



School of Science  
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# Edible Concrete

Make concrete you can eat from a few simple ingredients

# Resources

You will need:

- milk
- Oreo cookies
- cocoa powder
- chocolate pudding mix



# Step 1

Put your cookies in a bowl, and mash them up. Aim for a good mix of larger and smaller pieces.

## What's going on?

Your cookies are the **coarse aggregate** in your concrete, like gravel and stones. They provide bulk and strength.



# Step 2

Add a **small amount** of milk to your bowl, and mix well with a spoon. Then let it sit for a minute or so to allow the milk to soak in.

## What's going on?

You are adding **water** (milk) to your **coarse aggregate** (cookies). It prepares the mix for cement.



# Step 3

Add some cocoa powder and pudding mix to your bowl. Stir it well to mix everything together.

## What's going on?

You are adding **sand** and **cement** to your mix. The cement reacts with the **water** and hardens when it dries. When you stir the mix you coat the **aggregate** with the mixed water and cement.



# Step 4

Your mix now has all the dry ingredients, and a little bit of milk. If it is still very dry, add a little more milk and stir it in. Do not add too much at once – you can always add more! Your wet concrete should be thick and a little lumpy, but not crumbly or powdery.

## What's going on?

How much **water** concrete needs depends on the temperature of the air and the type of **aggregates** and **cement** used. Wetter concrete will move more easily, but will be weaker when it dries.



# Step 5

Your concrete is now ready to set in the fridge overnight. You may want to spread it in a small pan or a container like a plastic storage tub.

## What's going on?

Your **water** (milk) and **cement** (pudding mix) react together and harden as they dry. The **aggregates** (cookies and cocoa powder) are trapped in the mix and make it stronger.



# Recording your results

How much milk did you use? How much of each dry ingredient? How did that affect your final result?

Number of Oreos	Pudding mix (g)	Cocoa powder (g)	Milk (ml)

## Results

After refrigeration, did your concrete set? Is it crunchy or chewy? Does it crumble easily? Make some notes here, then compare with your fellow engineers. What results did they get, and how did their ingredients differ from yours?

