

BIG SQUARE PUZZLE

(aka “Tarsia” Puzzle)

Big Square Puzzles are located in the Reproducible sections for some *MathLinks* Student Packets and also in some Unit Resource sections (Essential Skills and Nonroutine Problems). Four examples are given in this file to help students get used to the routine (three 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).
- Paperclip pieces together so they will be ready for use.
- Have glue sticks or tape ready for students upon completion. The intact Reproducible page acts as an answer key.

Launch the activity: Use the Big Square Puzzles as a starting activity to establish routines.

- 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 example, students look for equivalent numerical expressions to match. In some 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.

BIG SQUARE PUZZLE: CARTOON CHARACTERS

Fred Flinstone	Barney Rubble	Bugs Bunny	Daffy Duck
Butt – Head	Larry the Cucumber	Wile E. Coyote	Homer
Beavis	Rocky	Roadrunner	Bart
Candy Cat	Bullwinkle	Ferb	Mickey Mouse
Peppa Pig	Shaggy	Tigger	Raphael
Tommy Pickles	Scooby Doo	Winnie the Pooh	Leonardo
Twenty	Shaggy	Jerry Mouse	Kenny
Peppa Pig	Shaggy	Tom Cat	Cartman
Batman	Ariel	Woody	Snoopy
Sylvester	Ariel	Woody	Snoopy
Ursula	Ariel	Woody	Snoopy
Sylvester	Ariel	Woody	Snoopy
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BIG SQUARE PUZZLE: STATES AND CAPITALS 1

Olympia	California Sacramento	Florida Tallahassee	Illinois Springfield
Washington Pierre	Delaware Dover	Maine Augusta	Georgia Atlanta
South Dakota Salem	Trenton New Jersey	Montana Helena	Mississippi Jefferson City
Oregon Columbus	Ohio Hartford	New Mexico Santa Fe	Nebraska Lincoln

BIG SQUARE PUZZLE: STATES AND CAPITALS 2

Oklahoma	Oregon	Austin	Alabama	Montgomery	Los Angeles	Arizona	Phoenix	Idaho	Boise	Louisville	Providence
Texas	Portland	Raleigh	New Hampshire	Concord	Salt Lake City	North Dakota	Bismarck	South Carolina	Columbia	Rhode Island	Indianapolis
North Carolina	New Orleans	Albany	Harrisburg	Pennsylvania	Richmond	Montpelier	Vermont	Nashville	Tennessee	Las Vegas	Frankfort
New York	New York City	Minneapolis	Sacramento	California	Charleston	Carson City	Nevada	St. Paul	Minnesota	Birmingham	Boston
Maryland	Wisconsin	Madison	West Virginia	Virginia	Little Rock	Louisiana	Arkansas	Kentucky	Massachusetts	Indiana	Baton Rouge
Utah	Oregon	Austin	Alabama	Montgomery	Los Angeles	Arizona	Phoenix	Idaho	Boise	Louisville	Providence

BIG SQUARE PUZZLE: NUMERICAL EXPRESSIONS

243 5^3	20 $\frac{1}{2} + \frac{1}{4}$	$5 + 5^2$ $2 + 4 + 6 + 8 + 10$	$(5 + 5)^2$ $12 - 2(2)$
17 $2^3 + 3^2$	24 $7(4 + 4)$	0 $\frac{(2)(4)(6)}{(6)(8)(10)}$	$7(9)$ $3(7 + 4)$
$10(6) - 6$ 1^{100}	1 $\frac{15}{105}$	16 $25 - 5^2 + 34$	2 $\frac{2}{3}$
54 $9 - 2 + 3$	7 $\frac{12}{3}$	25 $\frac{3-1}{3+3}$	34 3^{1-1}
95 $\frac{64}{4}$	$4 + 3(7)$	100 $9(150 - 143)$	8

BIG SQUARE PUZZLE: _____
