



Ideas

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IDEAS for this month reinforces computational skills involving fractions and decimals. These skills are presented in a winter sports setting (the Olympic Games).

IDEAS

For Teachers

Levels 1, 2

WIN BY A FRACTION!

Objective

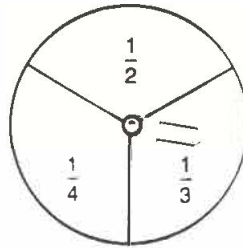
To provide practice in recognizing fractional parts

Directions

1. Duplicate a copy of the game board for every two students.

Each IDEAS presents activities that are appropriate for use with students at various levels in the elementary school. The activity sheets are so arranged that they can be easily removed and reproduced for classroom use. Permission to reproduce them for such use is not necessary.

2. Show students how to make a spinner using a paper clip attached to a paper fastener.



3. Have students cut out the bobsled markers.
4. Read the directions with the students.
5. Make sure students understand they must *color* the fractional part indicated by the spinner.
6. Tell students they must color the final flag to win the race.

Going further

1. To get ready for equivalent fractions, make sure that students understand that if the spinner points to $\frac{1}{2}$, they may color two-fourths.
2. Have students complete a second run down the hill, filling in fractional parts that were not completed on the first run.
3. Have students continue going back down the hill until all fractional parts

are colored. Develop the understanding that two-halves, three-thirds, or four-fourths can complete an entire flag.

4. Change the fractions on the spinner to $\frac{1}{2}$, $\frac{2}{3}$, and $\frac{3}{4}$ and then have the students color accordingly.
5. Increase the fractional parts on the flags to sixths, eighths, and tenths.

(By drawing dividing lines, the $\frac{1}{3}$ can be changed to $\frac{1}{6}$, $\frac{1}{4}$ to $\frac{1}{8}$, and $\frac{1}{2}$ to $\frac{1}{10}$.)

Answers

Answers will vary.



For Teachers

Levels 3, 4

HOW FAR DOWN FRACTION HILL?

Objective

To offer experience in comparing fractions

Directions

1. Reproduce the worksheet for each student.
2. Review the fractional parts shown in the columns under each jumper's number.
3. Read the directions to the students.

4. Discuss how to use the chart to answer the questions for flags 2 and 3.

Going further

1. Have the students list the jumpers' progress in order from least to greatest.
2. Have the students tell how much farther each jumper would have to go to win or to tie with the other jumpers.

Answers



- a) Jumper 121 went $\frac{4}{8}$.
- b) Jumper 119 went $\frac{1}{3}$.
- c) Jumpers 118, 120, and 123 went $\frac{1}{3}$, $\frac{2}{4}$, and $\frac{4}{8}$, respectively.



118 \odot 119 119 \odot 120 123 \odot 124
 121 \odot 123 122 \odot 123

IDEAS

For Teachers

Levels 5, 6

SLALOM SUBTRACTION

Objective

To give practice in subtraction and comparison of decimals, using time and decimal representations of metric lengths

Directions

1. Reproduce the worksheet for each student.

2. Review the directions with the students.

3. Have the students complete the word problems (1–6) after they finish the slalom subtraction examples.

4. You may want to provide the students with slalom times from the most recent winter Olympic Games.

Going further

1. Have students determine the differences in length between the slalom and the giant slalom by visiting a local ski slope or checking a library resource book.

2. Have the class compare race times for running 220 m with the skiing times. Why is the 220m slalom time slower?

3. Have your students make a table of times and winners for a winter Olympic race of their choice. Have them create and solve three problems based on the data they've selected.

Answers

Women's	Men's
27	20
1:21	40
1:48	1:40
2:01.5	2:20
	2:40
	3:20

1. 70 m
2. 19.17
3. 6 seconds
4. 1:7.5
5. Women's—50 seconds; men's—1:56
6. Answers derived from results were not available at press time.

IDEAS

For Teachers

Levels 7 and 8

OLYMPIC CALORIE BURNING

Objective

To provide experience in multiplying whole numbers by decimals

Directions

1. Reproduce the worksheet for each student.
2. Review the multiplication of whole numbers by decimal numbers (hundredths).
3. Read through the practice examples with students.
4. Have students complete problems 1–8.
5. Consider allowing the students to use a calculator for this activity.

Going further

1. Have students work examples with calories burned per hour.
2. Have students look up actual times recorded for the three Olympic events and calculate calories burned per kilogram for each event.

Answers

1. 14.25
2. 10
3. 15.3
4. 80.75
5. 57
6. 616
7. 2086.92
8. 672.52

IDEAS

Name _____

WIN BY A FRACTION!

