LESSON MAKER PRO

# Predict the Next

*Use what happened to estimate what comes next.*

**GRADE 7 · 7A.DSP.C.30.a**

**7A.DSP.C.30.a** "Collect and use data to predict probabilities of events."

NAME _____ DATE _____

## USE THE DATA

To predict a probability, divide the number of times an event happened by the total number of trials. For a "not" event, subtract the event count from the total first.

## WORKED EXAMPLE

A student draws a token, replaces it, and mixes the bag each time. Predict the probability of blue on the next draw.

**TOKEN DRAWS**

| Token | Times drawn |
|---|---|
| Blue | 9 |
| Orange | 13 |

1. Total draws: 9 + 13 = 22.
2. Blue occurred 9 times.
3. Divide: 9/22.

**Answer: 9/22**

## PRACTICE 4 problems

**1** Red came up on 4 of 12 spins. Predict the probability of red on the next spin.

**ANSWER** _____

**2** A player won 6 of 20 rounds. Predict the probability of winning the next round.

**ANSWER** _____

**3** A bus was late on 8 of 15 rides. Predict the probability it will be late next time.

**ANSWER** _____

**4** A player earned a badge in 10 of 25 games. Predict the probability of no badge next game.

**ANSWER** _____

## APPLY IT Show your work

**1** An app played the songs shown during shuffle. Predict the probability the next song is hip-hop.

**RECENT SHUFFLE PLAYS**

| Type | Songs played |
|---|---|
| Hip-hop | 16 |
| Indie | 12 |

**ANSWER** _____

**2** A snack cart recorded these orders. Predict the probability the next order is fruit.

**SNACK ORDERS**




orders

**ANSWER** _____

## CHALLENGE One step up

Two teams logged their games. If one game is randomly picked from the whole log, what is the probability it was a win? Explain why you combine the counts instead of averaging the teams' win rates.

**GAME LOG**

| Team | Games | Wins |
|---|---|---|
| A | 10 | 6 |
| B | 15 | 8 |

WORK SPACE AND ANSWER

**ANSWER KEY**

# Predict the Next

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## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | Red came up on 4 of 12 spins. Predict the probability of red on the next spin. | **1/3** |
| 2 | A player won 6 of 20 rounds. Predict the probability of winning the next round. | **3/10** |
| 3 | A bus was late on 8 of 15 rides. Predict the probability it will be late next time. | **8/15** |
| 4 | A player earned a badge in 10 of 25 games. Predict the probability of no badge next game. | **3/5** |

## PART 2 · APPLY IT

1. **4/7** There were 28 songs in all, and 16 were hip-hop. The predicted probability is 16/28 = 4/7.
2. **2/5** Fruit accounted for 16 of 40 orders. The predicted probability is 16/40 = 2/5.

## CHALLENGE

**14/25. There were 14 wins in 25 games. Averaging the teams' win rates would give each team equal weight, even though Team B played more games.**

Accept equivalent fractions. Predictions use the observed results; they do not guarantee the next outcome.