Oklahoma's Personal Financial Literacy Passport

Standard 12: The student will explain and evaluate the financial impact and consequences of gambling.

Standard 12. Gambling

Lesson 12.1 Cost and Benefits of Gambling

Teacher Presentation Series 12

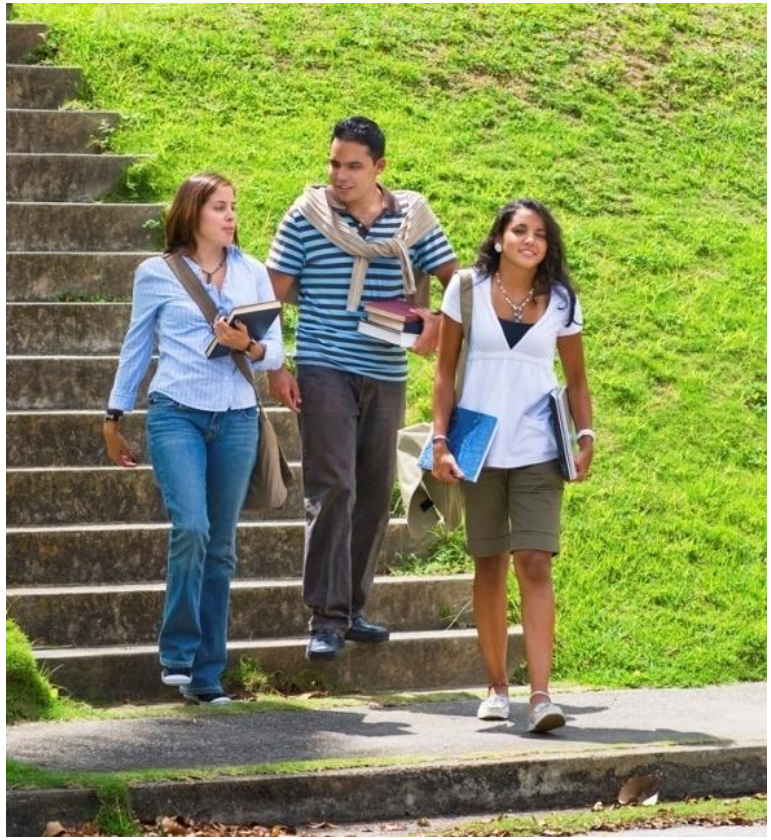
- 1.1. Analyze the probabilities involved in winning at games of chance.
- 1.2. Evaluate *costs and benefits* of gambling to individuals and society (e.g., family budget; addictive behaviors; and the local and state economy).

Standard 12.1
Gambling

The Costs and Benefits of Gambling

Down Payment

- Simone, Paula and Randy meet in the library every day to work on their homework. Here is the problem they need to solve today.



Down Payment

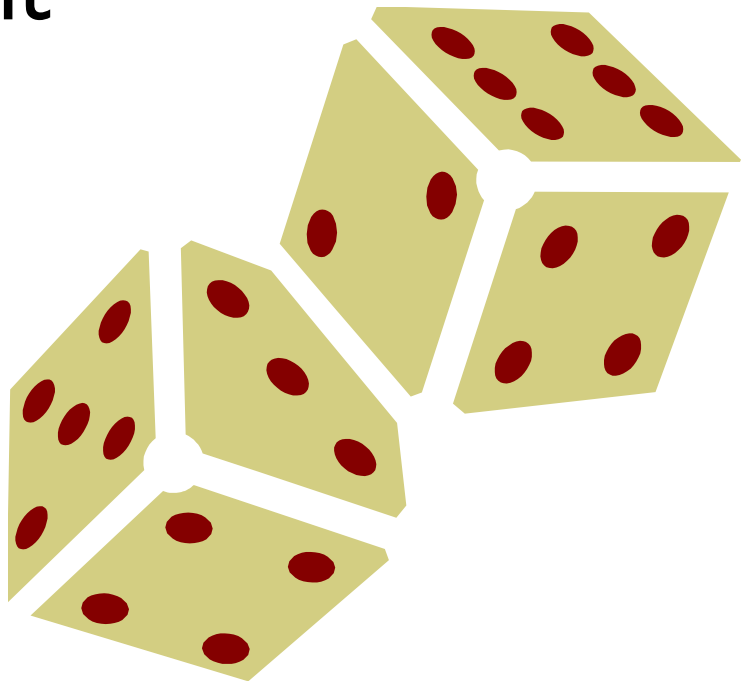
- Ryan is flipping a coin, and he is not cheating. He has just flipped seven heads in a row. Is Ryan's next flip more likely to be *heads*, or *tails*, or *heads and tails are equal chances.*
  - Paula says, "HEADS."
  - Randy says, "TAILS."
  - Simone says, "EITHER!"
- Who is correct?

