Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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# Jack Frost and the Crops: Farmer’s Almanac

**Purpose**

By using the Farmer’s Almanac, students will explore frost as well as the impact it can have on a farmer’s crop and their food supply. [[1]](#endnote-2)

**Background**

Farming is governed by the season. For example, corn’s growing season begins at the last frost in the spring and ends when the first fall frost occurs. The last frost gives farmers an indication as to when they can plant in early spring. The first frost means the end of the growing season. Because of frost, many farmers must time planting and harvesting carefully. A late spring frost means having to replant crops; while an early fall frost may damage crops and reduce the amount produced for the year. Farmers use the Farmer’s Almanac to help predict the first and last frost and make decisions about planting and harvesting.

**Procedure**

 **Materials**

1. 2 tin cans without a lid (condensed soup cans)
2. Rock salt or table salt
3. Crushed ice

**Sequence of Steps**

1. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()In a moment you will carefully fill 1 can with a salt/ice mixture and the other can with a water/ice mixture. Formulate a hypothesis of which can will form frost and record in “observations”.
2. Fill one tin can half full of crushed ice. Add 4 tablespoons of salt.
3. Mix this can well for about 30 seconds and then let sit.
4. In the second can, put only crushed ice and tap water. Fill the can about half way full of ice and then put just enough tap water in the can to cover the ice.
5. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()Observe if frost is forming on the outside of the cans.
6. Compare both cans and note the characteristics of matter on the outside of the cans. Record your observations.

**![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]() Observations**

1. Hypothesis:
2. Compare both cans and note the characteristics of matter on the outside of the cans.

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Can #1: Salt/Ice Can #2: Water/Ice

1. Which can had frost form on it? Which can had dew form on it?
2. When and where have you observed frost form?
3. Critical Thinking: Why do you suppose you got the results you did in this lab?
4. Brainstorm: What might frost do to a farmer’s crop?
5. Investigate: What can farmers do to prevent frost damage?
1. Goehring, Jessalee (2008).Jack Frost, Lab. *Lodi High School Ag Dept.* [↑](#endnote-ref-2)