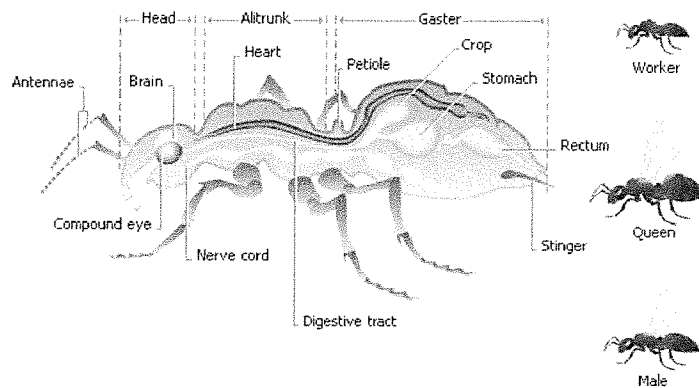


Ants, Ants, Ants!



Part I:

1. Using cm-squared paper create a cylinder to represent the body of an ant scaled so that 1 cm = 1 mm. A typical ant's body is 8 mm long and has a radius of 1.5 mm.
2. In order to survive, ants need to absorb enough oxygen:
 - The ant absorbs oxygen at a rate of about 6.2 milliliters per second per square centimeter of exoskeleton
 - The ant needs about 24 milliliters of oxygen per second per cubic centimeter of its body
3. Will your ant survive? If you double the dimensions of your ant, will it still survive?

Part II:

4. What is the largest possible ant that will survive given these parameters?

Part III:

5. What further investigation(s) could you create for your students given this information?