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This TIP includes a Pheromone Powerpoint lecture.

Following the lecture there is a Pheromone Lab that is a follow-up to the lecture.  
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- I. TOPIC: Pheromones
- II. OBJECTIVES:
  - Given the pheromone PowerPoint presentation and the activity “Use Common Scents” TSWBAT define the term pheromone and explain how insects use pheromones to communicate.
- III. TEACHING PROCEDURES
  - 1) Introduction (Anticipatory Set)
    - Have students close their eyes. Spray a can of room air freshener or body spray (citrus, floral, etc). Have students guess what they think the smell is. Have them note any thoughts or feeling it brings to mind. Explain that insects use pheromones to communicate with each other. Just as specific smells mean certain things to you, they can be very specific messages for insects.
  - A. Development
    1. **Before Class:**
      - Set up 5 stations of film canisters. They may be the same or different for each group, depending on available materials and time. At each station, place a film canister with a cotton ball soaked in different smells.

- Prepare a film canister for each student in the class. Each pair of canisters should have a different smell.

2. **Lab Activity:**

- Hand each student a container. Have the students find their partner by smelling. Each pair should have the same scent.
- When each student has found their partner, they should receive an activity card (see example). This will give them directions for each station. Make sure Strawberry is the last scent.
- Each station will have a direction and a question to be answered.
- When students complete their activity card in the correct order, they will bring it to their teacher and receive a prize (candy, sticker, etc.)
- Note: With all this sniffing, smells may blend together. Smelling coffee “clears the palette”

2) Closure

- Ask: What was the purpose of this activity? Give two examples of organisms that use pheromones to communicate. How do they use them?

IV. GUIDED AND INDEPENDENT PRACTICE

V. MATERIALS: for each pair of students

7 film canisters            several cotton balls    various smelly substances  
(Ex, orange, peanut butter, peppermint, garlic, strawberry)

VI. EVALUATION

- Did each student successfully complete the activity card?

## PHEROMONE ACTIVITY CARD

Name: \_\_\_\_\_ Partner: \_\_\_\_\_ Scent: \_\_\_\_\_



### Scent Code

Orange = Go to the eyewash station

Peppermint = Go to the windowsill

Strawberry = Go to teacher

Peanut butter = Go to the sink

Garlic = Go to lab station #3

**Directions** – at each lab station, answer the question provided (in complete sentences), record the scent you smell, and follow the scent code to the next station.

Station 1:

Scent: \_\_\_\_\_

Question: How does the Bola Spider attract its prey?

Answer \_\_\_\_\_

Station 2:

Scent: \_\_\_\_\_

Question: How does the fire ant (*Solenopsis invicta*) use pheromones?

Answer \_\_\_\_\_

Station 3:

Scent: \_\_\_\_\_

Question: What two sets of pheromones do female goldfish release?

Answer \_\_\_\_\_

Station 4:

Scent: \_\_\_\_\_

Question: What is a MUP and how do mice use them?

Answer \_\_\_\_\_

Station 5:

Scent: \_\_\_\_\_

Question: Where is the VNO found and what is its function?

Answer \_\_\_\_\_  
\_\_\_\_\_