

Curriculum Standards

- ▶ Mathematical Reasoning– note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems
- ▶ Mathematical Reasoning– analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information and observing patterns
- ▶ Mathematical Reasoning– determine when and how to break a problem into simpler parts

Which Athlete Where?

Introduction:

- ◆ Explain the selection of Olympic athletes.
- ◆ Introduce unfamiliar vocabulary words.
- ◆ If the class is unfamiliar with logic problems, display elimination graph on board .

Through:

- ◆ In small groups, allow children complete the puzzles. (Guessing is encouraged!)
- ◆ Review the answers and solve together.

Answers to three person problem:

Alice	figure skating	Vermont
Brad	curling	Montana
Marie	speedskating	Washington

Beyond: Extensions

- ◆ Research the sports– what is Skeleton? Curling? Nordic skiing?
- ◆ How do sports get selected for the Olympic Games?
- ◆ Have students create their own puzzles.

Resources

- [Share the Olympic Dream](#), The United States Olympic Committee Curriculum Guide. Griffin Publishing
- [Http://www.aafla.org](http://www.aafla.org)
- [Http://www.sl2002.org](http://www.sl2002.org)
- [Http://www.olympic.org](http://www.olympic.org)
- [Http://www.edtools.com](http://www.edtools.com)
- Sports magazines and newspapers

OLYMPIC WINTER GAMES

BRAIN TEASER

Jason, Jennifer, Will, Marianne, Eddie, Graciela, and Yasmin are part of the United States Olympic team. They are each from a different state. (Hawaii, Alaska, Oregon, New Hampshire, Texas, New Mexico, and Utah) and they are also each competing in a different event (freestyle skiing, speedskating, figure skating, snowboarding, curling, skeleton, and ice hockey).

Figure out the state each person is from and the event in which he or she is competing.

The person competing in the snowboarding event is from New England. This is his second time at the Games.

The person competing in the figure skating event is from the Southwest. This is her second time at the Games.

The person from Texas and her friend invited the person from Alaska to dinner. The person from Alaska thought it was a great idea, and she gladly accepted.

Yasmin had lunch with someone she met. The person she met is competing in the figure skating event.

The person competing in the skeleton event is from a Rocky Mountain state. This is her third time at the Games.

Marianne has never been to New Hampshire.

Jason has never been to Oregon.

The person competing in the ice hockey event is from the Pacific Northwest. This is his first time at the Games.

Will had lunch with someone he met. The person he met is competing in the curling event.

The person from Utah and her friend invited the person from Alaska to dinner. The person from Alaska thought it was a great idea, and she gladly accepted.

The person from Oregon and his friend invited the person from Hawaii to dinner. The person from Hawaii thought it was a great idea, and he gladly accepted.

Jennifer did not compete in the speedskating event.

The person from New Mexico is not competing in the freestyle skiing event.

The person competing in the freestyle skiing event is from the Southwest. This is her third time at the Games.

Yasmin and Graciela have never been to Utah before.

The person from Texas is not competing in the skeleton event.

Graciela and Eddie are not from New Mexico.

Eddie has never been to Texas.

Marianne did not compete in the curling or figure skating events.

The person from New Mexico is not competing in the skeleton event.

The person from New Mexico and her friend invited the person from New Hampshire to dinner. The person from New Hampshire thought it was a great idea, and he gladly accepted.

Marianne did not compete in the freestyle skiing event.

Jennifer is not from Alaska.

The person from Alaska is not competing in the speedskating event.

Graciela had lunch with someone she met. The person she met is competing in the speedskating event.

WINTER OLYMPIC GAMES BRAINTEASER ANSWER KEY

NAME	STATE	EVENT
Jason	New Hampshire	snowboarding
Eddie	Oregon	ice hockey
Jennifer	New Mexico	figure skating
Graciela	Texas	freestyle skiing
Will	Hawaii	speedskating
Marianne	Utah	skeleton
Yasmin	Alaska	curling

Logical steps:

Reorganize information, eliminate irrelevant information, sequence information:

The person competing in the snowboarding event is from New England. This is his second time at the Games.

There is only one New England state listed. Snowboarding = New Hampshire. There are 3 boys listed so Jason, Eddie or Will are possible snowboarders

The person competing in the freestyle skiing event is from the Southwest. This is her third time at the Games.

There is only one Southwestern state listed. Freestyle Skiing = Texas There are 4 girls listed so Jennifer, Marianne, Graciela or Yasmin are the possible skiers

The person competing in the ice hockey event is from the Pacific Northwest. This is his first time at the Games.

There is only one Pacific Northwest state listed. Ice Hockey = Oregon. There are 3 boys listed so Jason, Eddie or Will are possible hockey players

The person competing in the skeleton event is from a Rocky Mountain state. This is her third time at the Games.

The person competing in the figure skating event is from a Rocky Mountain state. This is her second time at the Games.

There are two Rocky Mountain states listed, Utah and New Mexico. There are 4 girls listed so Jennifer, Marianne, Graciela or Yasmin are the possible skeleton or figure skaters

What we know so far:

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Jennifer, Marianne, Graciela, Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Jason, Eddie, Will
Rocky Mountain	Utah, New Mexico	Skeleton, Figure Skating	Female	Jennifer, Marianne, Graciela, Yasmin

The person from New Mexico is not competing in the freestyle skiing event.

The person from Texas is not competing in the skeleton event.

Information not necessary- we know that the freestyle skier is from Texas

The person from New Mexico is not competing in the skeleton event.

