

# Sample Puzzles for a Game Themed Around Botany

Puzzles are key for the player experience in adventure/exploration games, as they are one of the aspects that has key influence in the overall pacing. Puzzles are really context-sensitive and are greatly influenced by input type, narrative, visuals, art direction, etc. so I'll try to be as system agnostic as possible. That is a good thing about puzzles, their concept/core can potentially be adjusted to fit any situation and difficulty.

Two things would have an important say on the kind of puzzles that would be implemented on any given game:

- Weight of narrative aspect: if exploration, narrative and aww-inducing emotions are the main intended experience, puzzles mustn't get in the way, thus they should err on the easy side of things. Otherwise it is acceptable to maybe have players get a bit stuck here and there sometimes. As, once created, puzzles can potentially be adjusted to any difficulty with hints, clues, starting states and/or varying complexity, this doesn't affect their design in principle.
- Existence of an inventory system: inventories allow for classic explore-pick-and-use type of puzzles that are basically present in almost any adventure game. Otherwise only "mind-breaker" puzzle types could be used. For example, needing to solve a Minesweeper-like puzzle to open a door (as seen in Subject 13). I'll try to give a couple of examples of each.

## **Puzzle 1**

*Unlock-the-door type of puzzle following a Mastermind-like pattern. From the board game Mastermind.*

Something archetypical that could be reused throughout the game and have narrative tie-ins. For example, if there are greenhouses, they could be all locked with a puzzle like this and the complexity could vary depending on the importance of what is inside.

Unlike Mastermind, this puzzle will have only 3 lights from a total of 5 colors to choose from and 6 possible attempts in its easiest iteration. To foster careful consideration, a system could be put in place where the color-scheme to guess randomizes itself after 12 failed guesses (two full attempts).

## **Puzzle 2**

*Create a compound following a mathematical formula.*

As there could be puzzles about growing plants, it would be smart to have the protagonist find out a special recipe for a super fast fertilizer that allows for rapid growing that would cover the need of not having real growing times (that is, taking forever and boring the player :P). This puzzle is kind of a throwback to the V-Jolt puzzle in Resident Evil 1, albeit a bit easier I think.

Let's have the following ingredients:

- urea
- monoammonium phosphate
- diammonium phosphate
- potassium chloride
- + some secret ingredient that could also be tied to the narrative. Perhaps her parents/guardian/mentor-gardener-that-has-been-for-decades-with-the-family discovered this recipe and there are clues in the manor to fabricate it

The compounds are either together in a lab or scattered and must be found. An empty container is needed too. This is the process:

- The protagonist finds a paper with a number written on it. This is the end number to get the right fertilizer.
- Each compound has a label with an operator and a number (e.g. +5, -7, \*2, /3, etc.)
- The player must come to the conclusion that they need to mix the ingredients in a certain order to reach the end number and get the right compound.
- This puzzle has potential to create different fertilizers for different potential puzzle uses
- It also allows for really flexible difficulty design

### **Puzzle 3**

*Open a door by mixing colors.*

I have imagined this puzzle following a similar structure in one of The Room games.

There is a waterfall with a closed, stone door in the garden. In front of it, there is a beautiful fountain and the pool beneath it is divided into 3 segments. Outside of each segment lies (following the circling outline), in a first row 2 primary colors and on top of them, in a second row, the secondary color they create by getting mixed.

- The player must find flowers of those colors and place them in the correct compartments to get the 3 desired secondary colors. The water color changes with each flower placed.
- Once all secondary colors match, the waterfall stops running and the stone door opens.
- An example could be:
  - Orange: mix a red rose and a yellow sunflower
  - Violet: mix a red rose and a blue hyacinth
  - Green: mix a blue hyacinth and a yellow sunflower
- Variations:
  - The three secondary colors flow into a central little pond, mixing to black. The player needs to add a black dahlia to make the color more intense and solve the puzzle.
  - Flowers can't be repeated in different pools, forcing the player to look for different flowers with the required colors. This could tie in into other puzzles. Instead of looking and picking up, the player may be required to grow them in special places. For example, There could be rooms in the manor or greenhouses in the garden that have seasonal themes (spring, summer, fall, winter) and, through clues, the player grows the necessary flowers in the correct season. Even a system of climates could be added, very similar to the botanic garden at the beginning of "The Book of the New Sun".

### **Puzzle 4**

*A scent based puzzle that requires knowledge of aromatic plants.*

The goal of a puzzle like this could fit many uses. Maybe there are scent-based rooms in the manor and a certain door or any given gadget opens/activates exclusively with the scent of a certain plant in the room. Or, how I better imagine it, we need to attract a certain insect/animal for whatever other purpose we need. For example, we want a white-tailed bumblebee for another puzzle, and thus somewhere appropriate (e.g. in an aforementioned spring-themed greenhouse) we plant some oregano. Picking the bumblebee itself could be another puzzle, for example requiring to have some protective gear and/or a net in the inventory.

- Attracting animals for other needs could be used for other situations. For example, we leave some nuts before a big tree with a hole in its trunk to attract a bright red squirrel living inside it. We then release the squirrel somewhere we are growing a certain plant so it keeps bugs and worms in check.

## **Puzzle 5**

*The archetypical bush maze.*

This can be a visual puzzle. We have a bush-maze the protagonist loved to run around as a kid but haven't done so in a very long time. At the beginning there is a drawing with the actual path to follow, yet when trying to cross it the player realizes the way it's blocked. However, in these spots a slightly different texture/mesh could be used that shows the bush there is less dense. The player realizes this (most probably through interactive cues or environmental clues) and needs to remove these blockades. This could be done either with gardening tools the player needs to find (or even maybe assemble), or using a herbicide or concentrated salt water (tie in here with a variation of Puzzle 2). I think 1 block is enough. 2 to 3 could be added in total if different ways of removing the blocks are implemented.

## **Puzzle 6**

*To do with specificities of growing plants.*

This kind of puzzle can show great flexibility and a big range of possibilities, being its only requirement to find some unique aspect of a plant while growing and use that for the puzzle. Here's an example:

- Your pet bunny is lost (or you need to attract a certain animal that likes a certain vegetable a lot). Maybe you need to grow a certain plant for another puzzle as in for Puzzle 3 or 4. The own act of growing the plant can be an added puzzle.
- Through clues, the player knows the bunny loves red peppers.
- So you plant peppers, but only get green ones.
- The player has to know that that green peppers eventually turn red just by being left alone. By in-game clues, although this kind of puzzle rewards real-world botanic knowledge and will engage people with botanic interest. At the same time this puzzle has informative capabilities. People playing this game will know more about plants that they did before playing.
- The player needs to just wait (could be controlled by other events in-game) and also avoid other animals who love green peppers to eat them before they turn red.