What's the Chance?

Players: any number

Children explore the probability of choosing a card with a particular attribute.

NOTE: This game is designed for older students.

Materials

1 deck of cards for every 3–4 students
"What's the Chance?" Data Sheet, one per player (page 39)
pencils

The Way to Play

1. Explain to children that there are 52 cards in a deck: 26 red cards and 26 black cards. Choose a card from the deck and ask them to guess if it is red or black. Turn it over to show them. Repeat this step a few times.

2. Ask children if they think there is a greater chance of choosing a red card or a black card. Encourage them to explain their responses. Lead them to the conclusion that there is an equal chance because there is an equal number of red and black cards in the deck.

3. Explain that there are 12 face cards (jack, queen, king) in a deck and 40 number cards. Choose a card and have them guess if it is a face card or a number card. Show the card and repeat a few times. Discuss the chances of choosing a face card. Explain that there is a much greater chance of choosing a number card because there are more of them in the deck.

4. If desired, repeat the above steps with other card attributes such as even and odd numbers, cards of different suits, and so on.

5. Divide the class into groups of 3–4 students and give each group a deck of cards. Give each child a pencil and a copy of the data sheet on page 39.

6. Have each group choose two kinds of cards to compare: red vs. black, number vs. face card, even vs. odd number, and so on. Show them where to write this information on the data sheet.

7. Ask kids to figure out how many of each kind of card are in a deck (for example, red vs. black). Based on this information, children can form a hypothesis. What do they think the chances of choosing this type of card are? Show them how to check a box to show their hypothesis.

What's the Chance? (Cont.)

8 Remind kids to shuffle the cards thoroughly before they gather data. Discuss why this is necessary. How might the cards be arranged if someone had sorted them earlier? What does shuffling ensure?

9 Have each group choose one card at a time and record the type of card on the line. They should only record the most relevant information. If they are determining the chances of choosing a red card vs. a black card, they should only record "red" or "black."

10 When they are finished collecting data, children should count how many of each type they chose (such as red or black). Which did they choose more often? How do they interpret these results? Are the chances of choosing one type of card more likely, less likely, or equal to the chances of choosing another type of card?

11 Invite each group to share their findings.

"What's the Chance?" Data Sheet

Pick 1 number
Pick 2 number
Pick 3 number
Pick 4 face
Pick 5 number
Pick 6 face
Pick 7 number
Pick 8 number
Pick 9 number
Pick 10 face

Name _____ Date _____

"What's the Chance?" Data Sheet

My group is testing the chances of choosing a _____ vs.

a _____ .

Hypothesis: I think that the chances of choosing a _____ are (check one):

☐ more likely than

☐ less likely than

☐ the same as

choosing a _____ .

Data Collected

(Don't forget to shuffle the cards thoroughly before you begin.)

Pick 1 _____

Pick 2 _____

Pick 3 _____

Pick 4 _____

Pick 5 _____

Pick 6 _____

Pick 7 _____

Pick 8 _____

Pick 9 _____

Pick 10 _____

What kind of cards did you pick more often? _____

Conclusion: The data shows that the chances of choosing a _____ are (check one):

☐ more likely than

☐ less likely than

☐ the same as

choosing a _____ .