

CURRICULUM

Science

MATERIALS

1. Baking pan for each group
2. Metal spatula for each group
3. Fork for each group
4. Water
5. Freezer
6. Rag for each group
7. Ruler
8. Spray bottle for each group

THE ZAMBONI: As Smooth as Glass

Summary:

Students learn the purpose of the Zamboni and participate in a hands-on experience showing how a Zamboni smooths ice after it has been chopped up by ice skaters.

Objective:

Students will demonstrate the way a Zamboni resurfaces ice after skating events.

Introduction:

List and discuss skating events. Ask students to tell what might help skaters do their best. Discuss the need for smooth ice. Ask students what they know about ice rinks and how they work.

List their ideas on the board. Introduce the Zamboni. Lead a discussion on how a Zamboni is critical in maintaining an ice rink. Pass out copies or make an overhead describing the Zamboni. (See next page for a description of how a Zamboni works.)

Activity:

Fill baking pan with one inch of water and put the pans in the freezer. Make sure each pan is set flat. Later, after the water has frozen, review introductory material. Divide the students into groups of four and pass out materials. Each child will do one of the following jobs. **1.** Gouge the ice with a fork to simulate ice skates. **2.** Scrape the debris off the ice with the spatula. **3.** Wipe off the ice with a damp warm rag. **4.** Use a spray bottle filled with warm water to coat the ice. Put the pans back in the freezer to refreeze.

While the ice is refreezing, predict what will happen to the surface of the ice. Remove the pans from the freezer and discuss the results.

Extensions:

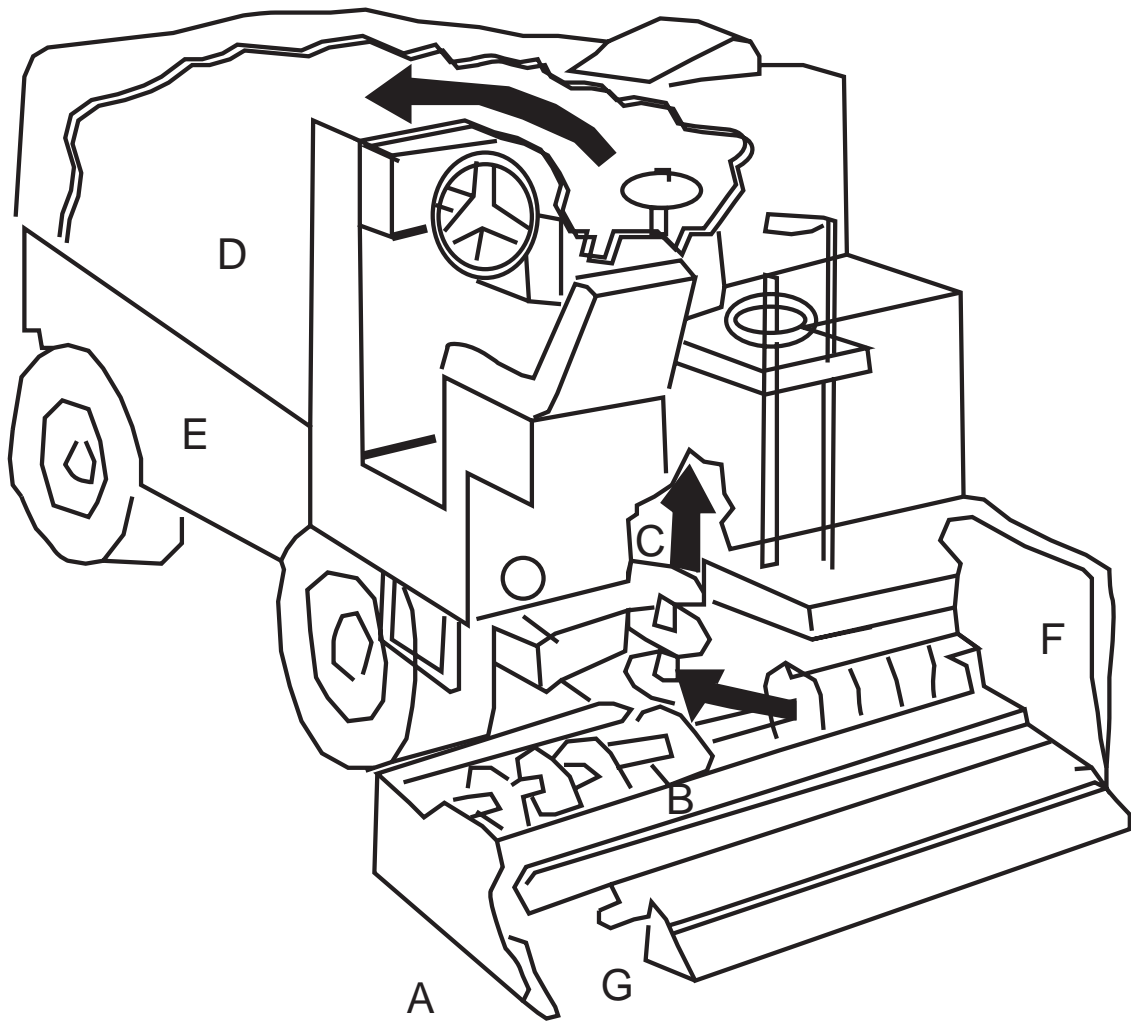
- ▶ Pretend to be a committee deciding whether or not to purchase a Zamboni for an ice sheet. Justify the purchase of an expensive machine; explain what the Zamboni does and why it is needed for the rink.
- ▶ Compare and contrast the kitchen tools with each part of the Zamboni.

View the video "Dream with Me" and notice the segment with skaters.



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The Zamboni and How It Works



- A.** Blade scrapes off large chunks of ice and debris
- B.** Auger gathers ice and debris
- C.** Spinning blade throws it into the bucket
- D.** Bucket can hold 2600 pounds of snow and ice
- E.** Water container used for washing the ice
- F.** Squeegee used to remove excess washing water
- G.** Hot water is applied to create a bond with the existing ice