



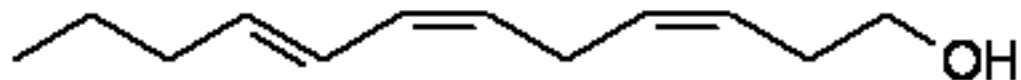
What's the Secret?

-- *Pheromones* --



Termites (and other social insects) use *pheromones* to communicate

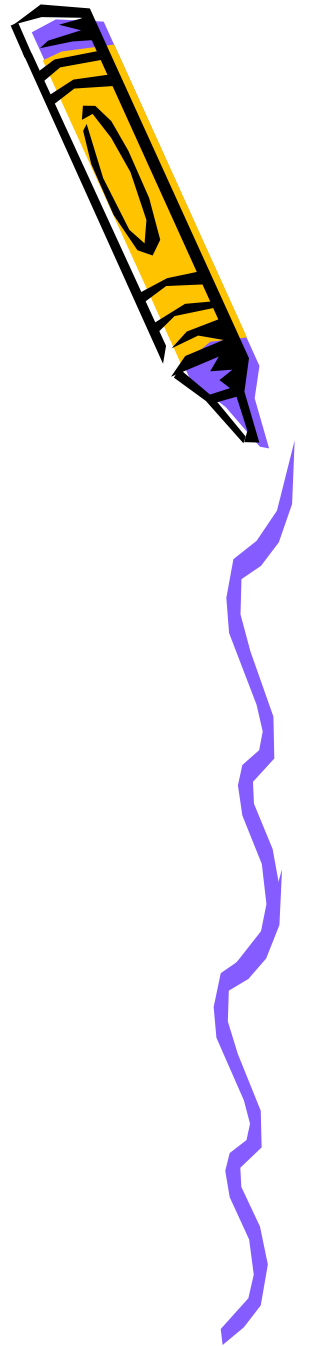
Z,Z,E-3,6,8-dodecatrien-1-ol (DTE)

