

# What Makes Our Bones Strong



## FILM

### ▶ K for Knowledge: Miracle Bones

## KEY OBJECTIVES

- 1 To understand the role the bones play in humans
- 2 To determine what keeps our bones strong
- 3 To describe what happens to bone as people age and the complications that may arise

## INTRODUCTION

We all know that bones are the crucial support system in our bodies and we need to take care of them. But how can we make sure that our bones are maintained, healthy and strong?

In this activity we are going to find out what substance in our bones makes them strong.

## GUIDING QUESTIONS

- What are the roles of bones in our body?
- What are the different types of bones and their functions?
- What can we do to strengthen our bones?
- What happens to our bones as we age?
- Do adults have the same number of bones as babies?

### TOPICS

Biology health bones

### KEYWORDS

Calcium

### LEVEL

Secondary School

### RESOURCE TYPE

Experiment

### INTENDED AUDIENCE SIZE

Small group

### MODE OF DELIVERY

Online

### TIME FOR ACTIVITY

4 days

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## MATERIALS/PREPARATION

- 2 chicken bones-raw or cooked (A leg or drumstick works best)
- White vinegar
- A beaker large enough to fit the chicken bone + lid

## TASKS/PROCEDURE

- 1 Prepare the materials mentioned above. Label the experiment start date and time on the beaker.
- 2 Observe the chicken bone's length, width, shape, color, rigidity and note them down.
- 3 Place the chicken bone in the beaker.
- 4 Cover the chicken bone with vinegar.
- 5 Cover the beaker and let the bone sit for four days in the liquid solution.
- 6 During this time record the observation.
- 7 After the four days period, compare and contrast your observations from the bone condition from the before and after the experiment.

## FOSTERING DISCUSSIONS

So what happened? What is so special about vinegar that it can make a hard bone squishy? Vinegar is considered a mild acid, but it is strong enough to dissolve away the calcium in the bone. Once the calcium is dissolved, there is nothing to keep the bone hard - all that is left is the soft bone tissue. Now you know why your mom is always trying to get you to drink milk - the calcium in milk goes to our bones to make our bones stronger. With some effort and you can really get the bone to bend

## SAFETY INSTRUCTIONS

**After the activity, students should wash their hands with soap. Even though they may have boiled the bones and they should be safe, washing just ensures that any bacteria is washed away.**

## POSSIBLE EXTENSIONS

Muscle and bone diseases

## AUTHORS AND SOURCES

Submitted by Discovery Centre Kenya