

Anticipation Guide: *Salting Roads*

Name: _____ Pd: _____

Driving on icy roads in winter leads to traffic delays and accidents. Transportation departments try to prevent such conditions and keep drivers safe by spreading salt on roads. In 2004, over 16,000 million tons of road salt was used.

Directions: Read each of the following statements. In the first column, write “A” or “D” indicating your agreement or disagreement with the statement. As you read, compare your opinions with information from the article and fill in the second column with “A” or “D”. In the space under each statement, **cite information from the article that supports or refutes your original ideas (do NOT just write the page number)**.

Me	Text	Statement
		1. Salt lowers the freezing point of water, but not other solvents.
		2. When salty water freezes, the salt is incorporated into the crystal lattice structure.
		3. Salting the roadways melts ice and prevents ice formation.
		4. Very cold locations do not salt roadways.
		5. Roadways were first salted in the 1950s.
		6. Calcium chloride and sodium chloride have the same effect on the freezing point of water.
		7. Some bridges have deicing sprayers built into the pavement.
		8. The concentration and solute identity affect the freezing point depression of a solvent.

Post-Reading Questions: *Salting Roads*

*Instructions: Answer the following questions in **complete sentences**.*

1. Why does the presence of a solute, such as salt, cause freezing to occur at lower temperatures?
2. What are the two ways in which salt is used by highway workers?
3. Why are salts such as MgCl_2 and CaCl_2 more effective than NaCl at depressing the freezing point?
4. Give one disadvantage to salting roads.