Payoff

- Recognize gambling as a form of risk.
- Calculate the probabilities of winning in games of change.
- Explore the potential benefits of gambling for society.
- Explore the potential costs of gambling for society.
- Evaluate the personal costs and benefits of gambling.

Cache

- Dependent event
- Gambling
- Independent event
- Predictability
- Probability



Building Interest

- Why do people gamble?
  - Enjoy taking a risk
  - Entertainment
  - Potential to win/lose
  - Can be addictive

Gambling

- Involves taking a chance with your with your personal finances, or
- Risking your money or something else of value on an activity with an uncertain outcome.

Social Costs and Benefits

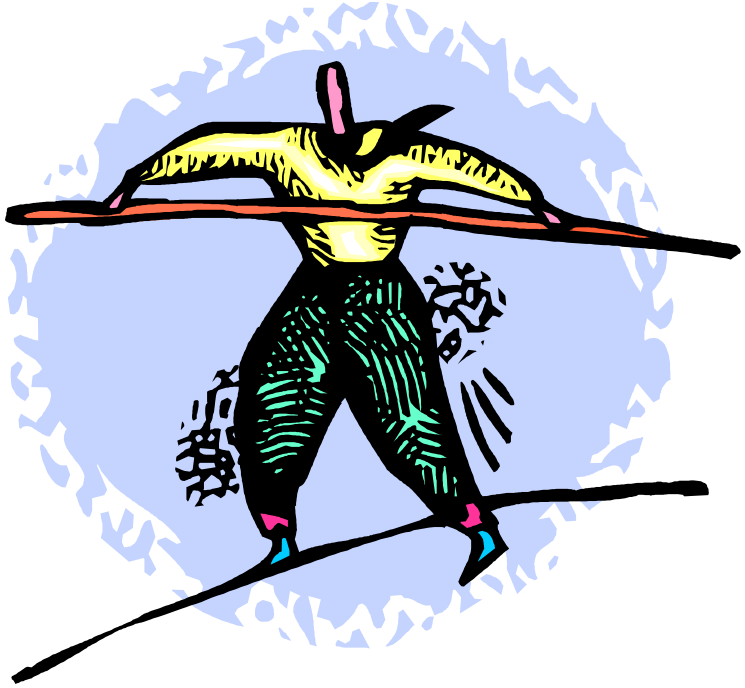
- The gaming industry nets about $100 billion in revenue annually.
  - This is about the same amount the U.S. has spent yearly on the war in Iraq.
- In Oklahoma, the gaming industry nets about $2 billion annually.
  - 97 casinos
  - Over 45,000 gaming machine, which is about 5.5% of all gaming machines nationally!
  - Casinos employ thousands of people

Social Costs and Benefits

- Casinos take revenue from other businesses.
  - There is an opportunity cost
- Lotteries are similar to regressive taxes.
  - Lower income have greater impact
  - Income reduced by about 5%

Gambling is Risky Business

- Principles of Risk
  - Probability of loss
    - Likelihood that something will happen
    - Playing the odds
- Managing Risk
  - Avoid it
  - Transfer it
  - Reduce it
  - Retain it



Gambling is Risky Business

- When gambling
  - The odds are in the sponsor's favor!
    - Lotteries
    - Casinos
    - Others
  - Sponsors earn profits based on the odds.
  - Why do people play, when the odds are against them?

Powerball

Match	Prize	Odds
5 numbers + PB	Grand Prize	1 in 146,107,962.00
5 numbers	$200,000	1 in 3,563,608.83
4 numbers + PB	$10,000	1 in 584,431.85
4 numbers	$100	1 in 14,254.44
3 numbers + PB	$100	1 in 11,927.18
3 numbers	$7	1 in 290.91
2 numbers + PB	$7	1 in 745.45
1 number + PB	$4	1 in 126.88
PB	$3	1 in 68.96

Source: http://www.powerball.com

The overall odds of winning a prize are 1 in 36.61.
The odds presented here are based on a $1 play.

