

# **Idleon Formulas v0.0.1**

## **on Legends of Idleon v1.14**

21/05/2021

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# 1 Introduction

**TODO**

## 1.1 Special thanks

Xores, LiuLangZhe, Rockangelz and the wiki team as well discord's mods!

## 1.2 Last modifications

- Add Stamps, Statues and others formulas + some references.
- Init

## 2 Global

### 2.1 XP needed to lvl up

$$\begin{aligned} \text{XP}_{\text{Class}} &= \left[ \left( 15 + \text{lvl}^{1.9} + 11 \times \text{lvl} \right) \times \left( 1.208 - \min \left\{ 0.164, \frac{0.215 \times \text{lvl}}{\text{lvl} + 100} \right\} \right)^{\text{lvl}} - 15 \right] \\ \text{XP}_{\text{Skill}} &= \left[ \left( 15 + \text{lvl}^2 + 15 \times \text{lvl} \right) \times \left( 1.225 - \min \left\{ 0.164, \frac{0.135 \times \text{lvl}}{\text{lvl} + 50} \right\} \right)^{\text{lvl}} - 30 \right] \\ \text{XP}_{\text{Smithing}} &= \left[ \left( 15 + \text{lvl}^2 + 13 \times \text{lvl} \right) \times \left( 1.225 - \min \left\{ 0.164, \frac{0.135 \times \text{lvl}}{\text{lvl} + 50} \right\} \right)^{\text{lvl}} - 30 \right] \end{aligned}$$

### 2.2 Fighting Formulas

#### 2.2.1 Damage done

$$\begin{aligned} \text{Damage}_{\text{max}} &= \\ \text{Damage}_{\text{min}} &= \text{Damage}_{\text{max}} \times \text{Mastery} \end{aligned}$$

#### 2.2.2 Damage taken per hit

$$\text{Damage} = \left[ \frac{\text{attack}_{\text{enemy}} - 2.5 \times \text{defense}^{0.8}}{\max \left\{ 1, 1 + \frac{\text{defense}^{1.5}}{100} \times \frac{\text{defense}}{\max\{1, \text{attack}_{\text{enemy}}\}} \right\}} \right]$$