Bobsled 1 Start

Bobsled Run

Bobsled 2 Start

Finish

Finish

Spinner

$\frac{1}{2}$

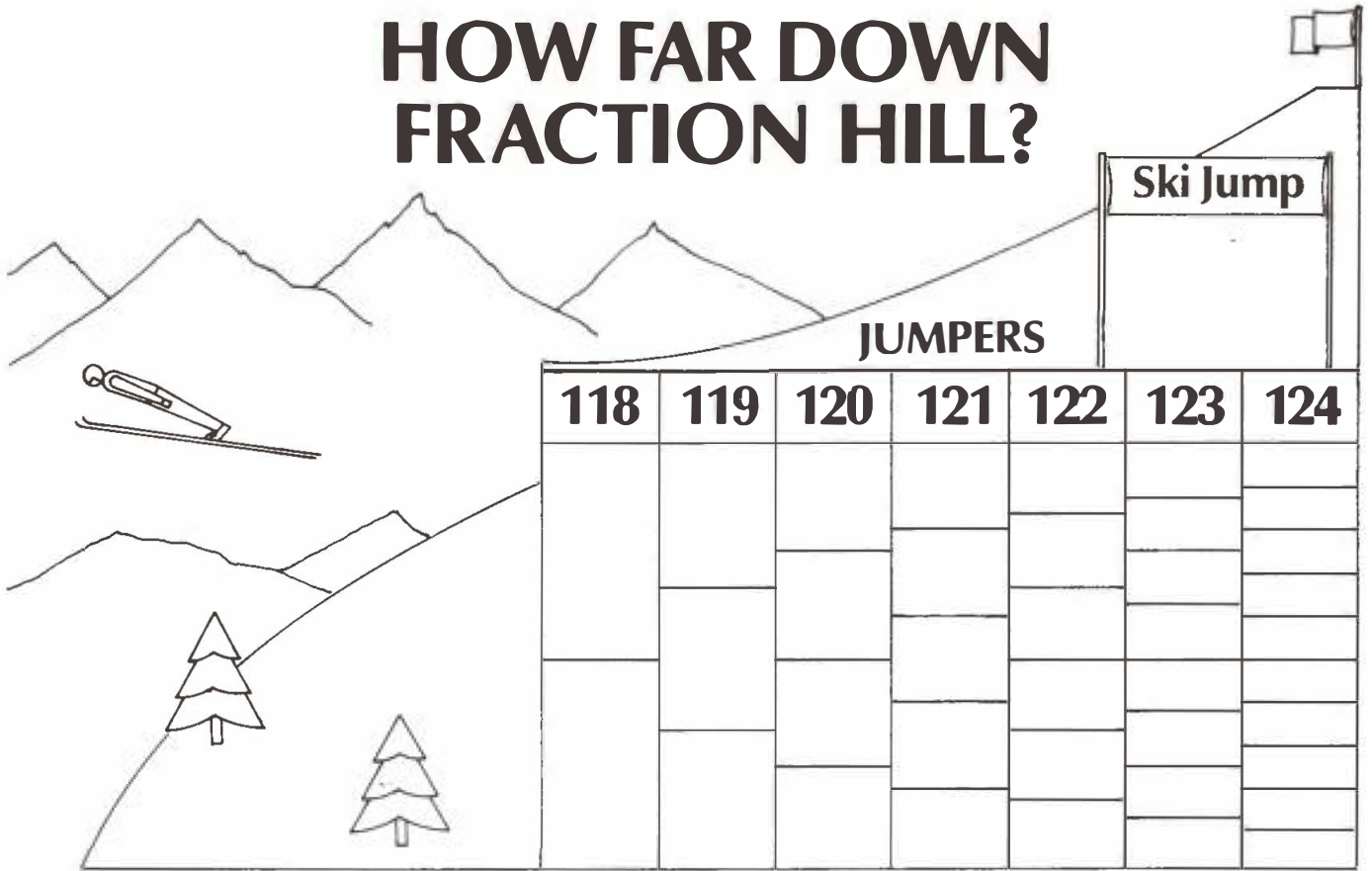
$\frac{1}{4}$ $\frac{1}{3}$

1. Spin the spinner.
2. Go down the hill to the first fraction that matches the spinner.
3. Color the fractional part.
4. Start at the flag for that fraction on your next turn.
5. The winner is the first player to color the last flag.

Marker **Marker**

Bobsled 1 Bobsled 2

HOW FAR DOWN FRACTION HILL?



1

Color the chart to show how far down the slope each jumper went.

118	$\frac{1}{2}$
119	$\frac{1}{3}$
120	$\frac{2}{4}$
121	$\frac{4}{5}$
122	$\frac{4}{6}$
123	$\frac{4}{8}$
124	$\frac{7}{10}$

2

Use your chart to answer these questions:

- Which jumper made the most progress down the hill? _____ How far? _____
- Which jumper made the least progress down the hill? _____ How far? _____
- Which jumpers made the same progress down the hill? _____
How far? _____

3

Write the jumper's distance under the jumper's number. Compare their distances by writing > or < in the circle.

