredients.
2. SLOWLY add water ONE cup at a time. Mix with the Gardener’s trowel. Add until the mixture is the constancy of stiff oatmeal.
3. Carefully place the concrete in the form (pan). Be careful not to disturb the decorations. Fill the pan to the top.
4. Tap the pan a few times to settle the concrete.
5. Use the Float to “screed” or level the concrete across the top of the pan.
6. Take a break and clean the bucket, trowel, and float.
7. When the shine is just gone on the concrete it is ready to finish. Use the steel trowel for this. The finish should be smooth with no holes or rough spots.
8. Let sit overnight. Turn the form upside down and tap to remove the form. Clean the surface with the decorations (brush).

## Teacher’s Notes

Redi-mix can be used, but the learning to mix the components is a valuable skill.

Forms: A steel baking pan is best as the light aluminum pans will not hold up. 8”x 8” or 9” x 13” are common. You can use rings cut from the tops of 5 gal buckets (place on plastic sheet). You can also purchase stepping stone molds.

