

b) Assume the population of goats has drastically decreased due to disease. Describe how the population size of the following organisms would be affected by this change. Explain your reasoning.

i. jackal: could ↓ because it's food supply ↓  
or if there is enough rabbits it will remain the same

ii. rabbit: ↓ because the jackals will be eating more  
since there aren't any goats

3. Use the food chain below to answer the following questions:

leaves → slug → frog → heron

a) What organism is at the third trophic level? frog

b) If the leaves store 50 000 J of energy, how much energy would you expect to be passed on to:

i. The slugs? 5000 J

ii. The herons? 50 J

c) If DDT, a pesticide were used to control mosquitoes in this ecosystem, which organism would end up with the highest concentration of the insecticide in its body? heron

4. Explain why decomposers are an important part of a healthy ecosystem. What would happen if there were no decomposers?

— nothing to break down and release the nutrients  
back into the soil

5. Give two examples of how humans have negatively affected the planet.

- releasing  $\text{CO}_2$  when we drive ( $\text{CO}_2 \uparrow$ )
- releasing  $\text{CO}_2$  when we burn fossil fuels
- cutting down forests for land / lumber  
destroying ecosystems

State two actions you can take to help the planet overcome the above mentioned situations

- plant more trees to reduce  $\text{CO}_2$   
— car pool
- renewable resources — hydroelectric, wind, solar
- plant more trees