**The Experiment**

    Before any actual experimentation can be done, ants are needed.  Though it is possible to collect ants yourself and use them for experimentation, most of the ants available for capture are rather small and hard to work with.  I recommend ordering ants from a company such as Uncle Milton Industries Inc., which sell ant farms to house the ants as well as the ants themselves.  I found these ants large and easy to work with.  The ants cost as little as $2.50 for enough ants for a village, and $15 for an ant village.

**Experiment #1:**

    1) Allow the ants into an open area so that it will be relatively easy to remove one of the ants from the rest of the colony.  I found building a box with sides an inch high with saran wrap as a clear covering worked well.  Leave a small area open so that ants can be taken out and placed back in.  Leave food of some sort out in the open area so a large amount of ants will come out of the colony into the open area.

    2) Remove a single ant from the rest.  Using some sort of a fragrance, such as a cologne or perfume, change the ants odor.  Don't use too much of the fragrance, or the ant will most likely die from the amount of chemicals.  Return it to the rest of the ants.

    3) Follow the ant, observing its behavior.  Any other ant it comes in contact with should touch it with its antennae.  Record whether or not the ant is attacked or left alone by the other ants.

    4) Repeat the process 10 - 20 times.

**Experiment #2:**

    1) Once again, allow the ants into an open area where they are able to work with.

    2) Remove one ant from the rest of the ants.  Restrain the ant, so it no longer moves.  A piece of tape should sufficiently hold the ant down.

    3) Remove the antennae of the ant.  They are rather fragile, and should be easy to remove.  Return the ant to the rest of the colony.

    4) Follow this ant.  Instead of being attacked, this ant should attack other ants in the colony, as it now has no way to sense the other ants.

    5) Repeat the process 10 - 20 times.

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