Cause or Coincidence?

Ages 8-14 + teachers · 2-8 players or class teams · about 20 minutes · no screens

OBJECTIVE

Twelve Cases, each a pair of things whose charts move together. Is A making B happen, is it backwards, is a hidden third thing behind both, or is it luck? On 3-2-1, show 1, 2, 3 or 4 fingers. The Reveal card says who was right. +2 for the right pile, and a Sure coin can double it. Highest score wins.

MATERIALS

24 cards: 12 Case cards and 12 Reveal cards. 2 pages of Case Charts for the table, a Case Mat and 2 coins per player or team.

SETUP

1. Each player or team takes a Case Mat and 2 Sure coins (any coins or tokens). Lay both Case Charts pages in the middle of the table.
2. Match each Case card (C-) with the Reveal card (R-) that has the same number. Put the Case card face-down on top of its Reveal card. That makes 12 stacks. Shuffle the stacks.
3. Whoever sets up should not read the Reveal cards. The youngest player is the first Reader. The Reader plays too.

EACH CASE

1. The Reader slides the Case card off the top stack and reads its title and story aloud. All players find that chart.
2. Study the two lines and ask the Four Questions on your mat. Decide in secret.
3. Want to use a Sure coin? Put it on your mat now. Then count 3-2-1 and all players show 1, 2, 3 or 4 fingers.
4. The Reader turns over the Reveal card and reads all of it, including the line at the bottom. Check your fingers against it.
5. Put the Case card face-up in the pile for its truth. There are four piles on the table. Pass the Reader role to the left.

SCORING

1. +2 for the right pile.
2. Sure coin: +4 if you were right, -1 if you were wrong. The coin is spent either way, and you only have 2.
3. Perfect score is 28: every Case right, both Sure coins on right calls.
4. Ties: more right calls on HIDDEN THIRD Cases, then the younger player.

TIPS

1. Every chart moves together in 8 to 10 of 11 steps, so "they move together" tells you nothing. Ask who moved FIRST.
2. If B repeats A's moves a step later, A might cause B. If A repeats B, it runs backwards. If neither leads, look for a hidden third thing or call luck.
3. HIDDEN THIRD is the biggest pile (5 of 12 Cases). Calling it every time scores only 10. You need the other piles to get near 28.
4. Spend a Sure coin when you can name the hidden thing, or point at who moved first.

WHAT THE CARDS TEACH

1. Correlation - two things whose charts move together. The link can be real, backwards, shared, or luck.
2. Cause - one thing makes the other happen, and it moves first.
3. Hidden third thing - something behind both that nobody put on the chart. Scientists call it a confounder.
4. Luck - short charts line up by chance all the time. Twelve points is not much evidence.
5. AI link - a bot learns patterns from its data. If the data hides the real cause, the bot learns the shortcut, and fails when the world changes.

VARIANTS

1. Younger players - take out the Backwards Cases (C-05, C-09) and play 10. Perfect is 20 without Sure coins.
2. Solo - flip all 12 Cases yourself, write your finger count on paper, then reveal. 9 or more right is a Statistician.
3. Teams - a team gets 15 seconds to huddle, then shows one number.
4. Classroom - project the Charts. After each Reveal one student finishes: "The hidden thing could be ___ because ___."
5. Fix it - for any HIDDEN THIRD Case, say what you would measure to prove it, like comparing only the hot months.
6. Make your own - pick two things from your life, draw both lines, and ask the table to sort it.

PRINT TONIGHT

Instruction sheet, Case Mat and Case Charts on plain paper, one side, Actual Size / 100%. Cards: Avery 5388 at Actual Size / 100% (never Fit to page). Tear on the perforation.

12 Case + 12 Reveal cards = 8 Avery 5388 sheets. Case Mat: 1 page. Case Charts: 2 pages, plain paper.