There are two Rocky Mountain states listed as possible skeleton or figure skating homes, Utah and New Mexico. Since the skeleton is not New Mexico, Skeleton = Utah, Figure Skating = New Mexico. There are 4 girls listed so Jennifer, Marianne, Graciela or Yasmin are the possible skeleton

What we know so far:

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Jennifer, Marianne, Graciela, Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Jason, Eddie, Will
Rocky Mountain	Utah	Skeleton	Female	Jennifer, Marianne, Graciela, Yasmin
Rocky Mountain	New Mexico	Figure Skating	Female	Jennifer, Marianne, Graciela, Yasmin

Jason has never been to Oregon.

Jason can't be the Ice Hockey player. That leaves Eddie and Will

Yasmin and Graciela have never been to Utah before.

Yasmin and Graciela are not entered in Skeleton. That leaves Jennifer and Marianne.

Graciela and Eddie are not from New Mexico.

We know that the person from New Mexico is female, so information about Eddie is not necessary. Eliminate Graciela and that leaves Jennifer, Marianne and Yasmin

Marianne has never been to New Hampshire.

Information not necessary, the person from New Hampshire is male

Eddie has never been to Texas.

Information not necessary, the person from Texas is female

What we know so far:

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
	Alaska	Curling, Speedskating		all
	Hawaii	Curling, Speedskating		all
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Jennifer, Marianne, Graciela, Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Eddie, Will
Rocky Mountain	Utah	Skeleton	Female	Jennifer, Marianne
Rocky Mountain	New Mexico	Figure Skating	Female	Jennifer, Marianne, Yasmin

The person from Alaska is not competing in the speedskating event.

Since there are only two states, Alaska and Hawaii and two events, curling and speedskating left, this means that Alaska = Curling and Hawaii = Speedskating

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
	Alaska	Curling		Jason, Will, Eddie, Jennifer, Marianne Graciela
	Hawaii	Speedskating		Jason, Will, Eddie, Jennifer, Marianne Graciela
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Jennifer, Marianne, Graciela, Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Eddie, Will
Rocky Mountain	Utah	Skeleton	Female	Jennifer, Marianne
Rocky Mountain	New Mexico	Figure Skating	Female	Jennifer, Marianne, Yasmin

Jennifer did not compete in the speedskating event.

Jennifer is not from Alaska.

Eliminate Jennifer from Alaska and Hawaii

Marianne did not compete in the curling or figure skating events.

Marianne did not compete in the freestyle skiing event.

Marianne is not from Alaska, Texas or New Mexico

The person from Utah and her friend invited the person from Alaska to dinner. The person from Alaska thought it was a great idea, and she gladly accepted.

The person from Texas and her friend invited the person from Alaska to dinner. The person from Alaska thought it was a great idea, and she gladly accepted.

The person from Alaska is female

The person from Oregon and his friend invited the person from Hawaii to dinner. The person from Hawaii thought it was a great idea, and he gladly accepted.

The person from Hawaii is male

The person from New Mexico and her friend invited the person from New Hampshire to dinner. The person from New Hampshire thought it was a great idea, and he gladly accepted.

Information unnecessary. We know that the person from New Mexico is female and the person from New Hampshire is male

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
	Alaska	Curling		Marianne, Graciela
	Hawaii	Speedskating		Jason, Will, Eddie
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Jennifer, Graciela, Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Eddie, Will
Rocky Mountain	Utah	Skeleton	Female	Jennifer, Marianne
Rocky Mountain	New Mexico	Figure Skating	Female	Jennifer, Yasmin

Yasmin had lunch with someone she met. The person she met is competing in the figure skating event.

Yasmin is not a figure skater

<u>Region</u>	<u>States</u>	<u>Event</u>	<u>Male/Female</u>	<u>Names</u>
	Alaska	Curling	Female	Graciela
	Hawaii	Speedskating	Male	Jason, Will, Eddie
New England	New Hampshire	Snowboarding	Male	Jason, Will, Eddie
Southwest	Texas	Freestyle Skiing	Female	Yasmin
Pacific Northwest	Oregon	Ice Hockey	Male	Eddie, Will
Rocky Mountain	Utah	Skeleton	Female	Marianne
Rocky Mountain	New Mexico	Figure Skating	Female	Jennifer

Will had lunch with someone he met. The person he met is competing in the curling event.

Graciela had lunch with someone she met. The person she met is competing in the speedskating event.

Will had lunch with the person in the curling event. We know that Graciela is the person in curling, therefore Will is the person in speedskating

That leaves Eddie in ice hockey.

Eliminate Will and Eddie from snowboarding and that leaves Jason

OLYMPIC WINTER GAMES

BRAINTEASER

Alice, Marie, and Brad are members of the United States Olympic team. They are each from a different state (Washington, Montana, and Vermont) and they are also each competing in a different event (speedskating, curling, and figure skating).

Figure out the state each person is from and the event in which he or she is competing.

(Assume that each hint refers to one of the three people. For example, if Alice has lunch with someone she met from another state, then assume that this person is among one of the three people).

1. The person competing in the speedskating event is from the Pacific Northwest. This is her first time at the Games.
2. Though Brad has never been to Vermont, he would like to visit.
3. The person from Vermont and her friend invited the person from Montana to dinner. The person from thought it was a great idea, and he gladly accepted.
4. Alice had lunch with someone she met. The person she met is competing in the curling event.
5. The person from Washington and her friend invited the person from Montana to dinner. The person from thought it was a great idea, and he gladly accepted.
6. The person competing in the figure skating event is from New England. This is her second time to at the Games.
7. Marie had lunch with someone she met. The person she met is competing in the figure skating event.