

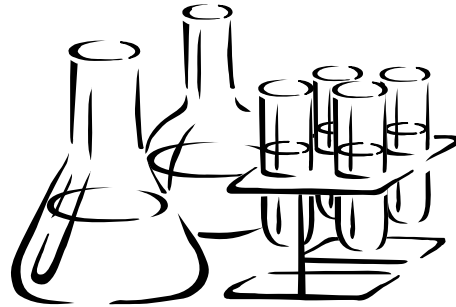
Biohazard Handler

Fluid Power Systems Design Activity

Situation

A biotech company has a need for a device that will allow for the remote handling of dangerous viruses in a research lab facility.

Design and build a device that will move a test tube from one rack to another remotely and without direct human contact with the test tube.



Resources

Time	15 class periods
People	Up to 3 per group
Energy	Human energy for activation of the device
Information	Suggested research topics: Basic fluid dynamics, pneumatics, hydraulics
Money	None
Tools	Any that can be safely used with teacher permission
Materials	Wood, glue, screws, miscellaneous syringes, plastic tubing, and various other hardware
Space	The finished device must not be larger than one cubic foot prior to activation.

Other Criteria

- The product must be well and appropriately crafted.
- Your device must pick up a test tube from rack “A” and place it in rack “B” three times. The design that does this the fastest will be considered the best.

Required

Documentation

The following must be handed in your design portfolio at the end of the activity:

1. Research sources and notes.
2. Design sketches, notes, and drawings from all group members.
3. One final design drawing (to be completed before you receive materials).
4. Records of all tests and adjustments.