

### *Activity 4*

**Name:** \_\_\_\_\_  
**Partner:** \_\_\_\_\_

Does you or your partner have ESP? Let us find out. In this activity you will do an experiment and then conduct a test to see if your partner has ESP or not. Take four cards from the deck. Show your partner all the cards. Shuffle the cards, and draw one. Look at the card and concentrate on what the picture is. Have your partner guess the card. Record if they are right or wrong. Reshuffle the cards and repeat. Do this 40 times, each time shuffling the cards, and record your results. You need to conduct the experiment on **each** partner (that means doing it twice).

1. If you did not have ESP, and were randomly guessing, what proportion of the time would you expect to identify the card correctly (just by chance)?
2. If you did not have ESP, and were randomly guessing how many of the times would you expect to guess correctly (just by chance)?
3. How many times out of 40 did you guess correctly? Record this here and on the board.
4. What proportion of the time did you guess correctly?
5. Record the class data in the computer and create a histogram based on the frequency of each number.
6. Compute the mean and the standard deviation.
7. The theoretical mean and standard deviation are 10 and a standard deviation of 2.739. How do these compare to the answers in question 6?
8. Calculate a z-score for the number of times you guessed correctly (see question 3) based on the theoretical parameters in question 7.
9. What percentile does your score represent?
10. What is the probability that you would have gotten the score you got or higher if you were just going on chance alone?
11. What is your conclusion? Do you have ESP? Explain.