## Lesson 5.1 Probability

Day 1
Teach objective and review unit "Reading strategies" and "Success for English learners"
Assignment - Guided practice and Independent practice completed as a class
Reading strategies answers

1. Unlikely
2. Impossible
3. Certain

Success for English learners

1. As likely as not; because there are 3 even numbers and 3 numbers that are not even.
2. Impossible; there are no purple marbles in the bag.

Day 2
Review
Cooperative (elbow buddy)assignment 5.1 practice and problem solving: D
5.1 Practice and problem solving: A/B

Login to Go Math
Go to the Resources Tab
Click on the Student Online Edition (yellow open book)
This will take you to another window to an interactive student edition textbook.
Go to page 155
Answers to "reflect", Explore activity" and "your turn" questions
EA.
6:6 9
0:6 1
2:6 3 or 4
1:6 2
5:6 8
3:6 5 or 6
4:6 7
3:6 5 or 6
2:6 3 or 4

1. Rolling an 8 is impossible because there is no 8 on the number cube.
2. Neither is very likely, but event $A$ is more likely to happen than event B; $1 / 3>1 / 4$
3. As likely as not; $1 / 2$
4. $1 / 2$
5. $1 / 3$

For answers to the guided practice and independent practice, see Coach Gammon.

Additional web sites
http://www.youtube.com/watch?v=uzkc-qNVoOk http://www.youtube.com/watch?v=YpvE0Co66nU

Remember, on the online edition, you can click on the "math on the spot" for a little extra teaching from Prof Burger. If you only have your book, use a QR scanner on the "math on the spot"

Probability
Q: How can you describe the likelihood of an event?
A:
Vocabulary

1. $\qquad$ an activity involving chance in which results are obser
2. $\qquad$ an observation of an experiment
3. $\qquad$ each result
4. $\qquad$ measures the likelyhood that the event will occur.
5. $\qquad$ a set of all possible outcomes for an event
6. $\qquad$ the set of all outcomes in a sample space that are NoT included in the event.

The likelyhood can be described as.
$\qquad$

You can $\qquad$ the likelihood as certain, likely, as likely as not, unlikely, or impossible outcomes

Probability
Q: How can you describe the likelihood of an event?
A:
Vocabulary

1. experiment an activity involving chance in which results are obser
2. trial an observation of an experiment
3. outcome each result
4. probability measures the likelybood that the event will occur.
5. Sample space a set of all possible outcomes for an event
6. Complement the set of all outcomes in a sample space that are NOT included in the event.

The likelyhood can be described as.
$\qquad$

You can $\qquad$ the likelihood as certain, likely, as likely as not, unlikely, or impossible
$\qquad$
$\qquad$ Class $\qquad$

5-1

## Probability

## Reading Strategies: Use a Table

Creating a table can help you solve probability problems.
You are to choose one of the cards at right without looking.
Consider the probability of three outcomes: 1) choosing a vowel,
2) choosing a $B$, or 3 ) choosing a letter in the word MATH.


Complete the table by writing whether each of the desired outcomes is impossible, unlikely, as likely as not, likely, or certain.

|  | Desired Outcomes |  |  |
| :---: | :---: | :---: | :---: |
| Possible Outcomes | Vowel | B | Letter in MATH |
| M | no | no | yes |
| A | yes | no | yes |
| T | no | no | yes |
| H | no | no | yes |
| Results | 1 out of 4 | 0 out of 4 | 4 out of 4 |
| Probability | 1. | 2. | 3. |

4. You spin the spinner at the right. Complete the table. Tell whether each of the desired outcomes is impossible, unlikely, as likely as not, likely, or certain.


|  | Desired Outcomes |  |  |
| :--- | :--- | :---: | :---: |
| Possible Outcomes | 6 | Factor of 4 | Greater than 0 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Results |  |  |  |
| Probability |  |  |  |

$\qquad$ Date $\qquad$ Class $\qquad$

## Problem 1

A number cube can help you understand probability.


Is it likely that you will roll a
1 every time?
This means the probability of

No. The cube has 6 sides.
Only one side is a 1 .
It is unlikely that I will roll a 1 every time.
rolling a 1 every time is low.

