

# Alchemists Deduction and Debunking Aid

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## Introduction

Aspects are shown with three signs, + or –, in the order **Red Green Blue**. Example: + – – is **Red +**, **Green –**, **Blue –**.

## Mixing Rules

**Primary Rule:** When mixing two ingredients, if they have one color's sign in common, they make a potion of that color and sign.

**Secondary Rule:** When ingredients have two colors in common, the colors act as in *Rock, Paper, Scissors*: **Blue** is preferred over **Green**, **Green** is preferred over **Red**, and **Red** is preferred over **Blue**. Example: – + + and – – + have **Red** and **Blue** in common, and **Red** beats **Blue**, so they make **Red –**.

(Of course, if two ingredients have no colors in common, they make a neutral potion.)

## Deductions

**Primary Deduction:** If two ingredients make a colored potion, they have the same sign as the potion, in the potion's color. Example: If Toad and Feather make **Green –**, both Toad and Feather have **Green –**.

### Secondary Deduction:

If two ingredients make a **Red** potion, they differ in the **Green** sign.

If two ingredients make a **Green** potion, they differ in the **Blue** sign.

If two ingredients make a **Blue** potion, they differ in the **Red** sign.

Example: If Toad and Feather make **Red +** or **Red –**, one must have **Green +**, and the other must have **Green –**.

If Ingredient 1 makes	and also makes	then Ingredient 2 has
<b>Red</b> with Ingredient 2	<b>Green –</b> with something	<b>Green +</b>
<b>Red</b> with Ingredient 2	<b>Green +</b> with something	<b>Green –</b>
<b>Green</b> with Ingredient 2	<b>Blue –</b> with something	<b>Blue +</b>
<b>Green</b> with Ingredient 2	<b>Blue +</b> with something	<b>Blue –</b>
<b>Blue</b> with Ingredient 2	<b>Red –</b> with something	<b>Red +</b>
<b>Blue</b> with Ingredient 2	<b>Red +</b> with something	<b>Red –</b>

Example: If Toad and Feather make **Red +** or **Red –**, and Toad and Root make **Green +**, then Feather must have **Green –**.

## Debunking

To show a conflict, use **theory** values to make a color that is wrong in a theory.

**Red:** Mix the ingredients of two theories that claim the same value in **Red**, different in **Green**, and anything in **Blue**. This will not make the **Red** potion theory says it should.

**Green:** Mix the ingredients of two theories that claim the same value in **Green**, different in **Blue**, and anything in **Red**. This will not make the **Green** potion theory says it should.

**Blue:** Mix the ingredients of two theories that claim the same value in **Blue**, different in **Red**, and anything in **Green**. This will not make the **Blue** potion theory says it should.

(These might debunk a theory instead of just proving inconsistency. This could leave the other theory not marked inconsistent, which might not be what you want in the game.)

To strongly debunk, use **correct** values to make a color that is wrong in a theory.

**Red:** Mix the ingredient with an ingredient with the same value in **Red**, different in **Green**, and anything in **Blue**. This will make a **Red** potion that disproves the theory.

**Green:** Mix the ingredient with an ingredient with the same value in **Green**, different in **Blue**, and anything in **Red**. This will make a **Green** potion that disproves the theory.

**Blue:** Mix the ingredient with an ingredient with the same value in **Blue**, different in **Red**, and anything in **Green**. This will make a **Blue** potion that disproves the theory.

Given:	To make <b>Red</b> , use:	To make <b>Green</b> , use:	To make <b>Blue</b> , use:
- - -	- + - or - + +	- - + or + - +	+ - - or + + -
- - +	- + - or - + +	- - - or + - -	+ - + or + + +
- + -	- - - or - - +	- + + or + + +	+ - - or + + -
- + +	- - - or - - +	- + - or + + -	+ - + or + + +
+ - -	+ + - or + + +	- - + or + - +	- - - or - + -
+ - +	+ + - or + + +	- - - or + - -	- - + or - + +
+ + -	+ - - or + - +	- + + or + + +	- - - or - + -
+ + +	+ - - or + - +	- + - or + + -	- - + or - + +

# Supplement

## Mixing Table

Mix	- - -	- - +	- + -	- + +	+ - -	+ - +	+ + -	+ + +
- - -		G-	R-	R-	B-	G-	B-	N
- - +	G-		R-	R-	G-	B+	N	B+
- + -	R-	R-		G+	B-	N	B-	G+
- + +	R-	R-	G+		N	B+	G+	B+
+ - -	B-	G-	B-	N		G-	R+	R+
+ - +	G-	B+	N	B+	G-		R+	R+
+ + -	B-	N	B-	G+	R+	R+		G+
+ + +	N	B+	G+	B+	R+	R+	G+	