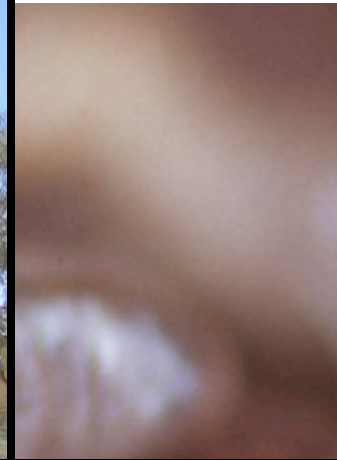


Papermate™ pen-ink mimics this

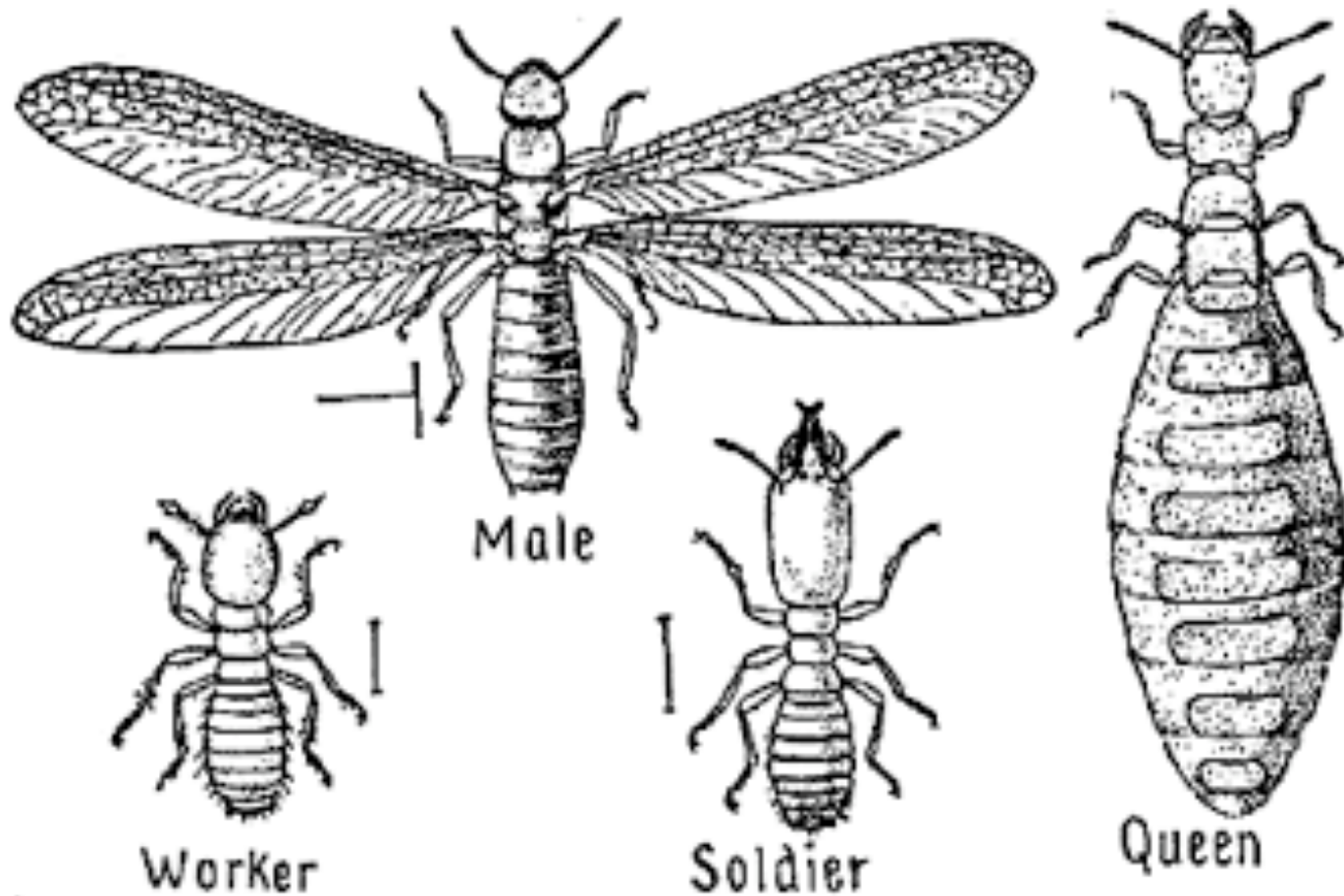
2-phenoxyethanol

WHY would termites
use *pheromones*?





