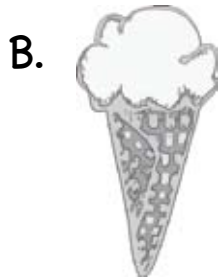


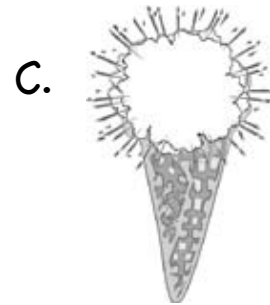
1. Circle one picture below that shows what will happen to ice cream if it thaws.



[melting]



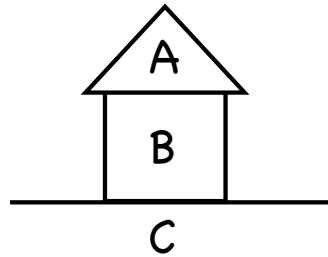
[normal]



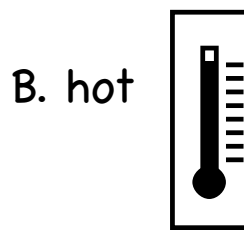
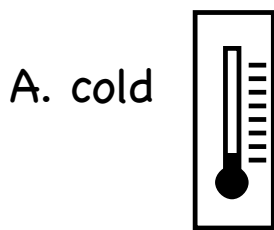
[exploding]

2. Circle where you are most likely to find permafrost.

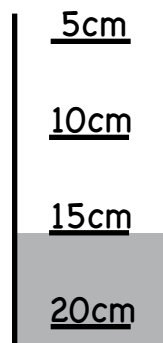
- A. on top of a house
- B. inside a house
- C. underneath a house