#### 2.2.3 AFK damage cap

TODO

#### 2.2.4 Food Consumption

TODO

#### 2.2.5 Hourly Kill Cap

TODO

#### 2.2.6 % chance to hit depending on the accuracy

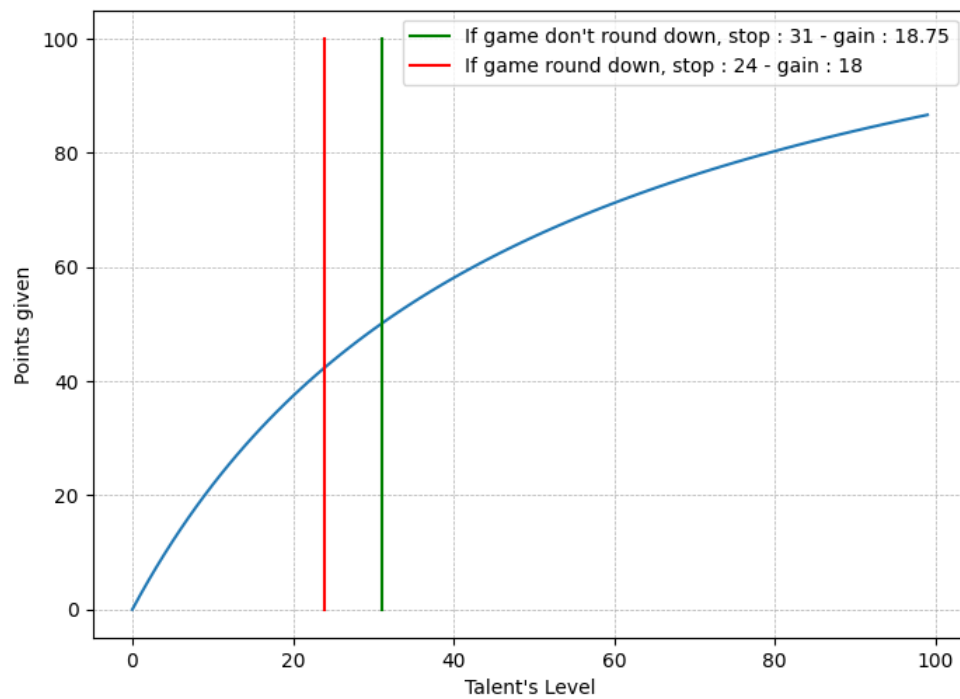
TODO

# 3 Talents

## 3.1 Star Talents

### 3.1.1 Stonks!

$$\text{Points} = 130 \times \frac{x}{x + 50}$$



**Figure 3.1.1:** Where to stop leveling up Stonks!

## 4 Alchemy

### 4.1 P2W tab

#### 4.1.1 Cauldron

$$\begin{aligned}\text{regen}_{\%} &= \frac{16 + 0.5 \times (\text{regenLvl} - 1)}{15} \times \text{regenLvl} \times 3 \\ \text{regen}_{\text{Cost}} &= \left\lceil 2500 \left( 1.15 - \frac{0.117 \text{regenLvl}}{100 + \text{regenLvl}} \right)^{\text{regenLvl}} \right\rceil \\ \\ \text{newBubble} &= 1 + \frac{\text{newBubbleLvl} \times 2.5}{\text{newBubbleLvl} + 100} \\ \text{newBubble}_{\text{Cost}} &= \left\lceil 3200 \left( 1.18 - \frac{0.145}{100 + \text{newBubbleLvl}} \right)^{\text{newBubbleLvl}} \right\rceil \\ \\ \text{boostReqLow}_{\%} &= 70 \times \frac{\text{boostLvl}}{100 + \text{boostLvl}} \\ \text{boostReqLow}_{\text{Cost}} &= \left\lceil 3750 \left( 1.2 - \frac{0.14 \text{boostLvl}}{100 + \text{boostLvl}} \right)^{\text{boostLvl}} \right\rceil\end{aligned}$$



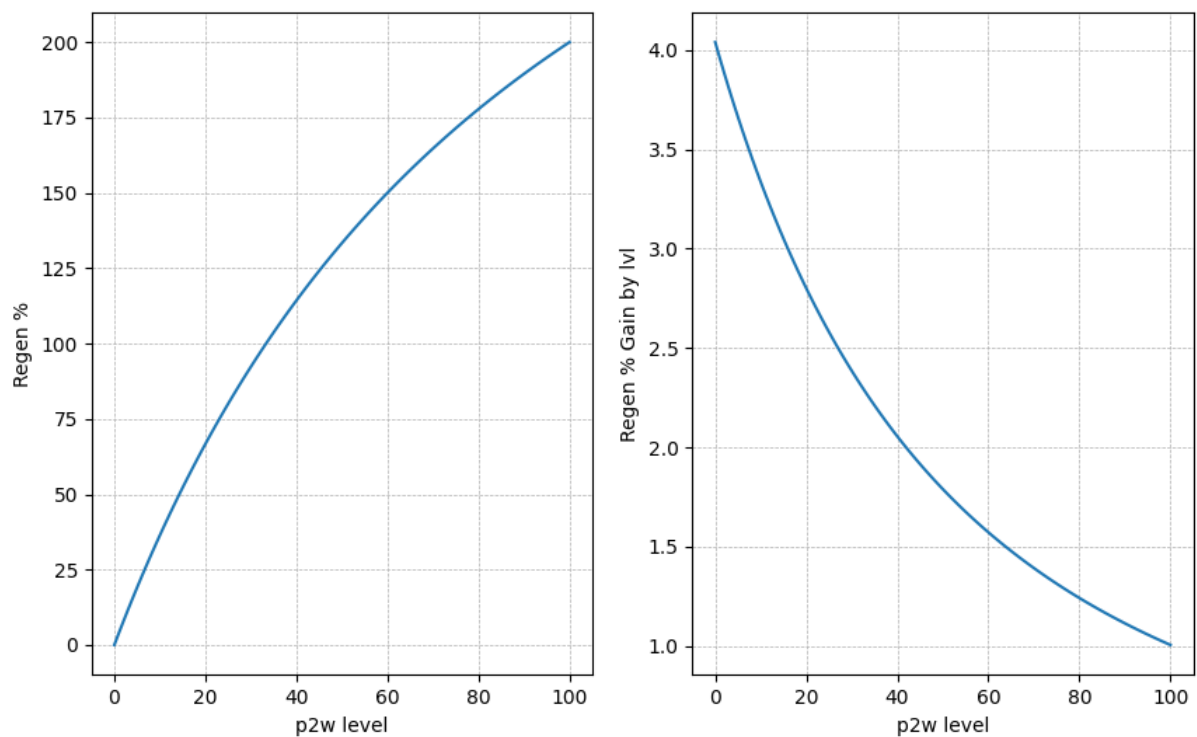
### 4.1.2 Liquid

$$\text{regen}_{\%} = 400 \times \frac{\text{regenLvl}}{100 + \text{regenLvl}}$$

$$\text{regen}_{\text{Cost}} = \left\lceil 2500 \left( 1.19 - \frac{0.135 \text{regenLvl}}{100 + \text{regenLvl}} \right)^{\text{regenLvl}} \right\rceil$$