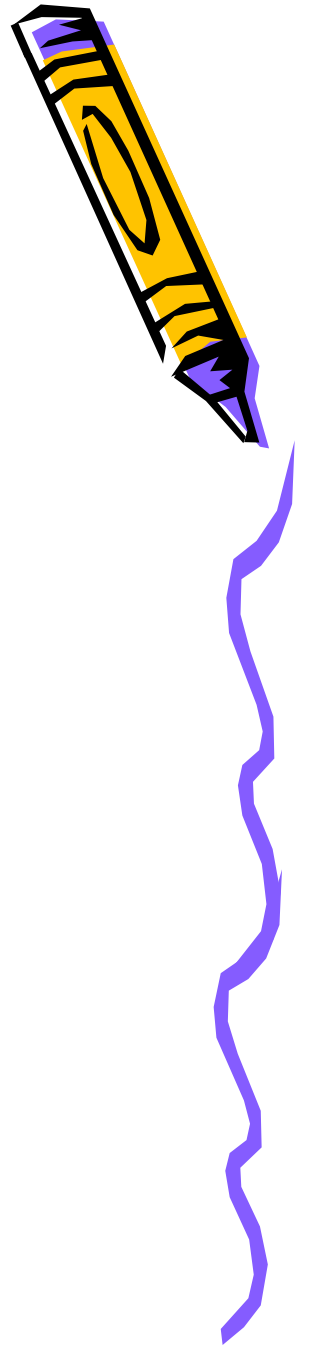
#1. Caste System



#2. LOTS of Individuals



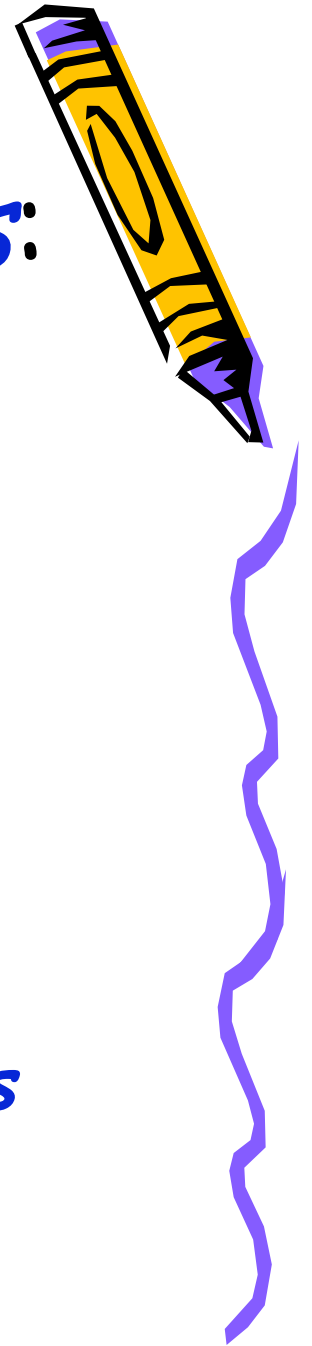
HOW do termites
use *pheromones*?



Many types of *pheromones*:

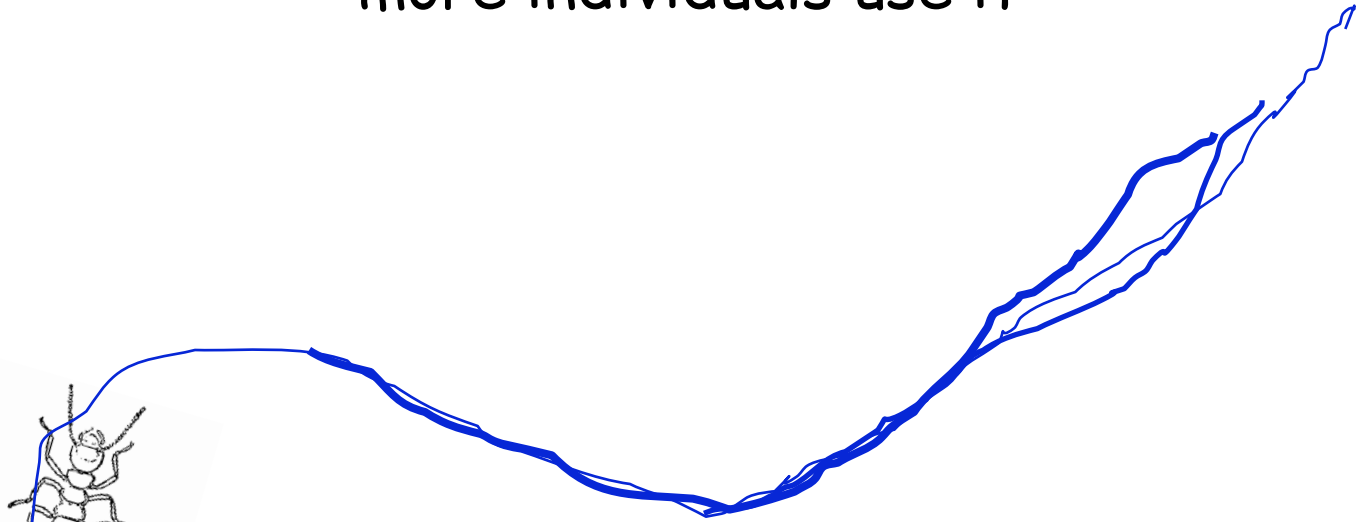
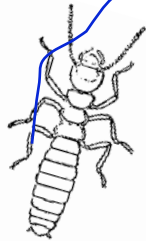
- Trail
- Alarm
- Aggregation
- Recruitment
- Mating

