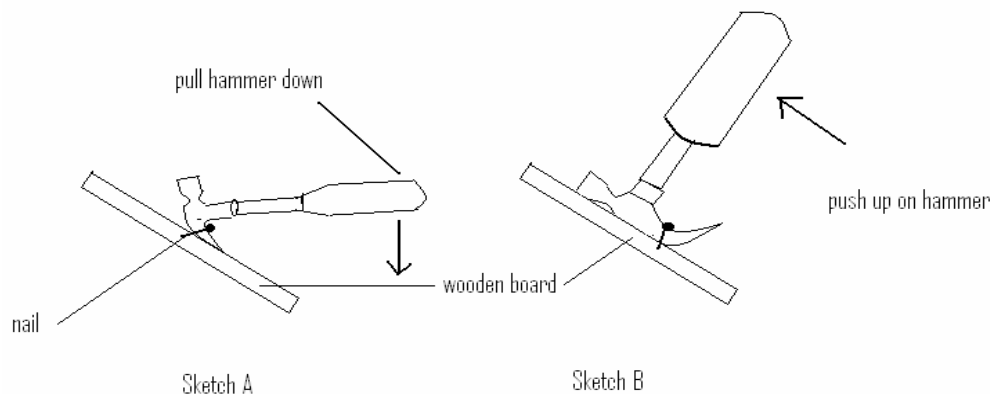


IS THE HAMMER A LEVER?

A. Question: *What is the function of a lever?*



B. Materials Needed:

1. A hammer (which can be used to pull nails out).
2. A wooden board and small common nails.

C: Procedure:

1. Hammer a couple of nails into the wooden board (half way) and pull one nail out by pulling down on the hammer.
2. Pull the other nail out by pushing up on the hammer.
3. Ask students the questions listed.

D: Anticipated Results:

Students should be able to tell which method of pulling out the nail was an application of the second class lever.

E: Thought Questions for Class Discussion:

1. Which of the two methods of taking out the nails was an application of the second class lever?
2. What class lever was the other method applying?
3. Where is the fulcrum, effort and resistance located in the first method? Where are these in the second method?
4. What other examples can you name that apply the second class lever?

F: Explanation:

The best way to clarify where the forces are at work with the hammer pulling the nail, is to draw a sketch of both methods and the relationships and location of the force and fulcrum. The first method is applying the second class and the second method is applying the third class lever. Other examples of second class lever applications are: the wheelbarrow, crowbar, nutcrackers, paper cutters, two-hole punchers.