

What's in Your Bones?

This is a great activity for science class to help demonstrate how bones lose their strength and structure when they don't get enough calcium. This lesson will help reinforce to students the importance of making sure they eat enough foods with calcium each day. The lesson will last a week.

Materials needed:

- 2 clear jars with lids
- 2 clean, cooked chicken wing bones with meat and cartilage removed
- Milk
- Vinegar
- Pins

Instruction:

Tell students that calcium is important to help bones become hard and strong. Foods with calcium are important to grow strong bones.

Activity:

- Encourage students to examine the bones closely before they are placed in the jars. Allow them to poke each bone to test how hard they are and see how far in the pins will go. Record the results.
- Then place one chicken bone in one jar and cover it with milk. Place the lid on the jar. Then place the other chicken bone in the second jar and cover with vinegar. Place the lid on that jar as well. Let the bones soak overnight.
- Each day for seven days, replace the milk in the jar to avoid spoiling.
- After a week, test the bones from each jar and rinse them. Have the students prick them again, then try to bend them. Compare how flexible the two bones are. Record the results.

Optional:

After testing, leave the bones out to dry for a few weeks. Break each dry bone to compare which is stronger. The bone with less calcium (the one soaked in vinegar) will be brittle and break more easily.

Discussion:

Have the students discuss how the bone soaked in vinegar became weaker. Vinegar, which is an acid, pulls calcium from the bone, much like the body pulls calcium from the bone if it does not receive enough calcium every day. Optional: you can share with students that soda contains a different kind of acid, phosphoric acid, which can also prevent your body from getting enough calcium if you choose soda over milk or soy drinks, for example.