We're going to study trail *pheromones*

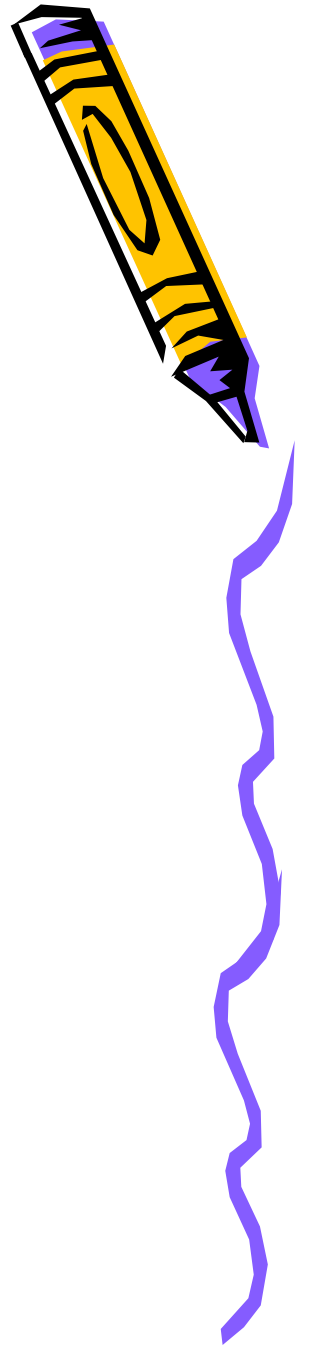




The trail gets stronger as
more individuals use it



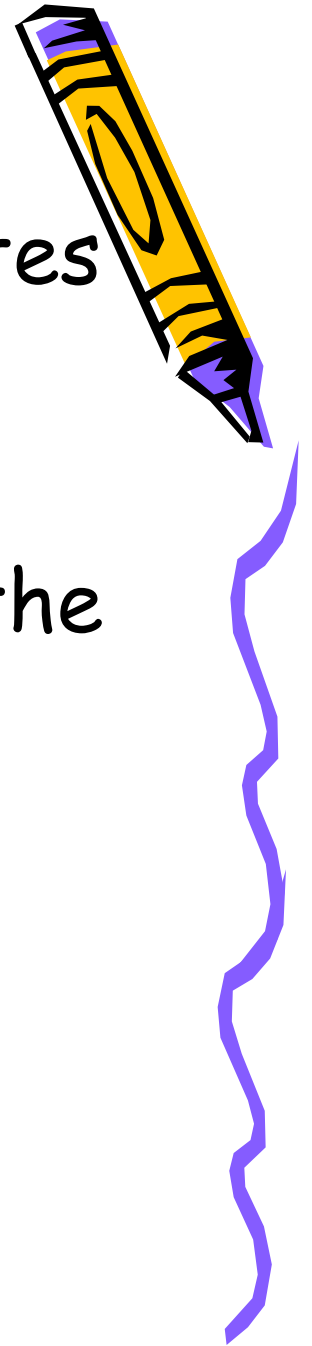
WHERE are the
Pheromones located?