Horseracing

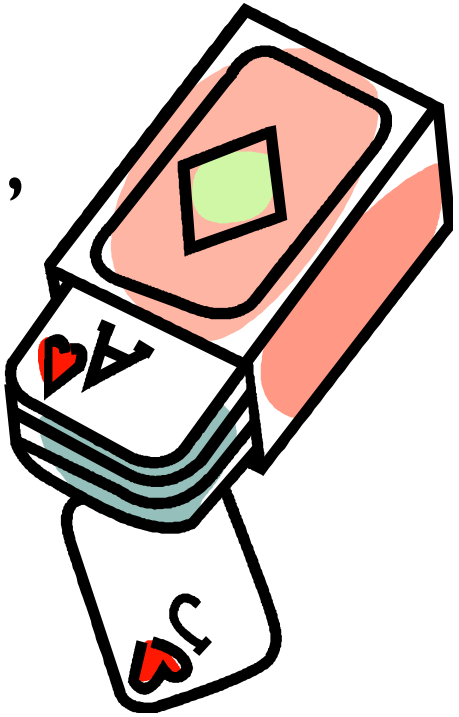
- Odds are 7 to 1
  - You bet $20.
    - You agree to pay the race track $20 if you lose and it will pay you $140 if you win.
    - You have about a 15% chance of winning
      - 100/7=14.28.
  - The odds of winning depend on how many horses are in the race.
  - As more horses are added, the odds change.

Odds of Winning

- Games of chance
  - The higher the odds, the higher the potential payout.
  - The greater the potential payout, the greater the risk of losing.
  - If you want people to take high risk, you need to offer potentially high rewards.

Calculating Odds

- Drawing an ace from a deck of cards:
  - 4/52 or a 1/13 chance
  - 12/13 chance you will draw another card
  - Rather low risk of "winning"



What Have You Learned?

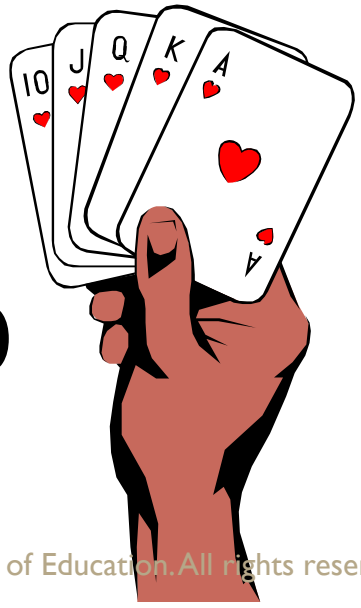
- Pick 3 Lottery Game:
  - You have to pick the exact numbers
  - 10 numbers
  - 1/10 x 1/10 x 1/10 = 1/1,000
  - 999/1000 to lose

Independent vs. Dependent

- Independent Event:
  - Flipping a coin
  - The odds of getting heads or tails does not change.
  - 1/2

Independent vs. Dependent

- Dependent Event:
  - Card games such as Poker or Blackjack
  - 4/52 chance of an ace at the beginning of the game, until the dealer deals an ace
  - Royal Flush in Poker
    - Odds are 1/2,598.950



Probability vs. Predictability

- Probability
  - Luck
  - Little or no strategy involved
  - How likely will something happen
- Predictability
  - Strategy based on past performance
  - Some knowledge about outcome
  - Informed choices (even if information is not perfect)

Probability vs. Predictability

- Does this mean you should never take a risk?
  - Life is a risk
  - Investing is a risk
  - Driving is a risk
- Does this mean you should never gamble?
  - Be informed about your odds
  - "Don't gamble with the rent or the milk money!"

Earnings

- Gambling is high risk!
  - You are playing the odds and the odds are not in your favor!
  - It can be fun and entertaining, but also addictive.
- Gambling involves costs and benefits.
  - All choices have costs!
- There is no guarantee you will win; that is why they call it "gambling."

Balance Sheet

- Why do people gamble?
- Who gambles?
- What are the costs and benefits of gambling?
- What is the difference between a dependent and independent event?
- What is the difference between probability and predictability?
- Is gambling based on "probability" or "predictability"?

Paid in Full

- What about the coin flip? If you said, "Simone," you are correct!
- Paula is assuming that the pattern of flipping coins will continue.
- Randy is certain Ryan's luck will change.
- Simone knows the odds are 50/50 because each flip is an independent event.

Paid in Full

- When playing games of chance, remember this:
  "Even though you have a winning streak, there is no guarantee that streak will continue!"