Element Duel: Can a Balanced Pattern Still Be Predicted?

Name: _____ Date: _____

Water beats Fire, Fire beats Nature, Nature beats Water. Predict the opponent, THEN choose your counter, THEN reveal both moves. A right prediction and a win are two different records.

One example, already done

Predict Fire -> play Water. Past moves F,W,N,F,W,N,F contain three Fire moves, so frequency predicts Fire. But both observed moves AFTER Fire are Water.

Seven observation moves (not scored rounds): F W N F W N F

Move	All-history count	Times seen AFTER Fire
Fire (F)		
Water (W)		
Nature (N)		

Your turn

1. Fill both count columns. The final Fire has NO observed successor yet; do not invent one. For ties choose Fire, then Water, then Nature.

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2. Frequency uses all counts. Conditional counting uses what followed the LAST move. Predict move 8 with each method, then write the counter on page 2 BEFORE revealing.

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Reveal move 8 only after filling the first two blank columns

Predictor	Prediction	My counter	Actual move 8	Win/draw/loss
Frequency				
Conditional				

Frequency correct? Yes / No. Conditional correct? Yes / No. Does a balanced cycle become unpredictable? What information do counts alone leave out?

Change one thing

Load the same seven moves before each test. Then try a seeded random opponent for a pre-chosen 20 rounds. Record prediction hits ___/20 and wins ___/20 separately. Is a short winning streak a guarantee?

My puzzle - make it in class

Build your own 12-card sequence with four F, four W and four N. Keep a rule and answer copy. Can your partner predict a pattern despite the balanced counts?

At home (with a parent)

Build a balanced but ordered card sequence and ask a parent to predict the next move from its first half.

My parent tried my puzzle: Yes / Not yet Parent initials: _____