



Speak AgentSM

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REAL-WORLD MATH

Probability Trees



Psst! See this strategy in action here:

speakagent.com/strategies

Danger follows Ms. Happ wherever she goes.
What are her chances of avoiding ALL of the mishaps on her misadventures?

WHY ME?



Ms. Happ's Possible Mishaps



SAFE: 98%

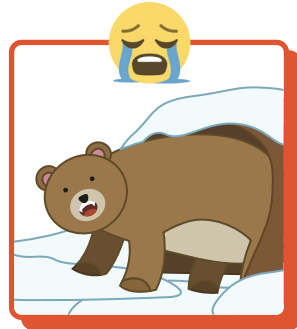


ERUPTION: 2%

- ▶ Ms. Happ hikes up a mountain. The mountain has an active volcano. There is a 2% chance it will erupt.

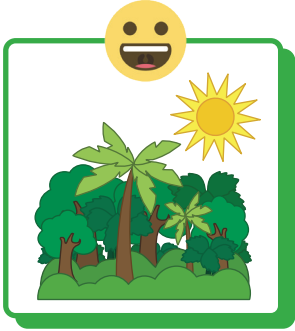


SAFE: 95%



WAKES UP: 5%

- ▶ Ms. Happ camps near a cave. A bear is hibernating for the winter. There is a 5% it will wake up and chase Ms. Happ down the mountain.

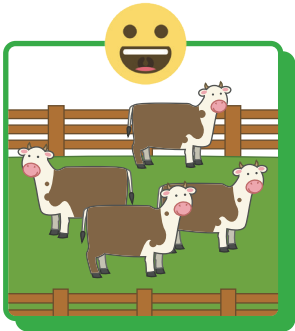


SAFE: 88%

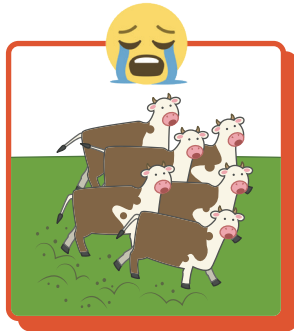


DOWNPOUR: 12%

- ▶ Ms. Happ treks in a jungle. It is the wet season. There is a 12% probability that she will get soaked by torrential rains.

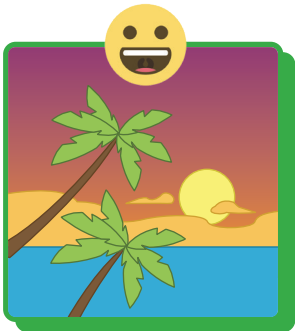


SAFE: 79%



STAMPEDE: 21%

- ▶ Ms. Happ visits a ranch. The cattle are restless. There is a 21% chance the cattle will stampede.