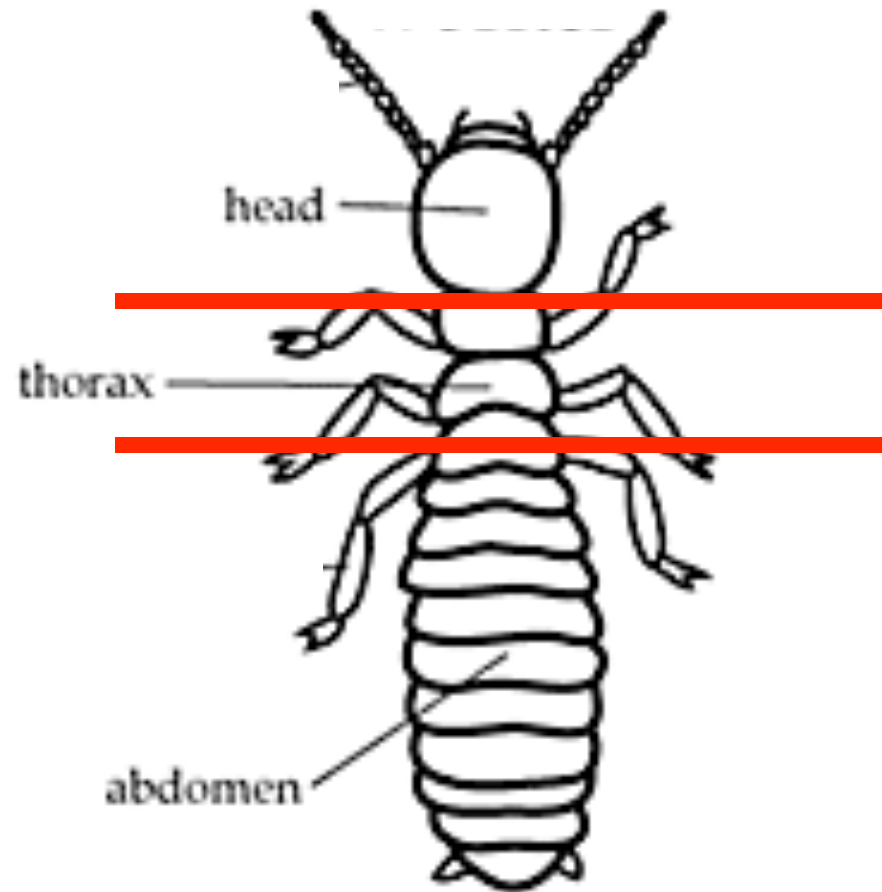
We've shown that we can make termites follow our trails (Experiment #1)

We can use this to "ask" termites if the trail *pheromone* is present or not

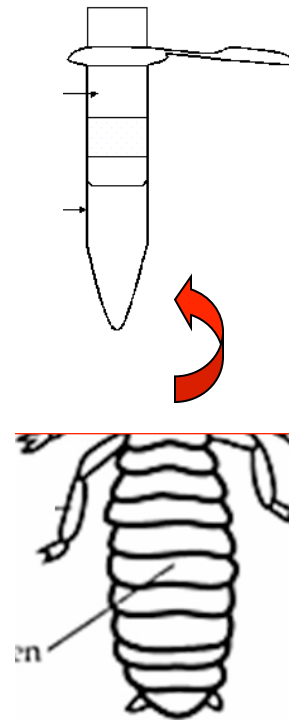
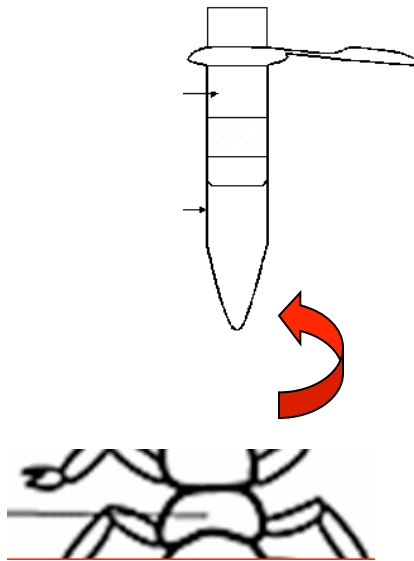
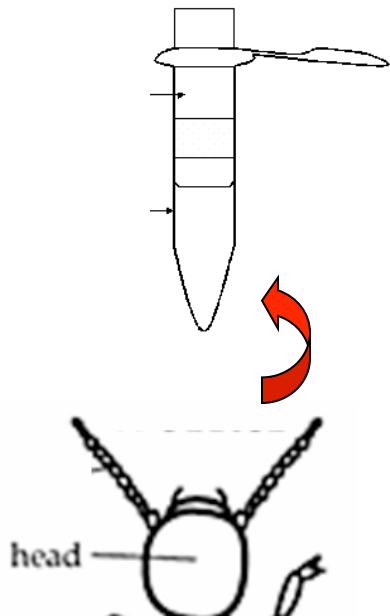
Experiment #2: **BIOASSAY**