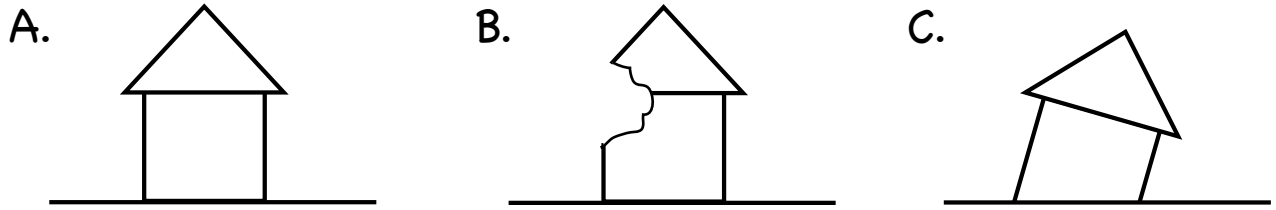
3. Permafrost is



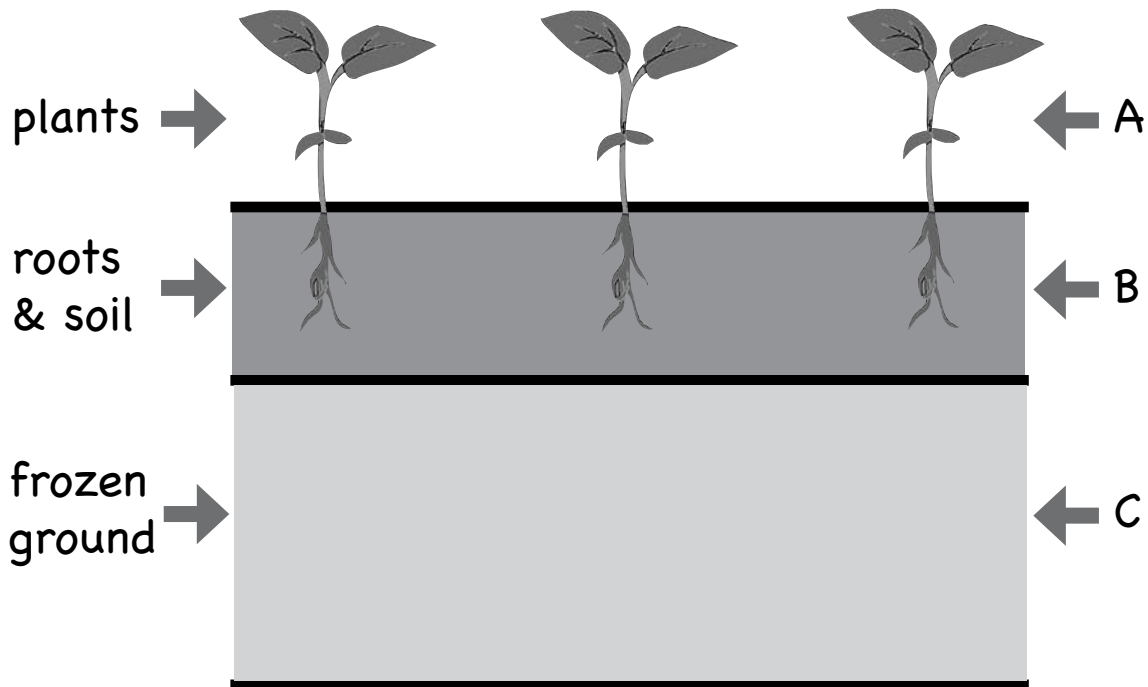
4. Based on the image of the frost tube below, how deep is the frost? _____ cm



5. Circle which building was affected by permafrost.



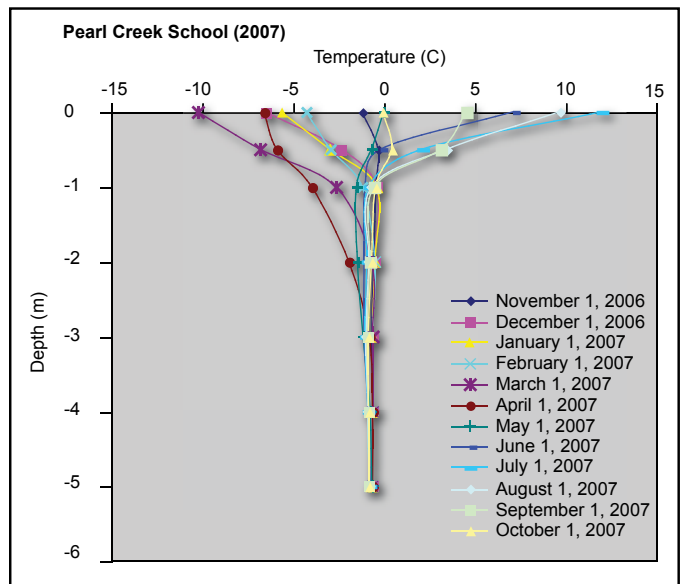
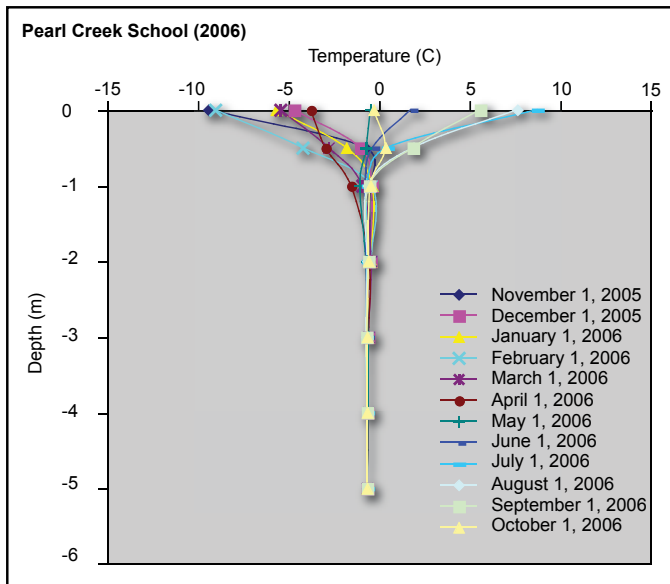
6. Circle the active layer.



