Name _____ Date _____ Period _____

Are You Psychic?

Experiment #1

You and your partner will take turns taking a card from a deck and, without looking, place the card *facing* your partner, on your forehead. Predict if the card is red or black. Tally each time you and your partner were correct or wrong.

<u>Your Correct Tallies</u>   <u>Your Wrong Tallies</u>   <u>Total correct as a fraction</u>

<u>Partner Correct Tallies</u>   <u>Partner Wrong Tallies</u>   <u>Total correct as a fraction</u>

Do you or your partner appear to be able to predict?

Experiment #2

You and your partner will take turns taking a card from a deck and, without looking, place the card *facing* your partner, on your forehead. Predict which suit the card is (hearts, rhombi (diamonds), clubs or spades). Tally each time you and your partner were correct or wrong.

<u>Your Correct Tallies</u>   <u>Your Wrong Tallies</u>   <u>Total correct as a fraction</u>

<u>Partner Correct Tallies</u>   <u>Partner Wrong Tallies</u>   <u>Total correct as a fraction</u>

Do you or your partner appear to be able to predict?

Experiment #3

You and your partner will take turns taking a card from a deck and, without looking, place the card *facing* your partner, on your forehead. Predict which number is showing. Tally each time you and your partner were correct or wrong.

Your Correct Tallies   Your Wrong Tallies   Total correct as a fraction

Partner Correct Tallies   Partner Wrong Tallies   Total correct as a fraction

Do you or your partner appear to be able to predict?

Analysis Questions

1. For which experiment were you the most successful (able to predict correctly)? Why do you think you were more successful with this experiment?

2. Did you have a better chance of being correct than anyone else in the class? Why or why not?

3. What is probability?

4. Describe an experiment for which you would be more successful and why you would be more successful.

Materials:
Decks of Card (1 per pair)

Objective:
Students will attempt to predict attributes of cards and will analyze their success to understand the concept of probability as "chance" as opposed to skill.

Conducting the Experiments
Model for the students how they will be conducting each experiment. To do this, randomly select a card from a deck and hold it against your forehead so that the class can see it but you cannot. Tell them you will try to predict which card is showing. Make a guess and have the class tell you if you are correct. Do this one to two more times to ensure they understand how to conduct the experiment. Show the class the student page and how they will be recording their results. Then explain each of the three experiments by having students read each one aloud and modeling with cards. Once you are confident the students understand what to do, have groups get into pairs, pass out the student pages and decks of cards to each pair. Instruct the students to complete as many trials as possible in the time allotted. Set the timer for each experiment (5-7 minutes). When time is up, have each student record their total correct and then answer the question, "Do you or your partner appear to be able to predict?"

Once all three experiments are complete, give the students 10 minutes to complete the analysis questions. Complete the lesson with a class discussion focused on #2 and #3.