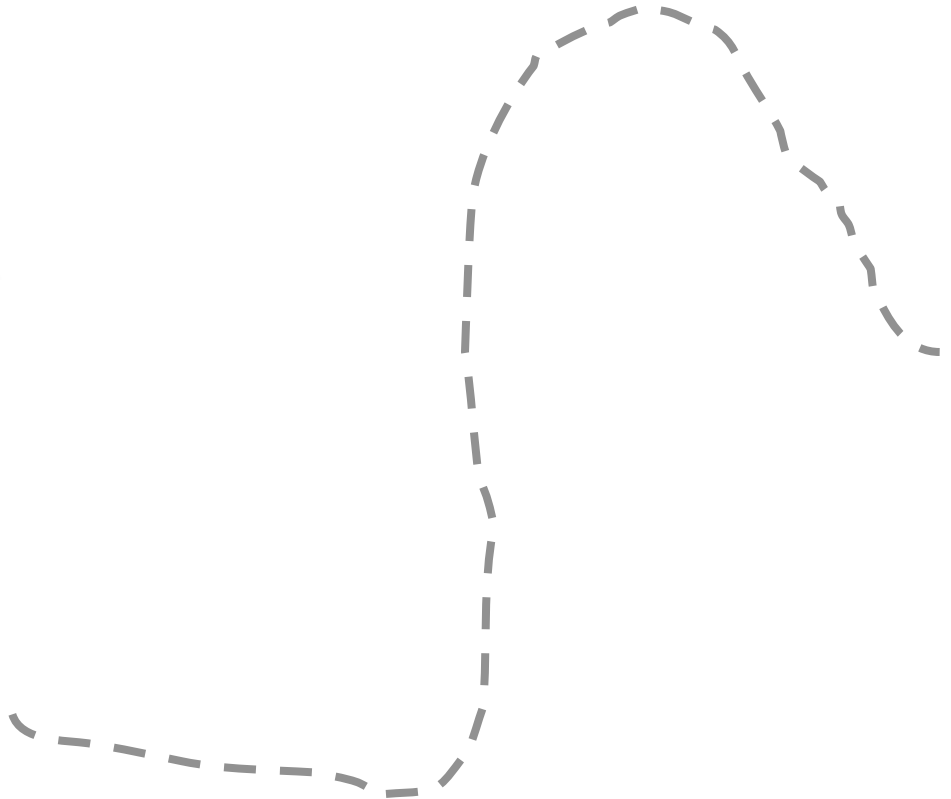
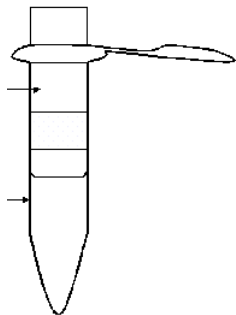
Step 1. Dissection



Step 2. Make Stimuli



**No Termite
(Control)**



????

Experiment #2: **Where** is the *pheromone* located?

1. Write down your hypothesis
2. Prepare your experiment
3. Record data
4. Does your data support your hypothesis?

You have 30 minutes