

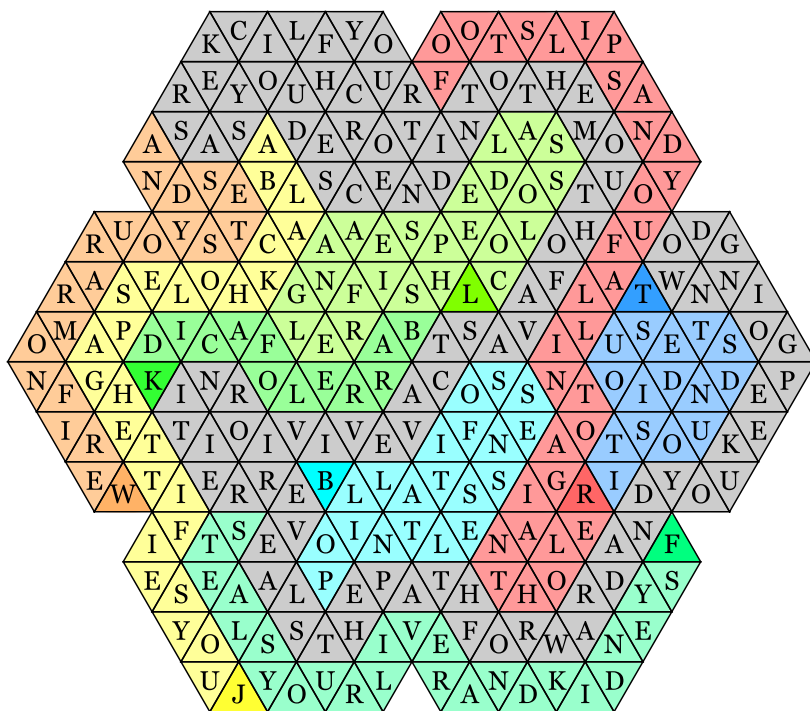
TEXT ADVENTURE – SOLUTION

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WRITTEN BY: ZACH BARNETT, ALEX WALKER, AND SARA WALKER

The main body of this puzzle consists of four grids, which represent the “labyrinthine” levels of the cavern described in the introductory text. The first, labeled THE WIZARD (LEVEL 3), uses triangular cells, while later levels tessellate using four-, five-, and six-sided polygons. In each grid, a single cell on the exterior is highlighted.

Use of the word “labyrinthine” suggests that we treat each level as a maze, complete with twisted turns and dead ends. The highlighted Y on level 3 is a natural place to start, and we quickly realize that we can navigate the grid while spelling out branching phrases. The solution to the level 3 grid is given by the gray path below, while the eight colorful branches represent dead ends:¹



Your
*foot slips and you fall into a
giant hole.*

torch flickers
and sets your arm on fire.

as
a black hole spaghetti-fies you.

**you descend into the
mouth of a**
colossal deep-sea anglerfish.

vast
barrel of acid.

cave. Vivi Ornitier
steals your liver and kidneys.

reveals the
pointlessness of it all.

path forward and
it sounds tedious.

you keep going down.

The main path through level 3 mentions Vivi Ornitier, a black mage (\approx WIZARD) from Final Fantasy 9. We also remark that the union of our main solution path and the 8 dead ends include all but 8 cells in the grid – one unused cell appears at each dead end. Read in order of appearance, these are R, W, J, L, K, F, B, and T.

Levels 4, 5, and 6 follow the same rules and can be solved similarly. The solutions to these levels are given on the following two pages.

¹For flavor reasons, these dead ends typically represent deaths of the player character. This rule is relaxed a bit in the deeper levels.

← THE BARD (LEVEL 4) →

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

You

die of dysentery.

hear

an alarm and wake up all sweaty.

the ominous

rumble of a cave-in.

sounds of

'Never Gonna Give You Up.'

George Gershwin.

and fall into a cursed sleep.

The music

swells as his piano falls on top of you.

unlocks a

cage of rabid bears.

secret

recipe for disaster.

passage and

water fills the cave.

you

are eaten by a grue.

run out of

quarters.

earshot.

← THE FIGHTER (LEVEL 5) →

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

You

open the Arc of the Covenant and it melts your face off.

wander for days and

die of old age.

become

a pumpkin.

concerned that this

has all been a Tide ad.

floor

is made of lava.

has no key. From nowhere, Shane

Nelson roars 'I AM THE

walrus goo goo gjoob.'

