

- | | TRUE | FALSE |
|---|--------------------------|--------------------------|
| 1. Ants have skilled leaders and are capable of long-distance communication | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. What is a stigmergy (Pick one answer!) | | |
| A. A mechanism for long-range communication using sound. | <input type="checkbox"/> | |
| B. A mechanism for indirect communication by means of (local) modification of the environment. | <input type="checkbox"/> | |
| C. A mechanism for long-range communication using vision. | <input type="checkbox"/> | |
| 3. The movement of ants is always in the direction of the strongest pheromone scent. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. The change in the artificial pheromone level (in AS, applied to the TSP) on edge (i,j) depends only on the (inverse of) the length of that edge. | <input type="checkbox"/> | <input type="checkbox"/> |

1. No they do not. Instead, their complex cooperative behavior results from local interactions, and is an emergent property of the ant swarm as a whole.

2. B. is the correct answer.

3. This is FALSE. Ants move probabilistically, but *tend* to follow the direction of the strongest scent.

4. No, this is FALSE. The change in pheromone depends on the inverse of the length of the entire path, D_k .