SAFE: 100%



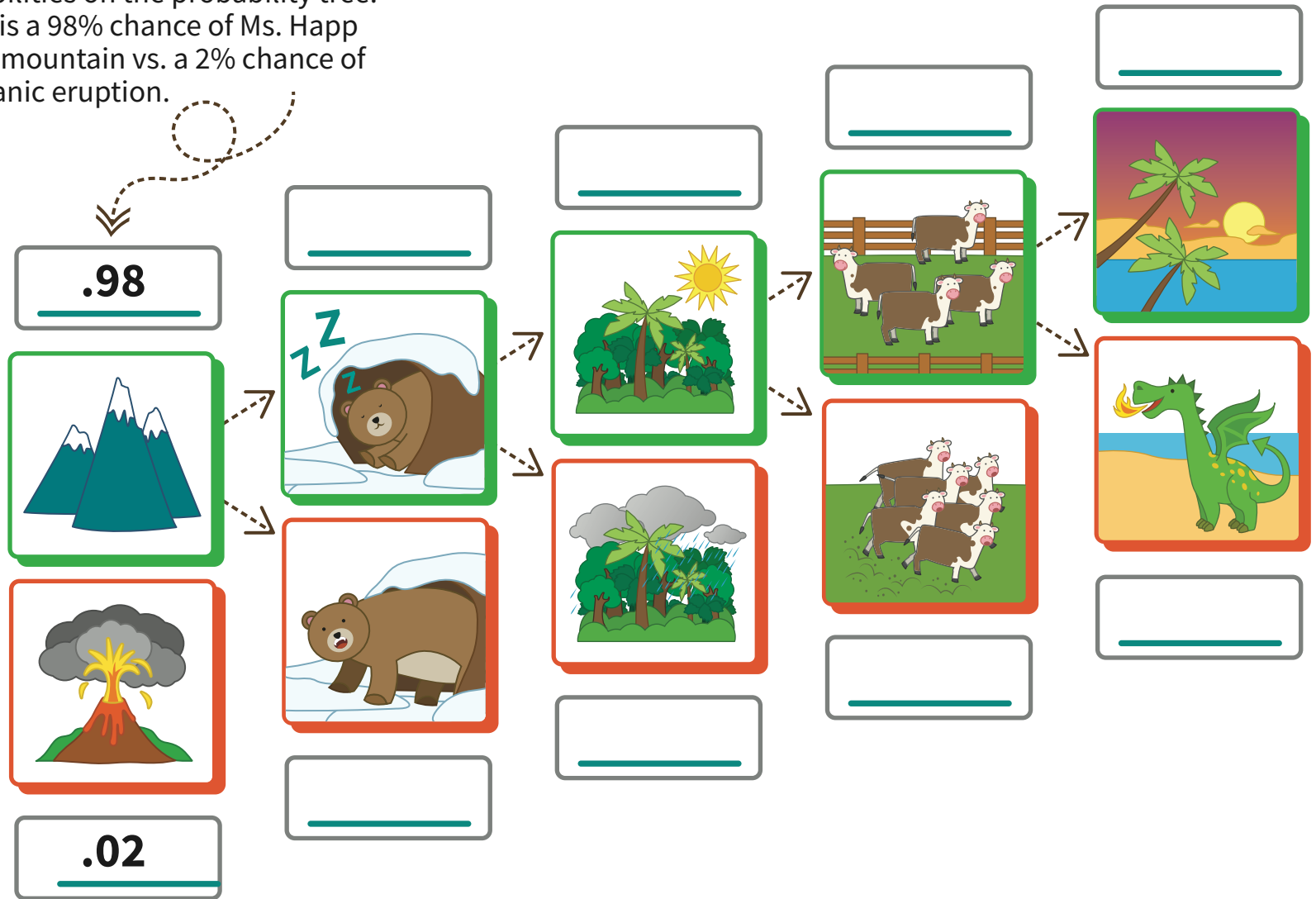
DRAGON RAID: 0%

- ▶ Ms. Happ visits Paradise Island. There are never any mishaps on Paradise Island. There is a 0% chance that fire-breathing dragons will attack the island. Okay, we *think* it's 0%.

1 ADD PROBABILITIES

- Fill in all the probabilities on the probability tree. For example, there is a 98% chance of Ms. Happ safely climbing the mountain vs. a 2% chance of running into a volcanic eruption.

WITH MY LUCK,
WHO KNOWS?






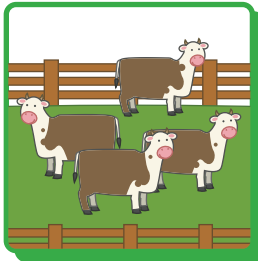


2

CALCULATE

- Find the product of the "safe" probabilities.
That's the chance of zero mishaps.

Calculate Safe Probabilities:

Round your answer to two decimals like **.75**, for example.

<u>.98</u>	×	<u> </u>	×	<u> </u>	×	<u> </u>	×	<u> </u>	=	<u> </u>
										

3

CHECK YOUR ANSWER

- Go to this webpage: **speakagent.com/answer-keys**

BONUS
QUESTION



What is the probability that all five (5/5) mishaps will happen?



LEARNING GOALS

- ☐ Learn that the probability of a compound event is the fraction of outcomes.
- ☐ Represent this using a tree diagram.

UNIT: Probability

ABOUT SPEAK AGENT

This series includes activities that use real-world scenarios to connect learners to these five topics:

- Number Lines & Coordinate Planes
- Probability Trees
- Calculating Volume
- Pythagorean Theorem & Angles
- Linear Functions

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