Does Calcium Really Make Bones Strong?

Is calcium really important? Does it really make bones hard? What would happen if you didn't get enough calcium in your diet? To answer these questions, we are going to remove the calcium from a bone and see.

Vinegar is a weak acid that dissolves calcium. Soaking a chicken bone in a jar of vinegar will remove the calcium and make the bone soft. This experiment will take 2 weeks but the wait will be worth it.

Procedure:
1) One person from your group must eat chicken the night before (make sure the bone is carefully washed).
2) One person from your group must bring a clean empty jar to class.
3) And one person must bring a bottle of vinegar to class.
4) In class, fill the jar with vinegar.
5) Place the lid loosely on the jar or punch holes in the lid
6) Wait 2 weeks

Level 1 Questions:
1. Vinegar is a weak acid that ________________ calcium
2. About how long does it take for vinegar to remove all of the calcium from a chicken bone?

Level 2 Questions:
3. Why do you think it is necessary to punch holes in the jar's lid?
4. Why do you think it is important to eat foods that are rich in calcium?

Level 3 Question:
5. The calcium in a steak bone takes much longer to dissolve than the calcium in a chicken bone. Explain why you think this is so.