Name: _____

1. What is permafrost?
 - A. Ground that freezes every winter.
 - B. Ground that remains frozen throughout the year.
 - C. Ground that contains ice.
2. What is the active layer?
 - A. The top layer of ground, which thaws in summer and refreezes in winter.
 - B. The top layer of ground, which stays unfrozen all year.
 - C. The bottom layer of permafrost, which stays unfrozen all year.

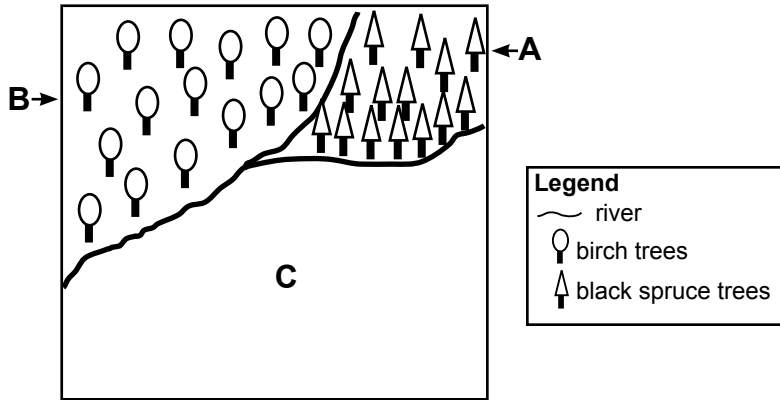
Directions: Examine the two graphs below. Use the information in the graphs to answer the questions that follow.



3. In 2006, how deep was the active layer? _____
4. Did the depth of the active layer change between 2006 and 2007? _____
5. Predict what will happen to February's temperature in 2008? Will it be higher or lower than the temperature for 2007? Explain your reasoning using complete sentences.

Name: _____

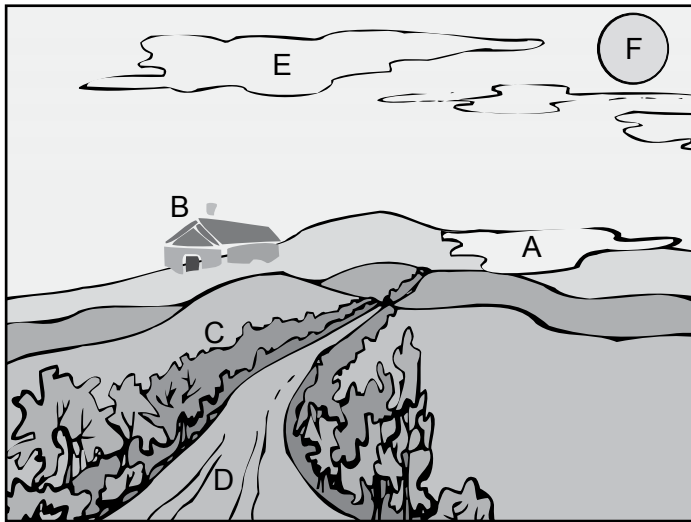
Directions: Use the vegetation map below to answer the questions 6 and 7.



6. Which section of the map is most likely to contain permafrost?
 - A. Section A
 - B. Section B
 - C. Section C

7. A heavy snowfall has fallen over the entire map. Which section will be insulated the most by the snow?
 - A. Section A
 - B. Section B
 - C. Section C

8. The image below shows a community that has underlying permafrost. Circle the features of the image that are likely to change if the permafrost thaws.



