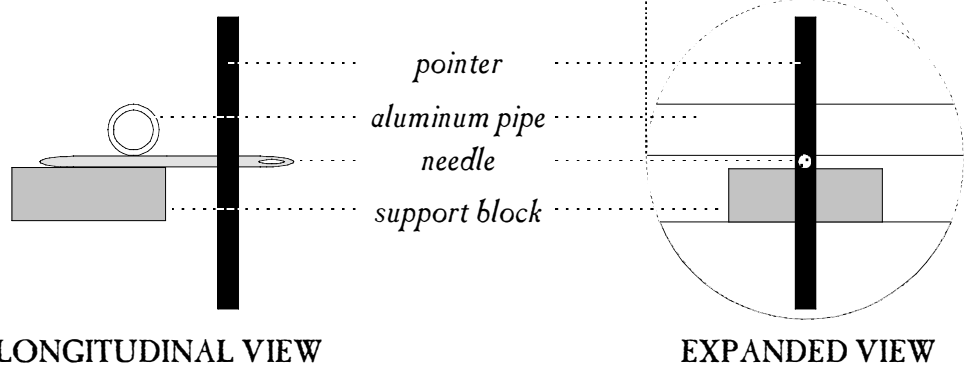
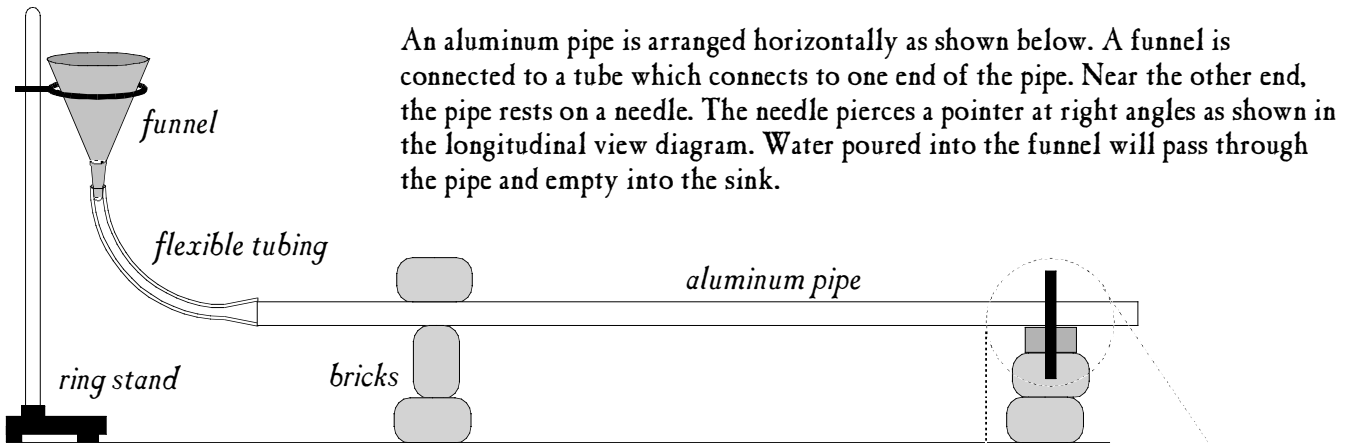


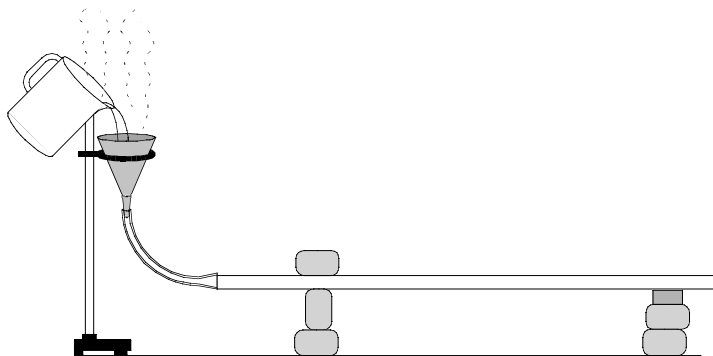
# PINOCCHIO PIPE

## A DEMONSTRATION OF LINEAR EXPANSION

Name: \_\_\_\_\_ Per: \_\_\_\_\_ Date: \_\_\_\_\_



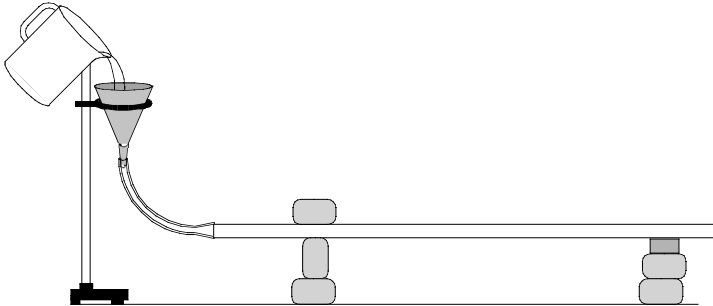
1. a. Observation. Record, in words and pictures, what happens when hot water is poured through the pipe.



b. Explanation. Why does this happen?

a. Prediction. What will happen when cold water is poured through the pipe?

b. Observation. Was your prediction correct? If not, how was the actual outcome different?



3. Ponder these and answer each.

a. What would happen if liquid nitrogen had been poured through the pipe?

b. What is the purpose of the brick that lies on top of the pipe?

c. To improve the demonstration, should that brick (and the ones beneath it) be placed closer to or farther from the open end of the pipe?

d. Would a copper or iron pipe have worked better?

e. Why would the demonstration have been less dramatic if a nail had been used instead of the needle?