

BIG SQUARE PUZZLE

(aka “Tarsia” Puzzle)



Big Square Puzzles are located in the Reproducible sections for some *MathLinks* Student Packets and also in some Packet Resource sections (Essential Skills and Nonroutine Problems). Three examples are given in this file to help students get used to the routine (two non-mathematical). A template follows for making up puzzles of your own.

Why: Big Square Puzzles engage students as they practice skills. Students can talk about strategies and solutions in a safe environment while solving the puzzle.

Prepare ahead:

- Reproduce a Big Square Puzzle – cut up one puzzle per pair or small group.
- Or ask students who arrive early to class or finish work early to cut up puzzle pieces and paperclip them together so they will be ready for use. The intact Reproducible page acts as an answer key.

Launch the activity: Use the Big Square Puzzles to establish routines and practice skills from prior grades. To solve a puzzle, ask students to divide up all pieces among their groups. Of the given examples, the first matches pairs of famous cartoon characters from the same movie/show/comic. For the next two, states and their capitals are matched. For the final two, students look for equivalent numerical expressions to match. In many puzzles, students will find that there may be more than one match, but there is only one way to complete each of these puzzles. While students are solving the puzzle, circulate and give each group a glue stick or a strip of tape to use to tape pieces together upon completion.

Note that a few packets have these puzzles in triangle form (Big Triangle Puzzles), but the activities work the same.

Accountability/Follow-up Ideas:

- Ask students to show a completed puzzle as an “exit slip.”
- Ask them to tape a completed puzzle together. Use puzzles as room displays.
- Give extra credit to groups that complete a puzzle correctly.
- Ask students to create their own puzzles for others to assemble using a paper template or online software. One possibility is: https://download.cnet.com/Formulator-Tarsia/3000-2051_4-10584458.html

BIG SQUARE PUZZLE: STATES AND CAPITALS 1

Olympia	California	Sacramento	Florida	Tallahassee	Illinois	Springfield
Washington	Delaware	Dover	Wyoming	Alaska	Colorado	Denver
Pierre	Alaska	Juneau	Alaska	Des Moines	Georgia	Atlanta
South Dakota	Trenton	New Jersey	Helena	Montana	Mississippi	Jefferson City
Salem	Connecticut	Hartford	Helena	Honolulu	Jackson	Michigan
Oregon	Columbus	Ohio	Santa Fe	New Mexico	Lincoln	Nebraska
						Lansing

BIG SQUARE PUZZLE: STATES AND CAPITALS 2

Oregon Austin	Alabama Montgomery Utah	Oklahoma City Phoenix Arizona Baton Rouge Louisiana Little Rock Arkansas Madison Wisconsin Maryland	Providence Louisville Indiana Indianapolis Kentucky Frankfort Las Vegas Massachusetts Boston Baltimore Birmingham
Texas Portland Raleigh	New Hampshire Concord Virginia Richmond West Virginia Charleston Annapolis California Sacramento	North Dakota Bismarck South Carolina Columbia Tennessee Nashville Vermont Montpelier New Jersey Trenton New York Albany New York City New York	Rhode Island Kentucky Frankfort Las Vegas Massachusetts Boston Baltimore Birmingham

BIG SQUARE PUZZLE: FRACTIONS AND DECIMAL

0.900 0.125	$1\frac{1}{8}$ 0.5 $8\frac{1}{9}$	0.75 0.875 0.50	$1\frac{1}{2}$ $\frac{3}{25}$
$\frac{10}{9}$ 0.75 $5\frac{5}{8}$	$\frac{24}{12}$ $3\frac{1}{4}$ 0.2 $\frac{10}{9}$	9.0 $8\frac{1}{7}$ $4\frac{1}{5}$ $1\frac{1}{2}$	0.12 8.0 90.0
0.625 0.20 0.75	$5\frac{1}{4}$ $1\frac{1}{5}$ 0.8 $\frac{150}{1000}$	0.5 $4\frac{1}{5}$ 0.14 $4\frac{1}{5}$	$\frac{100}{6}$ $7\frac{7}{50}$ 1
$4\frac{1}{3}$ 0.4	0.15 $2\frac{1}{5}$ 0.375	0.8 $3\frac{1}{8}$ 0.10	$4\frac{1}{4}$ $1\frac{1}{10}$

BIG SQUARE PUZZLE: _____