- A. Lake
- B. Buildings
- C. Plants
- D. Road
- E. Clouds
- F. Sun

9. Which component of a climate is necessary for permafrost to be present?
 - A. Ice
 - B. Water
 - C. Temperatures below freezing
 - D. Tundra

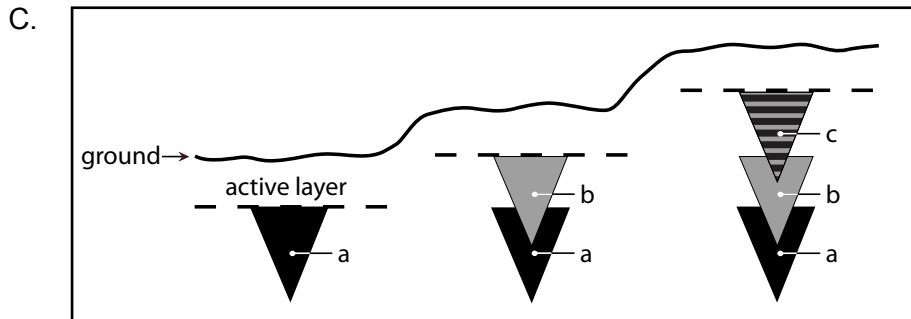
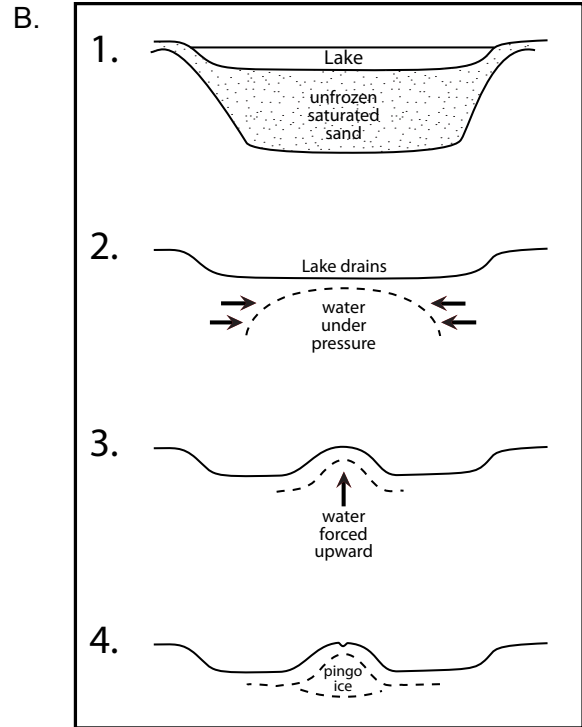
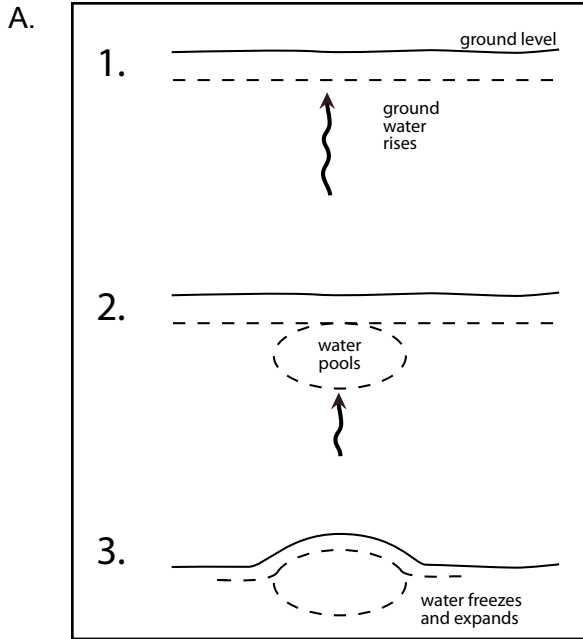
Name: _____

10. Match the process with its formation:

_____ Open-system pingo

_____ Closed-system pingo

_____ Ice wedge



11. Make a check mark next to each item that is an impact or result of permafrost thaw on the Arctic ecosystem.

_____ lakes draining

_____ houses tilting

_____ leaning of trees

_____ changes in plant species

_____ creation of pingos