Transmutation

# Overview

Transmutation is a competitive or solitaire puzzle game in which players are Alchemists trying to deduce the alchemical recipe of the “Philosopher’s Stone”, the ultimate compound containing the essences of mind body and spirit, that grants eternal life, and can transmute lead into gold.

# Components

* 1x Game sheet per player
* 1x Screen per player
* 1x pencil and rubber (eraser) per player
* 1x Smartphone/laptop/computer/tablet with access to the web-app per player
* 10x dice per player
* 15x white counters per player
* 1x coloured counters per player

# Principles of Alchemy - Overview

* In this game, players will be inputting an alchemical recipe into a webapp, and using the information returned to deduce the recipe of the philosopher’s stone.
* An alchemical recipe contains between 2 and 6 ingredients, consisting of
  + Nitre (b)
  + Aqua Fortis (a)
  + Quicksilver (q)
  + Lead (l)
  + Phosphor (p)

, arranged in any sequence. An example recipe might be Quicksilver-Nitre-Aqua Fortis-Nitre, which would be abbreviated as “qana”.

* Each ingredient may react with the ingredients adjacent to it. For example, qaan has the following possible reactions:
  + q and a
  + a and a
  + a and n
* The same recipe may not be mixed twice by the same player.
* There are four possible ways a pair of ingredients can react – No Reaction, A weak Reaction, A strong Reaction and a Strong Exhaustible Reaction. When you input a recipe into the webapp, you will be told how many Weak, and Strong reactions occur, but you will not be told which specific reactions occurred – you must figure this out from carefully repeated observations and logical deduction.
  + **No Reaction** means they are inert. If they cause no reaction, then it doesn’t matter which way round they go.
  + **A Weak Reaction** means that if they were the other way round, you would get a strong reaction. If a pair of ingredients is identical (e.g. “aa”), then it cannot have a weak reaction because it is the same both ways around.
  + **A Strong Reaction** means you will get one of the following effects:
    - * "Gain 3 Nitre",
      * "Gain 3 Aqua Fortis",
      * "Gain 3 Quicksilver",
      * " Gain 3 Lead Metal",
      * " Gain 3 Phosphoric Salt",
      * "The Mixture has Essence of Mind",
      * "The Mixture has Essence of Body",
      * "The Mixture has Essence of Spirit"

These effects will always be present in any game, and each one will occur only once.

* + **An Exhaustible Strong Reaction** means you get one of the following effects the first time you trigger it, you will get one of the following effects.
    - * "Gain [x] Dice",
      * "Gain [x] Gold",
      * [Ingredient] has [x] horizontal strong reactions.
      * [Ingredient] has [x] vertical strong reactions.
      * The [Body/Mind/Spirit] can be found in the domain of [domain].
      * The domain of [domain] has [x] strong reactions.
      * The [B/M/S] requires [ingredient].
    - These effects may or may not be present in any one game, and they may occur multiple times (Although you will never be given the same information twice for a different reaction).
    - If you trigger an exhaustible reaction again, you will still be informed about it what happened, but will not get the additional resources.
* The Philosopher’s Stone is made when all 3 essences are produced in a single mixture. The goal is to mix a valid recipe for the philosopher’s stone, whilst spending as little gold as possible.

# Setup

1. Give each player a Game sheet, 5 dice, a coloured counter, a pencil and a rubber.
2. Each player should roll their 5 dice, and place them on the corresponding storage spaces in the inventory. If players roll any 6s, they can place these wherever they like. If it is your first game, simply reroll 6s until they are not a 6.
3. Each player should place their coloured counter on the “30” of the gold tracker.
4. Each player should use their smartphone, or (other device) to go to the link above. Put in the following numbers:
   1. As a group, pick a number between 0 and 100,000,000. All players should enter this number as the “Game seed”.
   2. Pick a starting player. They should put in “1” as their player number. Each player should put in their number around the table.
   3. Each player should put in a difficulty level, where 0 is the hardest and 5 is the easiest. It is recommended to use 4 for a first game.
   4. The webapp will give each player some starting information. Players should note this down on their player sheet in accordance with the “Principles of Alchemy – Recording Results” section.

# How to play

1. Starting with the starting player, a player may do one of the following things on their turn:
   1. **Spend 1 gold to reroll as many of their dice as they want.**
      1. Once re-rolled, place each dice on the corresponding ingredient storage space. 6s can be placed on any ingredient.
   2. **Use [x] gold to buy [x] specific ingredients.** 
      1. Decide how many ingredients you want to buy and of what type. Reduce the amount of gold on the gold tracker by the same amount, and then place a number of white counters on the corresponding spaces in the inventory. You may not have more than 4 counters on any one inventory space.
   3. **Mix ingredients**
      1. Decide which ingredients you want to mix. You must have the ingredients you wish to mix in your inventory.
      2. Reduce your gold tracker by **3** gold if you are mixing **two** ingredients, **2** gold if you are mixing **three** or **1** gold if you are mixing **four, five or six** ingredients. Remove the ingredients from your inventory, using either a dice, or a counter for each ingredient. Put any dice used in the “Bin” part of the sheet.
      3. Declare to the group, what recipe you are mixing.
      4. Using the webapp, input the ingredients you want to mix, and click the “M” button. The webapp will inform you which reactions you have discovered.
      5. If the recipe granted you any bonus ingredients, take counters and add them to your inventory. Other players may not see precisely what ingredients were gained.
      6. Record your findings in the on your game sheet, according to the principles of alchemy section.
2. If any player successfully mixed the “Philosopher’s Stone” they should declare it to the group. If this occurs, go to the end of the game. If the philosopher’s stone was not mixed, the turn is over and the next player gets to go.

# End of Game

If a player has mixed the Philosopher’s Stone (according to the webapp), then they must declare it to the group. The immediately gain 5 gold. All other players may do the following two actions in succession

1. Use [x] gold to buy [x] specific ingredients.
2. Mix ingredients – But this time do not declare what is being mixed.

Any players who successfully mixed the philosopher’s stone immediately gain 3 gold.

Players should compare the gold they have left. The player with the most wins. In the event of a tie break, the tie is won firstly by the player who discovered the Philosopher’s Stone and triggered the end of game round. If neither player did this, then the player with the most ingredients wins. If this is a tie, then the players share the win.

# Solo Mode

# Example