



Work Place Instructions 4D Hexagon Spin & Fill

Each pair of players needs:

- 2 Hexagon Spin & Fill Record Sheets (1 per player)
- 1 spinner overlay
- container of pattern blocks

- 1 Players write their names and the date on their record sheets. Both partners fill out a record sheet.
- 2 Player 1 spins the spinner and takes the pattern block(s) to represent the fraction spun. She places the block or blocks on the first hexagon on the record sheet.
- 3 If she can, Player 1 trades pieces so she always has the fewest pattern blocks possible.

Player 1 I landed on $\frac{4}{6}$, so I'll put down 4 triangles. Oh, but 3 triangles cover half of the hexagon, so I'll trade them in for a trapezoid, because that's the same as half a hexagon.

The diagram illustrates the trade-up process. On the left, a spinner is shown with a needle pointing to $\frac{4}{6}$. Below it are three hexagons; the first is filled with four small triangles. An arrow labeled "trade up" points to the right, where the same spinner is shown, but the first hexagon is now filled with a trapezoid, representing the same fraction with fewer blocks.

- 4 Players alternate turns, repeating steps 2 and 3.
- 5 Players continue playing until they fill up all three hexagons on their entire record sheet. They should always try to trade to have the fewest pattern blocks. Players should also fill the first hexagon before moving to the second hexagon and then fill the second hexagon before moving to the third hexagon.
- 6 The player who fills the entire sheet first wins.
Players can have a "leftover piece" at the end of the game. For example, if they need to fill in $\frac{1}{6}$ of the last hexagon, but they spin $\frac{1}{2}$, they can use a $\frac{1}{6}$ green triangle to fill the last hexagon and have a $\frac{1}{3}$ blue rhombus left over.

Game Variations

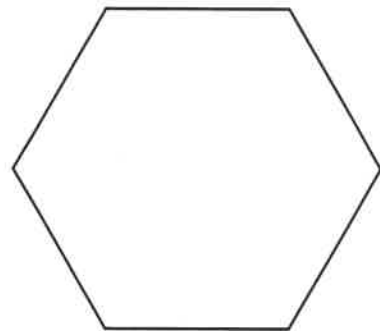
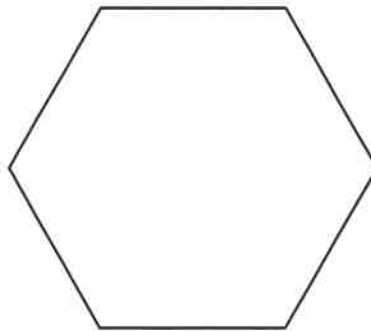
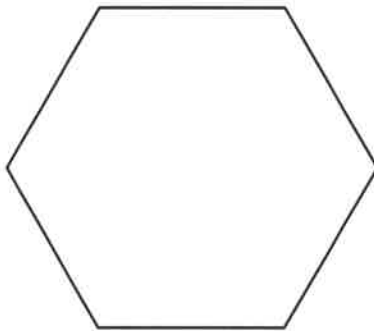
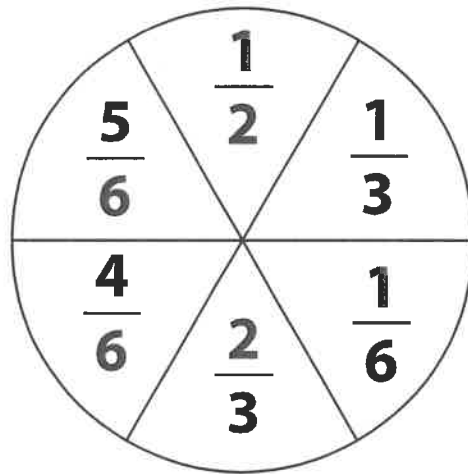
- A Players can write equations that represent the fractional amounts that made up each cookie before they traded up.
- B Players can also spin twice. They add the two amounts and take that amount in pattern blocks. They place them on the record sheet, making sure to trade up so that they always have the fewest pieces.
- C The game is played according to the usual rules, except at the end, players have to fill the three hexagons exactly. If they spin a piece that is too large, they miss that turn and keep spinning until they spin the piece or pieces that exactly fill the last hexagon.

NAME _____

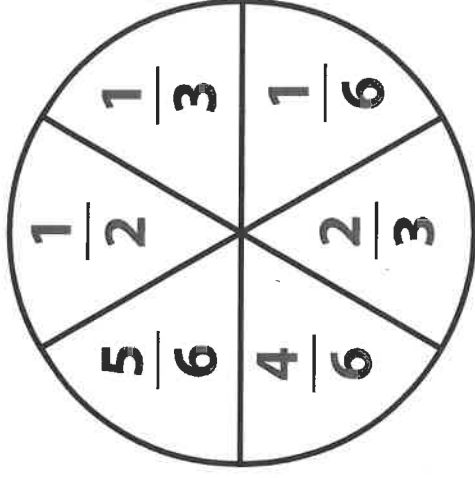
DATE _____



4D Hexagon Spin & Fill Record Sheet



I spun the fraction _____.
number



I will put down _____
number fraction name
on the first hexagon.

I will use _____ instead of _____
number fraction name number

_____ to show the fewest blocks.
fraction name

