

# The Arcade (Secret Solution)

Chris Yu, Eshan Mitra, Jay Qi, and Zach Zagorski

There are three main indications that this puzzle could hide a secret: the grid is huge/mostly unused, the racket sport terms are odd, and I FEEL LOVE doesn't make sense with flavortext. In that case, how could one interpret and follow I FEEL LOVE as an instruction? Braille!

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

The path only intersects each braille letter exactly once, suggesting that we should be reading in path order to get the cluephrase **SHIFT TWENTY ONE**. Shifting the grid by twenty-one results in a new grid with NAMCO at the top right. What are the penguins playing now?

Additional perusing of the grid with traditional word search rules can yield a few short words, like KEY, DOT, or BELL, but also particularly suspicious words like APPLE and CHERRY. Along with NAMCO, this is suggesting that the new game is Pacman, and there's a Pacman map with Pacman items in this grid. It is helpful to google what Pacman items are available to find, or to look at Pacman maps to see if any fit the words found so far. This is the fully marked grid:

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

Like the base path, there are gaps in the Pacman map that are letters we should extract. In grid order (since Pacman does not traverse a linear path like in Pong), the intermediate cluephrase reads: **HUNTS PRODUCT LARGER THAN CRUSHED SMALLEST THAN WHOLE FIVE SIX**, which gives the answer **DICED TOMATO**.

## Construction notes

This all started with a half-joke during theme brainstorming that I FEEL LOVE could be an obtuse reference to how many puzzles clue braille in flavortext with the term FEEL. We were also looking for opportunities to hide secret answers at this point, so this became a natural candidate.

Then we had a list of secret answers we could try to pair to the puzzle, and someone quickly pitched the game changer mechanic, where we could change the Pong grid to some other classic game after directing the solver to shift everything via the braille directions. Then, it followed that if we chose Pacman, a game about a very hungry character eating dots and fruits, the answer DICED TOMATO could be thematic. After all, tomatoes are fruits!

Overall, The Arcade was an incredibly difficult construction that was also not straightforward to write auxiliary code to brute force the grid creation process. The initial version had fruit varieties (cultivars) after shifting instead of the literal Pacman fruit names and other items, and that version needed obvious re-design after being called “fruit hell” by an early tester.

There were additional constraints the constructor placed as a kindness to solvers, such as the Pong path only having one stretch of weird trajectory, the extracted letters all appearing in pairs to make it more obvious they were real and important, the Pong path words all reading in path direction, and the Pacman word bank limited to canonical base game items.