
Mechanisms reference

The Binding of Isaac — Wrath of the Lamb



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SECTION 1

Red Chests

When opening a red chest, here are the odds of what will happen¹:

- 5% chance to teleport to the Devil room / Angel room;
- 7.25% chance it spawns a soul heart;
- 7.25% chance it spawns two soul hearts;
- 10% chance it spawns a Guppy Item (see details and bugs in part [1.1.1](#));
- 10.88% chance it spawns 3 blue flies;
- 13.6% chance it spawns two super troll bombs;
- 14.51% chance it spawns two troll bombs;
- 14.51% chance it spawns two pills;
- 17% chance it spawns two spiders;



1.1 Notes

1.1.1 About Guppy Items

If Guppy's tail isn't unlocked, 25% chance it will be either the Dead Cat, Guppy's tail, Guppy's head or Guppy's paw.

If Guppy's tail is unlocked, 20% chance it will be either the Dead Cat, Guppy's head or Guppy's paw and 40% chance it's Guppy's tail.

Yes, it is a bug. There's the source, where `f1` is the item:

```
f1 = [81, 134, 133, 145]; // Guppy's tail is 134
if (_root.SecretUnlocked[79]) { // If Guppy's tail is unlocked
    f1.push(134); // Pushing another Guppy's tail in the random pool.
}
f1 = f1[random(f1.length)];
```

1.1.2 About teleportation

The mechanics are those applying when calling `teleport()` to room 166. Still have to figure out if it's possible to get to the error room from there.

¹Rounded at 0.01%.

1.2 Code where it happens

See lines 30271 to 30318 from the source code.

SECTION 2

Fortune Telling Machines

When playing a Fortune Telling Machine without the Lucky Foot, here is what happens:

- 1.10% chance to spawn the Crystal Ball;
- 1.75% chance to explode;
- 7.15% chance to spawn a Spirit Heart;
- 10.7% chance to spawn a Tarot Card;
- 14.3% change to spawn a Trinket;
- 65% chance to tell a useless fortune;



With the Lucky Foot:

- 5% chance to explode;
- 3.2% chance to spawn the Crystal Ball;
- 30.6% chance to spawn a Tarot Card;
- 20.4% to spawn a Spirit Heart;
- 40.8% to spawn a Trinket;

2.1 Code where it happens

See lines 19577 to 19604 from the source code for general probabilistic mechanics and lines 19717 to 19720 for the Crystal Ball's spawning.

SECTION 3

Item Pools

At the start, the pools are filled according a certain amount of entropy. Here are the random things that can happen.

Preamble

The probabilities are represented as a bar filled according to either what item is put in the pool or what pool the item is put in. Here is an example:



| | |
|----------------|-----------------|
| Item 1 (33.3%) | Item 2 (66.6%) |
| Item 3 (66.6%) | Nothing (33.3%) |

Each row corresponds to a different dice throw. Keep in mind that they are, indeed, independent. However, if they are on the same row, they correspond to the same random choice. When a certain area has a white background, then there's a probability that nothing is added.

3.1 Pool-specific randomization

In this section, we will look at how the pools are filled with random items.

Boss Pool

| | | | |
|------------------------|------------------|---------------------|--|
| The Wooden Spoon (50%) | | The Belt (50%) | |
| Moms Underwear (33%) | Moms Heels (33%) | Moms Lipstick (33%) | |
| Moms Underwear (33%) | Moms Heels (33%) | Moms Lipstick (33%) | |
| The Bandage (66.6%) | | | |

Note: There is a $\frac{1}{3}$ chance that Moms Underwear, Moms Heels or Moms Lipstick appears twice in the Boss Room pool.

Golden Chests Pool

| | | | |
|------------------------|------------------|---------------------|--|
| The Wooden Spoon (50%) | | The Belt (50%) | |
| Moms Underwear (33%) | Moms Heels (33%) | Moms Lipstick (33%) | |

Secret Room Pool

| | |
|--------------------------------------|--------------------------------------|
| 2 × My Little Unicorn and 1up! (50%) | 1 × My Little Unicorn and 1up! (50%) |
| Transcendence (66.6%) | |

Shop Pool

| | |
|-------------------|--|
| 9V (50%) | |
| The Battery (50%) | |

Devil Room Pool

| | |
|-------------------------|--|
| Lord of The Pit (33.3%) | |
| The Nail (66.6%) | |

3.2 Item-specific randomization

In this section, we will look at how the items are sorted into random pools.

| | | | |
|---------|-------------------|-----------------|------------------|
| Legend: | Regular Room Pool | Devil Room Pool | Secret Room Pool |
|---------|-------------------|-----------------|------------------|

| | | |
|------------------------------|------------------------------|----------------------------|
| The Necronomicon (44.4%) | The Necronomicon (22.2%) | |
| We Need to Go Deeper (33.3%) | We Need to Go Deeper (33.3%) | |
| Technology (80%) | Technology (20%) | |
| The Book of Belial (33.3%) | The Book of Belial (33.3%) | The Book of Belial (33.3%) |
| The Lucky Foot (33.3%) | Lucky Foot (66.6%) | |
| A Quarter (66.6%) | A Quarter (33.3%) | |
| The Book of Sin (66.6%) | The Book of Sin (33.3%) | |
| The Common Cold (66.6%) | The Common Cold (33.3%) | |
| The Parasite (66.6%) | The Parasite (33.3%) | |
| Money=Power (66.6%) | Money=Power (33.3%) | |
| Demon Baby (66.6%) | Demon Baby (33.3%) | |
| Forget Me Now (66.6%) | Forget Me Now (33.3%) | |
| Monster Manual (66.6%) | Monster Manual (33.3%) | |

Notes

Necronomicon: If the Necronomicon falls in the white space, it won't even appear in the Library Pool.

The Book of Sin, The Book of Belial and The Monster Manual always are in the Library Pool.

The Book of Belial: If playing with Judas, it won't be put in any pool (including the Library Pool).

Lucky Foot: It seems that Cain can find it. I haven't found the mechanism that prevents him to do so.

Other specific rules

| | |
|---------------------------------|---------------------------------|
| (1) Holy Grail/Bum Friend (50%) | (2) Portable Slot Machine (50%) |
| (3) Fate/Pyro! (50%) | |

- (1) : The God Room Pool contains Holy Grail *and* the Shop Pool contains Bum Friend (if not (2)).

- (2) : The Shop Pool contains The Portable Slot Machine (if not (1)).
- (3) : The Golden Chest Pool contains Fate *and* the Secret Room Pool contains Pyro!

3.3 Post-processing

After that, all the items in the Boss Pool, Shop Pool and Golden Chest Pool are removed from the Regular Pool.

3.4 Code where it happens

See lines 9885 to ??? from the source code.