$$\text{cap} = \text{capLvl}$$

$$\text{cap}_{\text{Cost}} = \left\lceil 3500 \left( 1.2 - \frac{0.13 \text{capLvl}}{100 + \text{capLvl}} \right)^{\text{capLvl}} \right\rceil$$



**Figure 4.1.1:** How much regen you gain with p2w

### 4.1.3 Vials

$$\text{cap} = \text{capLvl}$$

$$\text{cap}_{\text{Cost}} = \left\lceil 10000 \times 2^{\text{capLvl}} \right\rceil$$

$$\text{rng} = 250 \times \frac{\text{rngLvl}}{100 + \text{rngLvl}}$$

$$\text{rng}_{\text{Cost}} = \left\lceil 5000 \times 1.25^{\text{rngLvl}} \right\rceil$$

**Note:** rng doesn't work at the moment (v1.14).

#### 4.1.4 Player

$$\begin{aligned}\text{AlchSpeed}_{\%} &= 35 \times \frac{\text{AlchSpeedLvl}}{100 + \text{AlchSpeedLvl}} \\ \text{AlchSpeed}_{\text{Cost}} &= \left\lceil 4000 \left( 1.15 - \frac{0.1 \text{AlchSpeedLvl}}{100 + \text{AlchSpeedLvl}} \right)^{\text{AlchSpeedLvl}} \right\rceil \\ \text{ExtraXP}_{\%} &= \frac{11 + 0.5 \times (\text{ExtraXPLvl} - 1)}{10} \times \text{ExtraXPLvl} \\ \text{ExtraXP}_{\text{Cost}} &= \left\lceil 6000 \left( 1.15 - \frac{0.09 \text{AlchSpeedLvl}}{100 + \text{AlchSpeedLvl}} \right)^{\text{AlchSpeedLvl}} \right\rceil\end{aligned}$$

## 4.2 Liquid & Cauldron

### 4.2.1 Liquid

$$\text{liquid}_{\text{hour}} = \left( 1 + \frac{\text{decant}_{\%} + \text{RLP2W}_{\%} + \text{vial}_{\%}}{100} \right) \times \left( 1 + \frac{\text{stamp}_{\%} + \sum ((\text{alchLvl} * 2 + 4)^{0.65})}{100} \right)$$

- RLP2W% is P2W Liquid Regen

Multiply  $\text{liquid}_{\text{hour}}$  by 1.5 if you bought the gem upgrade.

### 4.2.2 Cauldron

**TODO**

## 4.3 Bubble

**TODO**

## 5 Post Office

### 5.1 Simple Shippin Orders

TODO

### 5.2 Plan-it Express Orders

TODO

### 5.3 Dudes Next Door

TODO

## 6 Other

### 6.1 Teleportation Cap

$$TP_{cap} = 21(1 + n)$$

Where  $n$  is the number of time you bought Daily Teleports.

### 6.2 Statues

$$\begin{aligned} \text{Cost} &= \left\lfloor \text{lvl}^{1.17} \times 1.35^{\frac{\text{lvl}}{10}} + 1 \right\rfloor \\ \text{Bonus} &= \lfloor \text{Base} \times \text{lvl} \rfloor \end{aligned}$$

### 6.3 Stamps

$$\text{baseCost}_{\text{Coin}} = \text{Price}_{\text{base}} \times \left(1 - \frac{\text{bribe}}{100}\right)$$

As of v1.14, the bribe effect is 8%, not 5%.

$$\begin{aligned} \text{Cost}_{\text{Coin}} &= \left(1 - \frac{\text{vial}_{\%}}{100}\right) \times \left\lfloor \text{baseCost}_{\text{Coin}} \times \left(i_{10} - \left(\frac{\text{lvl}}{\text{lvl} + 5 * \text{lvlRange}} \times 0.25\right)\right)^{\text{lvl} \times \frac{10}{\text{lvlRange}}} \right\rfloor \\ \text{Cost}_{\text{Material}} &= \left\lfloor \text{baseCost}_{\text{Material}} \times i_8^{\left\lfloor \frac{\text{lvl}}{\text{lvlRange} - 1} \right\rfloor^{0.8}} \right\rfloor \times \max\left\{0.1, 1 - \frac{\text{vial}_{\%}}{100}\right\} \end{aligned}$$

- $\text{vial}_{\%}$  is the Blue Flav vial effect.
- $\text{lvlRange}$  is the number of time you can lvl up a stamp before having to pay using materials.
- $i_8$  and  $i_{10}$  are value you can find in the code or in the wiki, look for data-i in the .stampdiv of the stamp you want to know about.

