NAME: _____   DATE: _____
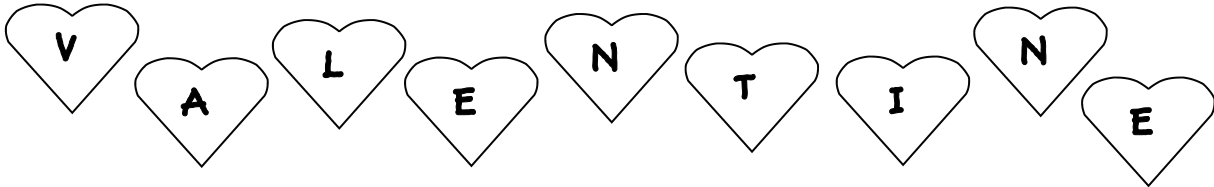
Valentine Probability Investigation

Materials:
- Cut apart the Valentine letters (B/W or color) and place them in a paper bag.
- Each student pair should have a copy of the Recording Sheet.

DIRECTIONS:
- **Predictions:**
    - Each student pair should predict how many letters they will have to draw in order to get all of the letters to spell **VALENTINE**.
    - Students should record their predictions on their recording sheet.
    - Teacher should ask students to share their predictions and explain why they think their predictions are reasonable.
    - Record predictions on chart paper, whiteboard or chalkboard.
- **Experiment:**
    - Students work in pairs for this experiment. One student draws letters from the bag. The other student records each draw on the recording sheet.
    - NOTE: Be sure students understand that they should not record any tallies for the second **N** and **E** until they have the first **N** and **E**.
    - Students continue drawing letters and recording until they have drawn each letter in the word **VALENTINE**. Once they draw the last letter needed, they stop and total each row, then find the total number of letters they drew in order to get all of the letters in the word **VALENTINE**.
- **Organizing Results:**
    - Students should add their **TOTAL LETTERS DRAWN** to the class line plot.
    - Students should repeat the experiment 2-3 times in order to collect data for a larger sample.
- **Analyzing the Data:**
    - Ask students to compare the class results to the class predictions.
    - Ask students to find the statistical landmarks for the class results: range, mode, median, mode.
    - Ask students to complete this sentence and justify their answer by referring to the data. **Most students in the class had to draw _____ letters to get all of the letters in VALENTINE.**
- **Extension:**
    - Have students also record the last letter drawn. Analyze these results.

NAMES: _____ DATE: _____

VALENTINE PROBABILITY INVESTIGATION
Recording Sheet

We predict that we will have to draw ⬜ **letters before we get ALL of the letters to spell VALENTINE.**

Letter	Tally	TOTAL
V		
A		
L		
E		
N		
T		
I		
N	*NOTE: Don't record tallies for this N until you have the first N.*	
E	*NOTE: Don't record tallies for this E until you have the first E.*	
TOTAL NUMBER OF LETTERS DRAWN:		

VALENTINE PROBABILITY INVESTIGATION—B/W

DIRECTIONS:
- Cut apart the squares containing the letters of VALENTINE .
- Place the letters in a bag and shake the bag to mix up the letters.
- Draw one letter at a time and record the results.
- Continuing drawing letters until you have all of letters needed to spell VALENTINE . Record the TOTAL number of draws needed and add to class results.

V	A	L
E	N	T
I	N	E
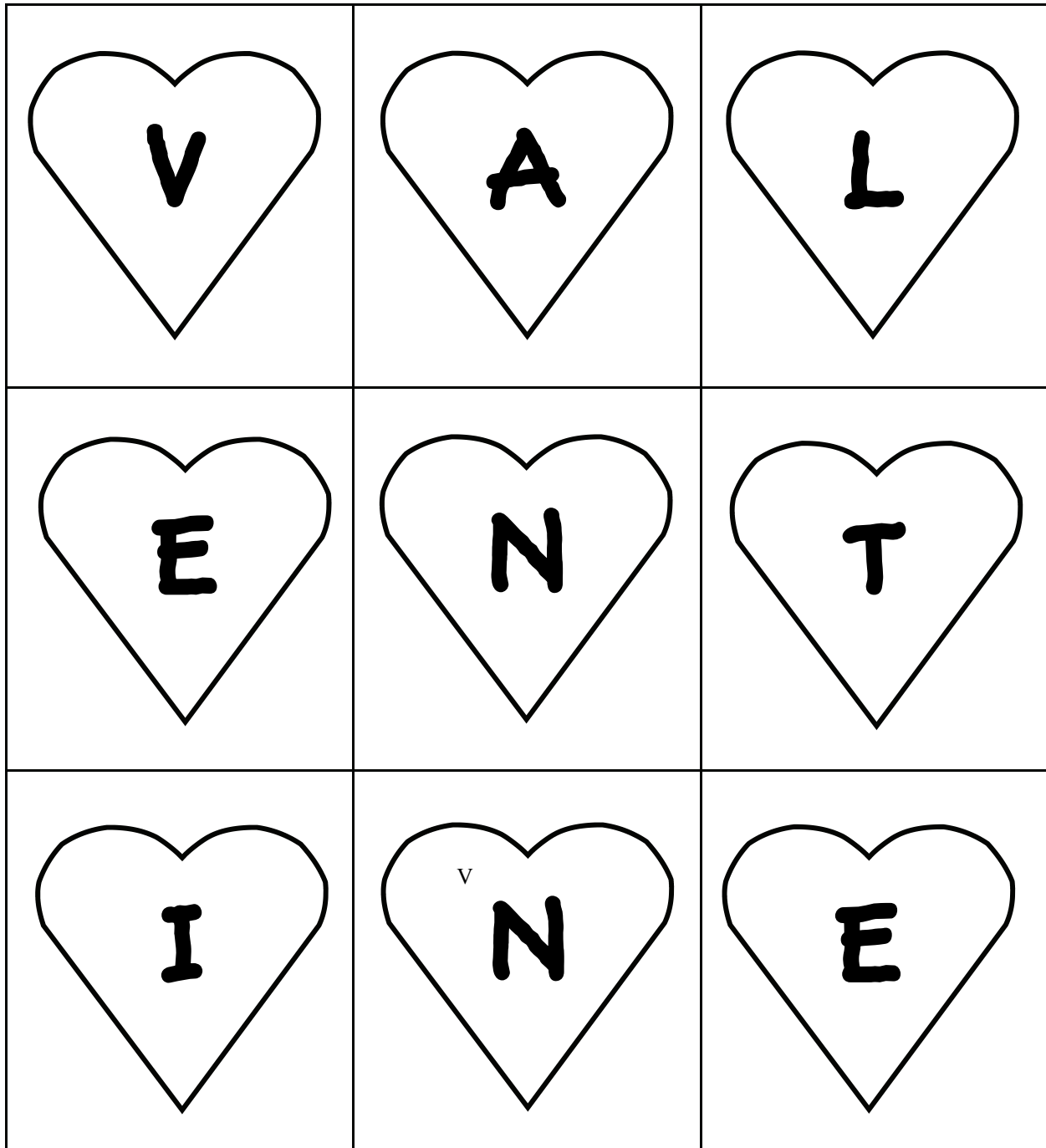
Valentine Probability Investigation-Color

DIRECTIONS:
- **Cut apart the squares containing the letters of Valentine .**
- **Place the letters in a bag and shake the bag to mix up the letters.**
- **Draw one letter at a time and record the results.**
- **Continuing drawing letters until you have all of letters needed to spell Valentine . Record the TOTAL number of draws needed and add to class results.**

V	A	L
E	N	T
I	N	E