

Concentration game with logarithms.

Rules of the game: Students should be in groups of 2–4 players. The deck is shuffled and all cards are laid out on the table face down. The first player turns over two cards. If they are a matching pair of logarithmic and exponential forms, the player keeps the pair. If the cards do not match, the player turns them back over and leaves them on the table. If the first player makes a match, s/he may take another turn. When no match is made, it is the next players turn. Students should be observing and checking each others' pairs to ensure that correct matches are made. They can coach each other in the process.

Alternative play: All cards can begin face up and students alternate picking up a matching pair. Coaching can occur between students. If the game begins with all cards face-down, students could leave the cards that have been viewed face-up for easier matching.

Values for Cards:

$\text{Log}_{27} 1 = x$	$27^x = 1$	$\log_3 \frac{1}{3} = x$	$3^x = \frac{1}{3}$	$\log_e 15 = x$
$\log_5 125 = x$	$5^x = 125$	$\log_5 \frac{1}{125} = x$	$5^x = \frac{1}{125}$	$e^x = 15$
$\log_{10} 1000 = x$	$10^x = 1000$	$\log_3 27 = x$	$3^x = 27$	$\log_{\frac{1}{2}} 8 = x$
$\log_{10} \frac{1}{100} = x$	$10^x = \frac{1}{100}$	$\log_4 2 = x$	$4^x = 2$	$\left(\frac{1}{2}\right)^x = 8$
$\log_{27} \frac{1}{3} = x$	$27^x = \frac{1}{3}$	$\log_4 64 = x$	$4^x = 64$	$\log_{16} 2 = x$
$\log_{\frac{1}{3}} 27 = x$	$\frac{1}{3}^x = 27$	$\log_2 \frac{1}{16} = x$	$2^x = \frac{1}{16}$	$16^x = 2$