

## “Bone: It’s Alive!” activity

The mineral that coats bone tissue is called Calcium Phosphate. Using the materials provided, you will be making Calcium Phosphate from two chemicals: Calcium Chloride and Sodium Phosphate.



### Materials:

- Safety Gloves/Goggles
- 1 mL Plastic Transfer Pipettes (1 per student)
- 1.5 mL microcentrifuge/Eppendorf tubes (1 per student)
- 50 mL conical (1 per class or group – 50 mL = ~100 uses)
- 0.2 M Calcium Chloride (500  $\mu\text{L}$  per student)
- 0.2 M Sodium Phosphate (~500  $\mu\text{L}$  per student)
- Vortex or centrifuge (optional)

### Preparation:

- Each student should have their own set of gloves, plastic transfer pipette, and microcentrifuge tube.
- Fill each microcentrifuge tube with 500  $\mu\text{L}$  of 0.2 M Calcium Chloride
- Fill each conical with an amount of 0.2 M Sodium Phosphate. This amount will vary based on group size. Each student will use ~500  $\mu\text{L}$ , so

### Procedure:

1. Each student takes 1 centrifuge tube of Calcium Chloride and a plastic transfer pipette.
2. Open the tube
3. Using the plastic transfer pipette, add ~500  $\mu\text{L}$  (about half of the pipette) of Sodium Phosphate from the stock conical to the centrifuge tube.
4. Close the tube.
5. Shake well and observe.

### Discussion: