FIRE

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/feu-fire-eng.asp

QUESTIONS

1. In which forest ecosystem do forest fires occur most often? Why?
2. What indicator tells us that a forest fire has not happened in an area for a very long time?
3. Name causes of forest fires. Which is the most important one in Canada?
4. Name three factors that affect a fire's behavior and discuss how each factor affects it.

(Answer one of the following)

5. From what you have learned about forest fires, discuss the benefits they have on forest ecosystem.
6. From what you have learned about forest fire, discuss their negative impacts on a forest ecosystem.
7. What are the differences in the behaviors and effects between the fires in the boreal and deciduous forest?

DISEASES

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/maladie-disease-eng.asp

QUESTIONS

1. Explain the relationship between abiotic and biotic agents and their combined effects on tree diseases. Give at least two examples.
2. Pathogenic fungi are both beneficial and detrimental to forest ecosystems. Explain both effects by giving an example.
3. What measures can be implemented to protect a forest ecosystem from diseases?

(Answer one of the following)

4. What measures would you propose to prevent the blister rust from destroying Canada's forests? Explain.
5. Consequences of a disease are felt at various levels. Explain the three levels of consequence mentioned in the text, discuss how they are related to each other and give an example that relates all three levels.
6. Forest heterogeneity is usually an effective way to prevent large disease spreading. Explain why.

FOREST CUTTING

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/coupe-harvesting-eng.asp

QUESTIONS

1. Log transport switched from rivers to trucks in the 1970s. What did this allow in terms of forest cutting?
2. Forests naturally regenerate themselves after a disturbance. Why did reforestation become necessary in the 1970s? What type of forest cutting requires the most reforestations?
3. Explain the technique of shelterwood cutting its goals.
4. Name three factors that increased demand on wood and the technological advance made in reaction of this growing demand.
5. Selective cutting is favored in hardwood forests such as those encountered in southern Quebec. Why?

(Answer one of the following)

6. Discuss the differences in forest management between the early 20th century and today.
7. Clearcutting imitates a natural phenomenon. Which one? How does clearcutting imitates it? Name and explain two differences between clearcutting and this natural phenomenon. Where, in Quebec, is this practice appropriate?
8. Many activities result in forest disturbance: road construction, land clearing for agriculture, installation of power transmission lines, mining, gas operations and logging. Choose three of those activities and explain how they affect forest cover, its dynamics and how much area is disturbed by these activities in Quebec.

INSECTS

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/insecte-insect-eng.asp

QUESTIONS

1. Insects can affect the forest positively. Explain how.
2. Why do we consider insect outbreaks as pest even if they are part of the natural succession process?
3. What type of forest ecosystem is the most vulnerable to an insect outbreak? What type of forest ecosystem is the least vulnerable to an insect outbreak? Why?
4. The spruce budworm can affect the forest in a similar way as precommercial thinning. What are the advantages of the spruce budworm or precommercial thinning for a forest?

(answer one of the following)

5. Name the consequences of too much insect prevention and control.
6. What are your thoughts about the application of insecticides to prevent an insect outbreak? Discuss the consequences on the ecosystem as a whole and the consequences on various species that lives in the forest.
7. Exotic insects can generate serious outbreak and cause severe damage to the boreal and the deciduous forest of Quebec and Canada. Why do you think non-native species are more of a threat than indigenous species?

WINDFALL

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/chablis-windfall-eng.asp

QUESTIONS

1. Discuss about the difference between a windfall and a fire in an ecosystem perspective.
2. What makes a forest stand more susceptible to windfall? Name three causes.
3. A major windfall disrupts the forest's dynamics in many ways. Name as many ways as you can find from the text and your own thoughts.

(Answer one of the following)

4. Name and explain four benefits of a windfall on a forest.
5. A major windfall disrupts the forest dynamic in many ways. Name economic consequences of such disturbance.
6. Overall, do you think a windfall event is beneficial or detrimental to fauna? Explain and support your explanation by facts from the text.

GLAZE ICE

http://ecosys.cfl.scf.rncan.gc.ca/perturbation-disturbance/verglas-glaze-ice-eng.asp

QUESTIONS

1. Name and explain two advantages and two disadvantages of glaze ice.
2. Two climate factors can enhance the effect of glaze ice. What are they and how do they enhance the effect of glaze ice?
3. What is the effect of small glaze ice events on animals?

(Answer one of the following)

4. A major glaze ice event has many effects on the forest both on short and long term. What are the economic consequences of a major glaze ice event? Demonstrate with a few examples.
5. Glaze ice event happens more often in southern Quebec than in the northern part because of trade winds and the presence of the Great Lakes. Suppose that two glaze ice events of the same intensity occurred in the deciduous forest and in the boreal forest, which ecosystem would be the most negatively affected? Explain.
6. Do you hear about the glaze ice event of 1998? What do you know about this glaze ice event? What are possible damages caused by the glaze ice on the forest, on trees or buildings in the city?