LESSON MAKER PRO

Predict the Picks

Use probability to predict what data may show.

GRADE 6 · 6.DS.A.2

6.DS.A.2 "Use the language of probability (e.g., likely, unlikely, certain, impossible) to describe the likelihood of possible outcomes and to anticipate variability in data collected from statistical questions..."

NAME _____ **DATE** _____

THE BIG IDEA

To find a probability, divide the number of matching outcomes by the total number of equally likely outcomes. An outcome with a higher probability is likely to appear more often in repeated trials, but it is not guaranteed. In a survey, earlier responses can help you predict answers from a similar group.

WORKED EXAMPLE

Draw a ticket, record its color, and replace it. Which color is likely to appear more often in many draws?

TICKETS IN THE BOX

Color	Tickets
Gold	7
Violet	3

1. There are 7 + 3 = 10 tickets.
2. P(gold) = 7/10 and P(violet) = 3/10.
3. Gold has the higher probability.

Answer: Gold is likely to appear more often.

PRACTICE 4 problems

1 A bag holds 5 blue and 1 red token. Draw, record, and replace the token many times. Find P(blue). Which color is likely to appear more often?

ANSWER _____

2 A spinner has 2 equal yellow sections and 9 equal pink sections. Find P(yellow). Is yellow likely or unlikely on one spin?

ANSWER _____

3 A bag holds 4 black and 8 white tiles. Draw and replace a tile many times. Find P(black). Which color is likely to appear more often?

ANSWER _____

4 A bag holds 0 orange and 6 teal beads. Find P(orange). Is drawing orange impossible or unlikely?

ANSWER _____

APPLY IT Show your work

1 Students in a school poll chose a movie-night snack. Which answer is likely to be most common in another similar group? Give its share of this poll.

MOVIE-NIGHT SNACK POLL

Snack	Students
Fruit cups	12
Chips	4
Yogurt	8

ANSWER _____

2 In a survey of 14 game-club members, 9 chose team games. The rest chose solo games. Predict the more common answer in another survey of members. Give its share in this survey and explain why the new counts could differ.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A music app picks at random from 2 rap, 5 pop, and 9 rock songs. Songs can repeat. A friend says rock is certain to be picked most often in 16 picks. Find P(rock). Is your friend right? Explain.

WORK SPACE AND ANSWER

ANSWER KEY

Predict the Picks

GRADE 6 · 6.DS.A.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bag holds 5 blue and 1 red token. Draw, record, and replace the token many times. Find P(blue). Which color is likely to appear more often?	**P(blue) = 5/6. Blue is likely to appear more often.**
2	A spinner has 2 equal yellow sections and 9 equal pink sections. Find P(yellow). Is yellow likely or unlikely on one spin?	**P(yellow) = 2/11. Yellow is unlikely.**
3	A bag holds 4 black and 8 white tiles. Draw and replace a tile many times. Find P(black). Which color is likely to appear more often?	**P(black) = 4/12 = 1/3. White is likely to appear more often.**
4	A bag holds 0 orange and 6 teal beads. Find P(orange). Is drawing orange impossible or unlikely?	**P(orange) = 0/6 = 0. Drawing orange is impossible.**

PART 2 · APPLY IT

1. **Fruit cups are likely to be most common. Their share is 12/24 = 1/2.** Fruit cups received the most responses. Divide 12 by the total of 24 to find their share.
2. **Team games are likely to be more common. Their share was 9/14, but another group could give different answers.** The other 5 members chose solo games, so team games had the larger share. Survey results can vary from one group to another.

CHALLENGE

P(rock) = 9/16. Rock is likely to be picked more often than either other type, but it is not certain. The app could pick other songs more often.

Accept equivalent fractions. Predictions should use likelihood language, not claim that an outcome is guaranteed.