### 6.4 Forge

**TODO**

## 6.5 Shipments

**Beware, the prowess effect in each Shipment affect only the concerned skill although it's only written "prowess".**

### 6.5.1 Civil War Memory

$$\begin{aligned}\text{damage}_{\text{base}} &= \text{lvl} \\ \text{fightGain}_{\%} &= 13 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 200} \\ \text{crit}_{\%} &= 10 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 200}\end{aligned}$$

### 6.5.2 Locally Sourced Organs

$$\begin{aligned}\text{maxHP} &= 1 + \left\lfloor \frac{\text{lvl}}{2} \right\rfloor \\ \text{maxHP}_{\%} &= 0.1(\text{lvl} - 25) \\ \text{selfHeal}_{\%} &= 25 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 200}\end{aligned}$$

### 6.5.3 Magician Starterpack

$$\begin{aligned}\text{maxMP} &= 1 + \left\lfloor \frac{\text{lvl}}{3} \right\rfloor \\ \text{maxHP}_{\%} &= 0.1(\text{lvl} - 25) \\ \text{fasterCD} &= 17 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 200}\end{aligned}$$

### 6.5.4 Bolvl of Unwanted Stats

$$\begin{aligned}\text{accuracy} &= 0.25\text{lvl} \\ \text{defence} &= 0.3(\text{lvl} - 25) \\ \text{MobExp}_{\%} &= 29 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 170}\end{aligned}$$

### 6.5.5 Dwarven Supplies

$$\begin{aligned}\text{efficiency}_{\text{mining}} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{prowess}_{\%} &= 40 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{AFKGain}_{\text{mining}} &= 15 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 175}\end{aligned}$$

### 6.5.6 Blacksmith Box

$$\begin{aligned}\text{XP}_{\text{smithing}} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{prodSpeed}_{\%} &= 75 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 200} \\ \text{toCraft}_{\%} &= 30 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 150}\end{aligned}$$

### 6.5.7 Taped Up Timber

$$\begin{aligned}\text{efficiency}_{\text{choppin}} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{prowess}_{\%} &= 40 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{AFKGain}_{\text{choppin}} &= 15 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 175}\end{aligned}$$

### 6.5.8 Carepack From Mum

$$\begin{aligned}\text{notConsume}_{\%} &= 23 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{hFoodEffect}_{\%} &= 30 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{pFoodEffect}_{\%} &= 30 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 175}\end{aligned}$$

### 6.5.9 Sealed Fishheads

$$\begin{aligned}\text{efficiency}_{\text{fishing}} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{prowess}_{\%} &= 40 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{AFKGain}_{\text{fishing}} &= 15 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 175}\end{aligned}$$

### 6.5.10 Potion Package

$$\begin{aligned}\text{brewSpeed}_{\%} &= 70 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{alchXP}_{\%} &= 60 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{craniumTime} &= 0.1(\text{lvl} - 100)\end{aligned}$$

### 6.5.11 Bug Hunting Supplies

$$\begin{aligned}\text{efficiency}_{\text{catching}} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{prowess}_{\%} &= 40 \times \frac{\text{lvl} - 25}{\text{lvl} - 25 + 150} \\ \text{AFKGain}_{\text{catching}} &= 15 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 175}\end{aligned}$$

### 6.5.12 Non Predatory Loot Box

$$\begin{aligned}\text{dropRate}_{\%} &= 50 \times \frac{\text{lvl}}{\text{lvl} + 200} \\ \text{Luck} &= 0.25(\text{lvl} - 25) \\ \text{crystalSpawn}_{\%} &= 65 \times \frac{\text{lvl} - 100}{\text{lvl} - 100 + 200}\end{aligned}$$

# References

- [1] LavaFlame2. [Legends of Idleon](#).
- [2] [Idleon Wiki](#).
- [3] Jeremy Criquet. [Idleon Calculator](#).
- [4] Zaghrenaut#9386. [Idleon Post Office Calculator](#).
- [5] LiuLangZhe#9086. [Cumulative Cost Calculator](#).