

Tricky Tens

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Level: All Grades

Concepts: Problem Solving, Number Sense, Strategy

Background Information

Players: 1+ (works best with 1-2)

Time: 5-10 minutes per round

Materials: standard deck of cards, 10s/Js/Qs/Ks & Jokers removed

Required background knowledge:

adding to ten OR ability to count to 10 and use counting on strategy

Suggested Teacher/Parent Use

1. **Explore:** Warm up activity

2. **Play:** Game rules

(Play the original game before trying alternate versions.)

3. **Think:** Discussion questions

*After learning the game, children can play on their own. If this is the case, the teacher/parent can skip steps one and three at their discretion.

1. Explore

How many combinations of two cards make 10?

What are the different combinations?

(If appropriate, repeat with combinations of three and four cards.)

2. Play

Original Rules and Set-Up: Lay out 20 cards face-up in a rectangle. Remove cards in sets of 2 or 3 or 4 whose numbers add up to 10. Aces count as 1. The goal is to remove all of the cards.

Example turns: 8 and 2 can be removed together.

6 and 3 and A(1) can be removed together.

*Note 1: The combinations used and the order that the cards are removed does make a difference. A set of cards may not be able to be removed with one strategy, but may be possible to remove with a different strategy.

*Note 2: Children who are not fluent with addition can use a counting strategy. If players use a standard deck of cards, children can count the number of symbols on one card, and count-up on another card to find 10. Alternatively, this strategy could be used during the warm-up activity, where pairs can be identified and then written down for reference.

Alternate Rules:

- A) Create a draw pile from the remaining cards. Replace removed cards with cards from the draw pile. The game ends when you are out of cards.
- B) Use any operations (+, -, x, /, !) to make 10. (Consider playing to a number other than 10.)
- C) Create your own alternate rules.

3. Think

Discussion Questions:

- What strategy did you use when deciding which cards to remove? Do different strategies produce different outcomes?
- What can you learn from this game?
- Is it always possible to clear the cards? What makes a set of cards impossible to clear?
- Will starting with more cards make the game easier or harder? What about starting with fewer cards? Why?
- What happens when you start with an odd number of cards?
- If you're playing with all operations, which goal numbers make the cards easy to clear? Which goal numbers make the cards hard to clear?
- How can you change the rules to make it easier? How can you change the rules to make it harder?
- Inspired by: Maths card game - Total of 10
- <https://www.youtube.com/watch?v=SD028NO-ZGc&t>