118 119 119 120 121 123 122 123 123 124
 _____ ○ _____ ○ _____ ○ _____ ○ _____ ○

IDEAS

Name _____

SLALOM SUBTRACTION

Directions:

Fill in the missing times for each slalom run, then complete the questions below.
Assume the skier is traveling at the same rate of speed when moving down the slope.

Women's

Start

13.5

40.5

54

1:7.5

1:34.5

Finish 2:15

1980 Winter Olympics winner
Hanni Wenzel, Liechtenstein
1:25.09

Questions:

- How much longer is the men's slalom than the women's slalom? _____
- How much slower was the men's championship finishing time than the women's? _____
- How much faster was the women's time than the men's for the first 60 m of the slalom? _____
- What was the women's slalom time for the first half of the race? _____
- To the nearest second, how much faster were the 1980 winter Olympic times than our times?
Women's _____
Men's _____
(Note: sixty seconds in a minute)
- How much faster or slower were the 1984 winter Olympic times than the 1980 times?
Women's _____
Men's _____

Men's

Start

1

1:20

2

3

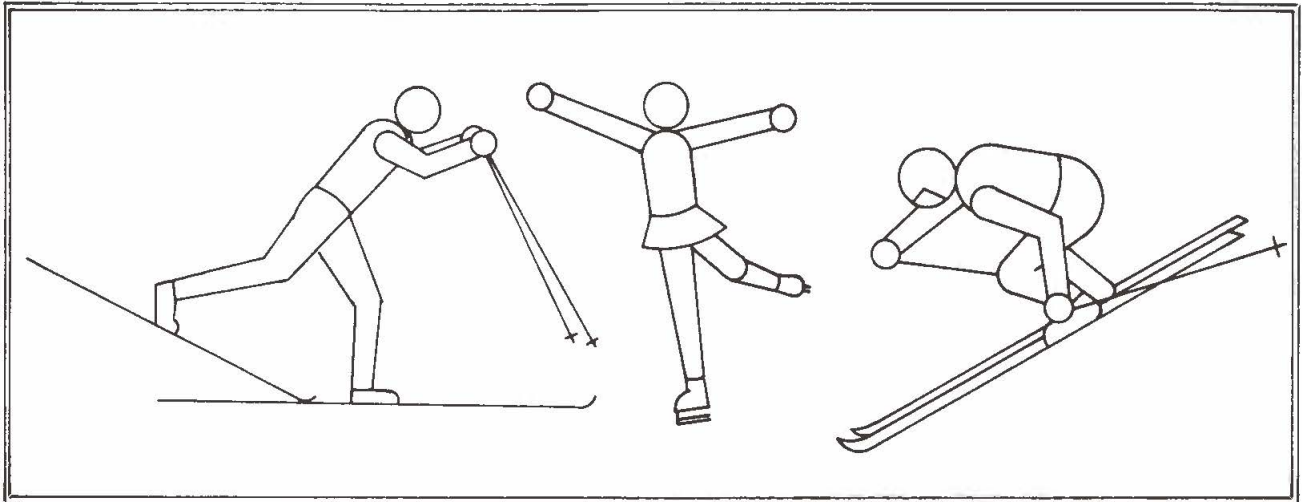
Finish 3:40

1980 Winter Olympics winner
Ingemar Stenmark, Sweden
1:44.26

IDEAS

Name _____

OLYMPIC CALORIE BURNING



Event	Calories used for each kilogram of body weight for 1 minute.
Cross country skiing	0.20
Figure skating	0.19
Slalom skiing	0.17

Complete the chart:

	Event	Weight of participant	Calories used per kilogram per minute	Number of minutes	Total calories used by participant
Example	Figure skating	50 kg	0.19	1	$50 \times 0.19 \times 1 = 9.5$
1.	Figure skating	75 kg	0.19	1	$75 \times 0.19 \times 1 = \underline{\quad}$
2.	Cross country skiing	50	0.20	1	$50 \times 0.20 \times 1 = \underline{\quad}$
3.	Slalom skiing	90	—	1	$\underline{\quad} \times \underline{\quad} \times 1 = \underline{\quad}$
4.	Figure skating	85	0.19	5	$85 \times 0.19 \times 5 = \underline{\quad}$
5.	Figure skating	50	0.19	6	$50 \times 0.19 \times 6 = \underline{\quad}$
6.	Cross country skiing	110	—	28	$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$
7.	Slalom skiing	93	—	132	$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$
8.	Slalom skiing	86	—	46	$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$