KEY' and kicks

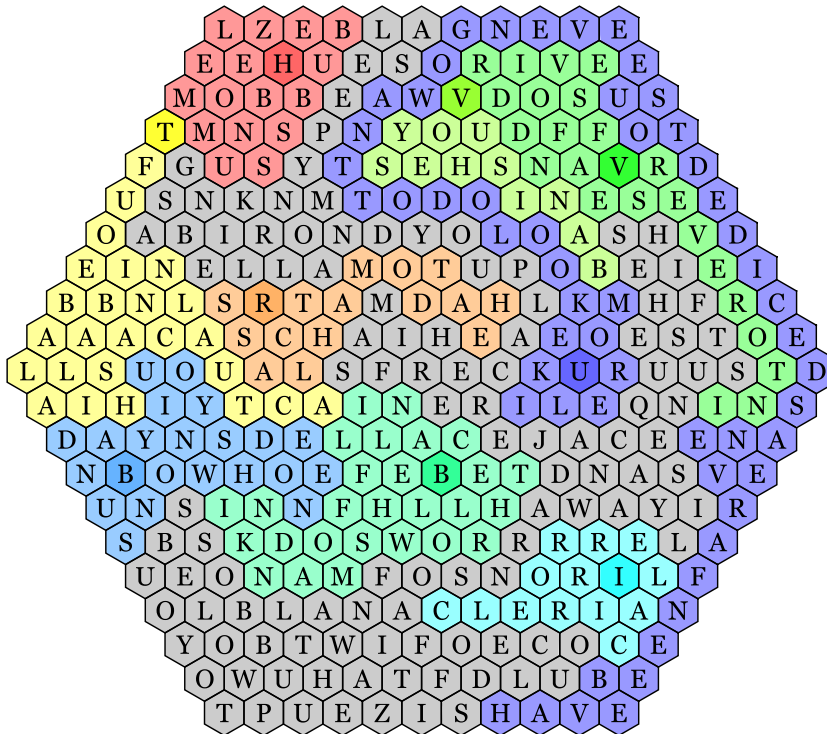
your shins.

down the door to

Narnia.

the next level.

← THE CLERIC (LEVEL 6) →



A sleepy monk
summons Beelzebub.

rings a bell and you
head to math class.

place him as
actual cannibal Shia Labeouf.

Frere Jacques. He
banishes you.

shifts
into reverse and drives off.

uneasily and
throws Mankind off Hell in a Cell.

warns of a
clerical error.

final boss
who needs you in on Sunday.

below. But what foe could
*have been far even as decided to use
even go want to do look more like?*

size up to you?

The four levels are mechanically linked by the presence of a steward and the appearance of exactly one unused letter at each dead end. Since the letters are garbage, we focus on the stewards and note that each contains a string of letters of the form **XYXY**: **VIVI** Ornitier, **GeorGE GER**shwin, **ShaNE NEL**son, and **FRERE** Jacques. The doubled letters spell **VIGENERE** and suggest that the dead end letters are encrypted using a Vigenère cipher.

Shane Nelson’s announcement ‘I AM THE KEY’ suggests the Vigenère key **SHANENELSON**, which decrypts the dead end letters on level 5 into **NACRE ORB**, a clue for **PEARL**. More generally, the steward on each level acts as that level’s Vigenère key. The critical information in this step is given in the table below:

Level	Steward	Dead End Letters	Dead End Plaintext	Answer
3	Vivi Ornitier	RWJLKFBT	WOOD WOOL	EXCELSIOR
4	George Gershwin	ZLSWGZWWYGD	THE FAST SHOW	BRILLIANT
5	Shane Nelson	FHCEIBVM	NACRE ORB	PEARL
6	Frere Jacques	HRTVVBIBU	CAPER SIZE	NONPAREIL

The answers **EXCELSIOR**, **BRILLIANT**, **PEARL**, and **NONPAREIL** are the traditional (American) typographic point-size names for 3-, 4-, 5-, and 6-point font, respectively. The text of level 6 ‘warns of a final boss below’ (i.e. on level 7) and asks ‘what foe could size up to you?’ The final boss (and final puzzle answer) is the traditional name for 7-point font, which is **MINION**.

CONSTRUCTION NOTES

Our interest in a typography puzzle began with the observation that **MINION** is both a font and a font size. The idea of a text-themed or text-*secret-themed* text adventure appealed to us, though our early ideas took the phrase ‘text adventure’ more traditionally. One attempt was inspired by the strange coincidence that many traditional point-sizes could be treated as adjectives and paired with nouns to form types of foods: **American** cheese (1 pt), **German** sausage (1.5 pt), **Pearl**

onion (5 pt), **Ruby** red grapefruit (5.5 pt), **Nonpareil** candies (6 pt), **Emerald** Nuts (6.5 pt), **English** muffin (14 pt),...

