

Solution to Scanning the Grid

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As suggested by the instruction text, the basic starting premise of this puzzle is that of the ubiquitous word search puzzle. Also detailed in the instructions, a total of ten five-letter words can be found in the original grid as shown below:

A	Y	M	L	R	P	S	H	A	S	P
H	O	A	R	D	A	S	T	E	E	O
U	R	E	P	T	Q	E	G	U	A	F
R	A	T	L	O	C	U	A	L	D	T
R	A	P	N	P	S	S	E	A	I	N
Y	E	A	S	T	K	V	T	E	W	I
A	W	G	Y	L	H	P	H	E	N	M
E	T	O	T	C	C	C	E	O	N	I
D	L	R	L	A	T	S	R	K	C	A
J	I	I	T	E	V	U	L	A	E	T
K	Z	T	C	E	B	U	X	O	M	R

Words Present

BELOW
BUXOM
ETHER
GUSTY
HOARD
HURRY
MARCH
QUEEN
YEAST
ZILCH

At this point, no additional words can be found in this manner. Progress is made by following the common word search mechanism of collecting the remaining letters from the grid. Using the indication in the instruction text that “the grid reduces into a smaller square” and the incidental fact that the number of remaining letters, 81, is a perfect square, a new grid can be assembled by taking these leftovers and building a square, from left to right and top to bottom as is customary for word search puzzles. The original word search process can then be continued on the newly-formed nine-by-nine grid, producing an additional eight five-letter words as shown below:

A	Y	M	L	R	P	S	H	A
S	P	A	S	T	E	E	O	R
E	P	T	E	U	A	F	A	T
L	O	C	A	L	D	T	A	P
N	P	S	A	I	N	K	V	W
I	A	G	L	P	E	M	E	T
T	C	O	N	I	D	L	R	A
T	S	K	C	A	J	I	T	V
U	L	E	T	K	T	C	E	R

Words Present

AVERT
 JACKS
 LOCAL
 POPPY
 PASTE
 TULIP
 SOLID
 WAFER

When no more words can be found, the number of remaining letters — 49, once again a perfect square — hints that the same reduction process as last time can be used. Collecting the leftover letters and building a new seven-by-seven grid allows this recursive puzzle to continue. Seven five-letter words can be found as shown below:

A	M	L	P	S	H	A
S	E	O	R	E	T	E
A	A	T	T	P	N	S
A	N	K	I	A	G	E
M	T	T	C	N	I	D
L	A	T	I	V	U	L
E	T	K	T	C	E	R

Words Present

ANTIC NAPES
 ENACT UNITE
 KINGS VITAL
 MEANT

This time, the number of remaining letters is no longer a perfect square. Collecting the leftover letters as before, however, produces the following:

ALPHASORTTAKEMIDLETTER

With spaces added for clarity, this becomes ALPHA SORT TAKE MID LETTER.

These form new instructions for how to continue, indicating generally that sorting should be alphabetical and that the middle letter is used. The only things that make sense for lexicographical ordering are words, of which a total of 25 have been found; similarly, taking the middle letters makes sense being applied to this data set as well.

Collecting all of the words found so far and listing them in alphabetical order produce the following, with middle letters highlighted:

ANTIC	ETHER	KINGS	PASTE	UNITE
AVERT	GUSTY	LOCAL	POPPY	VITAL
BELOW	HOARD	MARCH	QUEEN	WAFER
BUXOM	HURRY	MEANT	SOLID	YEAST
ENACT	JACKS	NAPES	TULIP	ZILCH

While the highlighted letters do not produce a message, there is clearly a five-letter word in the middle of it, and number of total found words being used here (and consequently letters) — a perfect square once again — as well as the previous reduction steps suggest what to do next: arrange these letters into a five-by-five grid. The resulting word search contains three five-letter words as shown below:

T	E	L	X	A
H	S	A	R	C
N	C	R	A	P
S	P	E	L	L
I	T	F	A	L

Words Present

CRASH SPELL
 FERAL

In what should be now an exhaustively expressed pattern, the remaining letters can be collected once more. This time, they do produce a message:

TEXANCAPITAL

With spaces added for clarity, this becomes TEXAN CAPITAL.

The state of Texas, in the United States of America, has as its capital the city of Austin. Therefore, the final answer to this puzzle is **AUSTIN**.