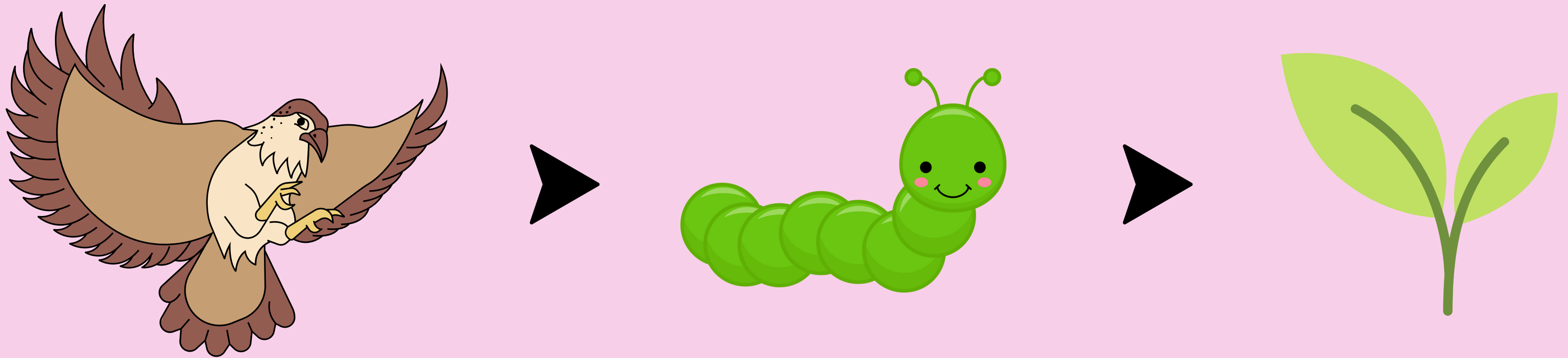




Complex Systems: Prey-Predator Ecosystem

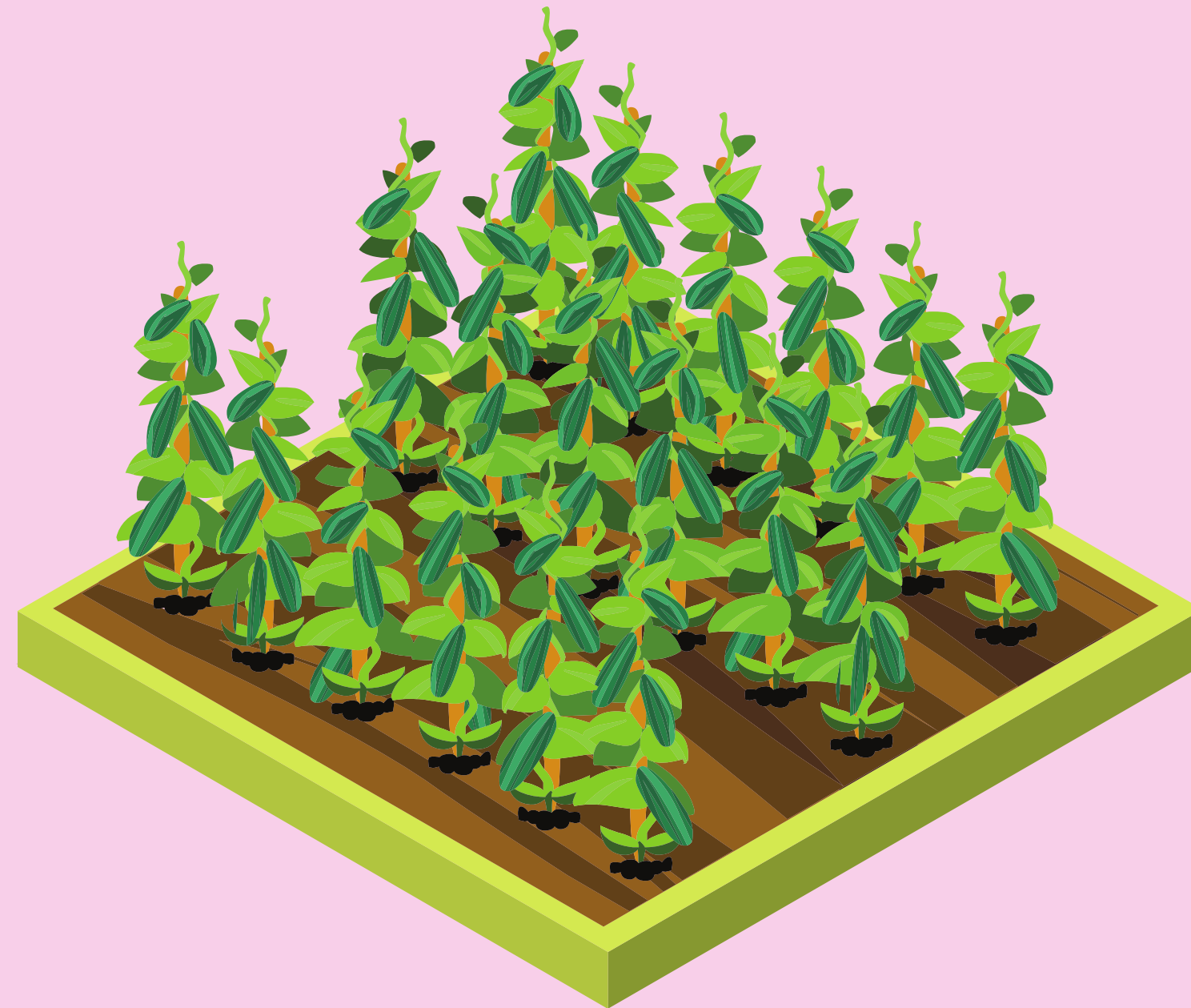
Hawk, Caterpillar, Leaves

1. What is the prey-predator system that you are modeling?



The prey and predator system that we will model will depict the food chain of hawks eating caterpillars and caterpillars eating leaves.

2. What is the environment they move in?



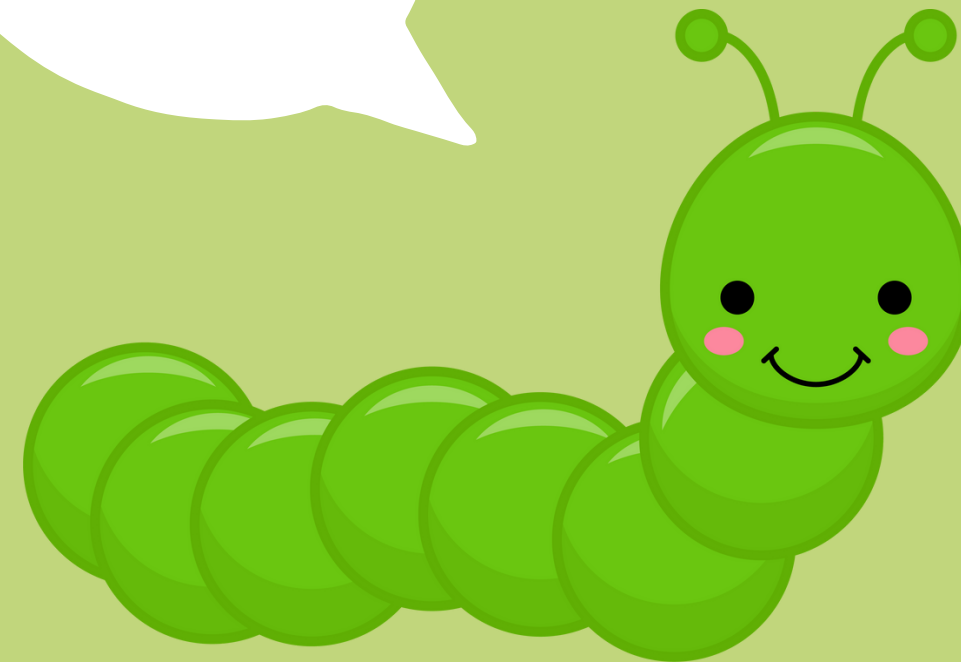
Their environment will consist of vegetation suitable for caterpillars. This will be modeled in Netlogo, with all patches being brown and leaves spawning at random for caterpillars to eat. A hawk will eat a caterpillar if they are in the same patch.

3. Who is the prey and what are its characteristics and behavior?

Caterpillar

- Prey
- Main Energy Source:
 - Leaves
- Has a fixed probability of reproducing
- Dies when energy is depleted

Caterpillar



Prey

4. Who is the predator and what are its characteristics and behavior?

Hawk

- Predator
- Main Energy Source:
 - Caterpillars
- Has a chance to reproduce
- Dies when energy is depleted



Predator

5. What is the source of energy of the prey?

Leaf

- Food Source
- Provides energy for the prey (Caterpillar)
- Regrows at a fixed-amount of time



Prey's Foodsource