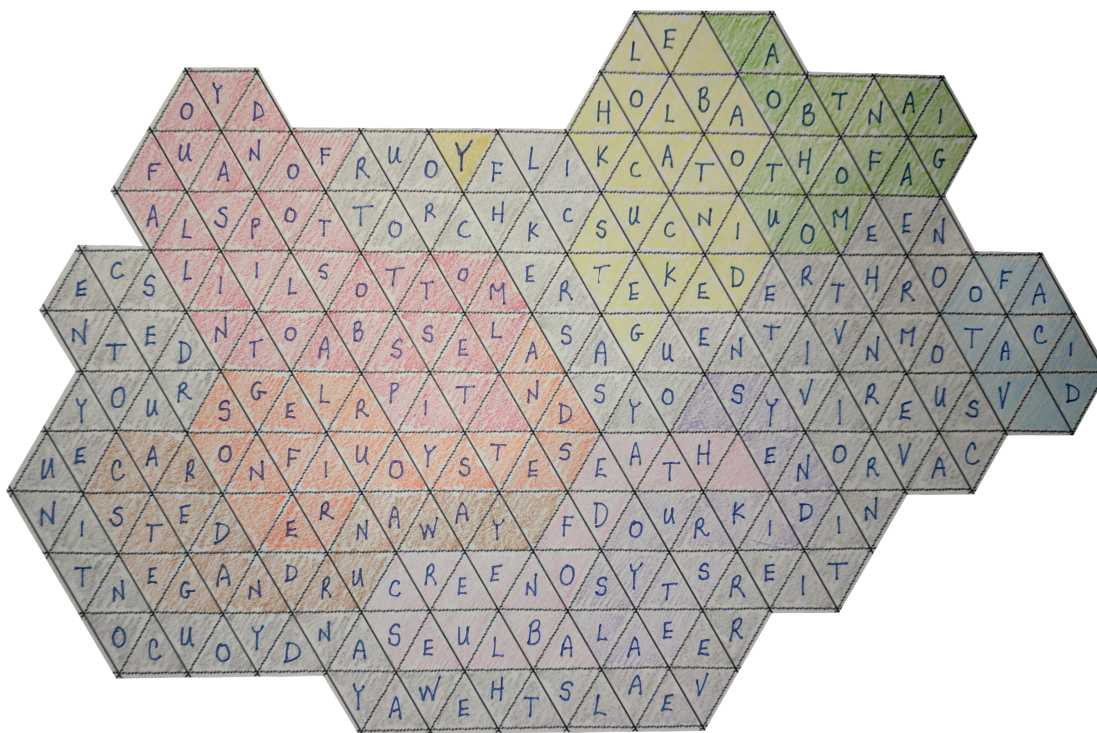
The current version of this puzzle was inspired by a puzzle in P&A Magazine in which solvers rescue Hansel and Gretel from the witch by following a trail of candy bars which meander through a square grid. We reskinned the idea to fit the text adventure theme and added the dead end paths to add complexity, to support the flavor, and to enable extraction.

The use of triangles, squares, Cairo tiles (those funky irregular pentagons), and hexagons on each level came later and conveniently solved two issues we'd been facing in construction:

- it created a natural progression of difficulty that felt coherent and elegant
- it gave us an excuse to start the dungeon at level 3 and not level 1, thus reducing the total number of planned levels from six to four²

The reduction from six to four levels also led to the repeated bigrams minipuzzle involving the names of the stewards, which we felt added variety and an extra mini a-ha.

Construction of the grids themselves was straightforward, with the exception of the level 3 grid. There, the low branching complexity of triangle-based paths made it nearly impossible to construct squiggly interiors which combined to form a symmetric whole. The blob shown below is a fair representative of these early attempts:



The final 'snowflake' design for level 3 was engineered to work well with the triangle paths and the lengths of the dead ends were specifically chosen to accommodate the quest for symmetry.

In comparison, the grids for lower levels were trivial to fill. It's worth mentioning, though, that similar designs for seven-sided polygons (heptagons) are not possible, as they correspond to graphs with minimal degree 7 and are therefore non-planar.

²Although the 'number of sides = level number' wasn't noticed by all of our test-solvers.