## Problem 2

There are 16 marbles in a bag.
To find the probability of not drawing a red marble, first find the probability of drawing a red marble.

$P($ Red $)$ means "the probability of drawing a red marble."
$P($ Not Red) means "the probability of drawing any marble that is NOT red."

## RED

$$
\begin{aligned}
P(\text { Red }) & =\frac{6 \text { Red }}{16 \text { Marbles }} \\
& =\frac{3}{8}
\end{aligned}
$$

(R)
(B)
(G)
(G)
(B)
(R)
(B) $=\frac{5}{8}$
(B)
(R)
(B)

1. In Problem 1, is it more likely, less likely, or as likely as not to roll an even number? Why?
$\qquad$
$\qquad$
2. In Problem 2, how likely is it that you will select a purple marble? Why?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## LESSON 5-1

## Probability

## Practice and Problem Solving: D

Match each event to its likelihood. The first one is done for you.

1. rolling a number less than 6 on a number
cube labeled 1 through 6 $\qquad$
A
A. likely
2. flipping a coin and getting heads $\qquad$ B. unlikely
3. spinning a number less than 3 on a spinner with 8 equal sections marked 1 through 8 $\qquad$ C. as likely as not
4. drawing a red or blue marble from a bag of red marbles and blue marbles
D. impossible
5. rolling a number greater than 6 on a number cube labeled 1 through 6 $\qquad$ E. certain

Solve. Write your answer in simplest form. The first one is done for you.
6. A bag contains 4 red marbles, 3 green marbles, and 2 yellow marbles. The probability of randomly picking a yellow marble is $\frac{2}{9}$.
What is the probability of not picking a yellow marble?

7. A number cube is labeled 1 through 6 . The probability of randomly rolling a 5 is $\frac{1}{6}$. What is the probability of not rolling a 5 ?

Tell whether the event is impossible, unlikely, as likely as not, likely, or certain. Explain your choice. The first one is done for you.
8. Tyrone rides his bicycle to school if he gets up by 7:15 A.M. Tyrone gets up by $7: 15$ about half the time. Estimate the probability that Tyrone will ride his bicycle to school.
as likely as not; Since he gets up by $7: 15$ about half the time, he will ride his bicycle about half the time. The probability is about $\frac{1}{2}$, or as likely as not.
9. There are 10 shirts in a drawer. Eight of the shirts have short sleeves. Two shirts have long sleeves. Estimate the probability that you get a short-sleeved shirt if you select one out without looking.
$\qquad$
$\qquad$ Class $\qquad$

## LESSON 5-1

## Probability

## Practice and Problem Solving: A/B

Determine the probability of each event. Write impossible, unlikely, as likely as not, likely, or certain. Then, tell whether the probability is 0 , close to $0, \frac{1}{2}$, close to 1 , or 1 .

1. randomly picking a blue card from a bag containing all blue cards
2. rolling an odd number on a number cube containing numbers 1 through 6
3. picking a red marble from 4 white marbles and 7 green marbles

Find each probability. Write your answer in simplest form.
4. A bag holds 6 tiles: 2 lettered and 4 numbered. Without looking, you choose a tile. What is the probability of drawing a number?
5. The names Phil, Angelica, Yolanda, Mimi, and Ed are on slips of paper in a hat. A name is drawn without looking. What is the probability of not drawing Ed?
6. A standard deck of cards contains 13 of each suit: red hearts, red diamonds, black clubs, and black spades. What is the probability of drawing a red card without looking?

A board game includes the 9 cards below.

| Move |
| :---: |
| back |
| 2. |
| Move |
| up |
| 1. | | Move |
| :---: |
| up |
| 4. |
| Move |
| back |
| 3. | | Move |
| :---: |
| up |
| 3. | | Move |
| :---: |
| up |
| 6. | | Move |
| :---: | :---: |
| back |
| 2. | | Move |
| :---: |
| up |
| 5. | | Move |
| :---: |
| up |
| 2. |

7. Mia says the probability of moving back is the same as the probability of moving up. Is she correct? What is the probability of moving back? Explain.
8. Gavin needs to move up more than 4 spaces to win the game. Is he likely to win on his next turn? What is the probability that he will not win on his next turn? Explain.
