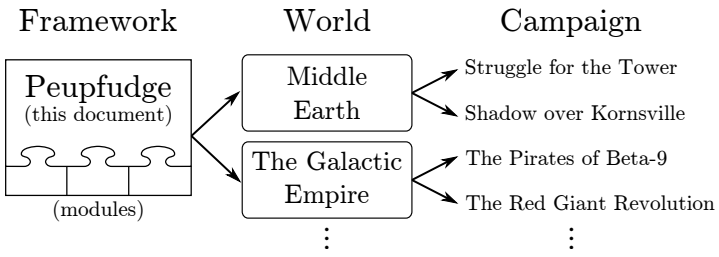
Peupfudge

DRAFT: **August 19, 2022**

Peupfudge is a generic framework for tabletop role-playing games. This document contains the core rules, which can later be modified or extended by modules. The game master (GM) provides a world that can use the Peupfudge framework, and then runs campaigns within that world.



Players will face challenges, and they will have to rely on the capabilities of their characters to confront them. Peupfudge is a system that crudely quantifies these challenges and capabilities in order to weave an interesting narrative.

Fudge dice are the main source of randomness. A fudge die can yield -1, 0, or $+1$ with equal chances. We denote a fudge die roll by "dF." The result of a roll of N fudge dice (NdF) is the sum of the results of the individual die rolls.

1 Characters

A character is an actor in the world. Some characters are controlled by players (PCs) and some characters are controlled by the GM (NPCs). Characters are represented by their *traits*, which we list below. PC traits are managed by players on their *character sheets*, while NPC traits are managed by the GM. When creating a world or campaign, the GM determines the traits that will appear on character sheets.

There are five types of traits:

- *Characteristics* describe identity and background that mainly impact the narrative aspects of a campaign. Examples: name, race, species, tribe, height, gender, favorite food, appearance, backstory.
- *Abilities* represent improvable traits that play a role in action resolution. Examples: Strength, Intelligence, Climbing, Legal Knowledge, Cartography, Neurosurgery. We will soon describe how abilities work.
- *Inventory* is the collection of items on a character's person. Examples: helmet, potion, gold coins. More detail can be included as needed; for example, one could write "helmet (equipped)" or "helmet (damaged)."

If a trait doesn't fit into the three categories above, then it can be more generically represented as a status or a property:

- *Statuses* are traits that need constant tracking. Examples: health, mana, hunger, reputation. When introducing a status, the GM should decide what states it can take, what causes the state to change, and what effect each state has.
- *Properties* are traits that only need to be tracked when they apply to a character. Examples: deaf, blessed, stunned, short-tempered, one-armed.

For tips on setting up the traits, refer to the campaign setup checklist in the appendix.

1.1 Abilities

Before a campaign begins, the GM prepares a set of abilities that are tracked for each character. Each ability is associated with an integer *level* that represents how good a character is at the ability. Ability level is a factor in the character's chance of success when attempting to perform an action dependent on the ability. Typically, the initial level for an "untrained" ability would be 0, and there is no hard upper limit for the level as it increases.

The level of an ability can be raised by allocating experience points (XP) to the ability. The XP cost of increasing the level of an ability is 2 to the power of the current level. The GM may decide how and when to award XP to characters, but it makes sense to place XP rewards after the completion of narrative "chunks." As soon as XP is awarded, it should be distributed by each player among their abilities. The GM may want to restrict XP allocation to the subset of abilities that each player actually used in the completion of the narrative chunk.

Players may spend less XP on an ability than it would cost to level it up. In this case the allocated XP is recorded and the ability is only leveled up once it has accumulated enough XP. Allocated XP is considered to be spent and cannot later be transferred to a different ability.

XP is to be interpreted as the product of *practice time* and *practice quality*, which we will refer to as simply *practice*. Each unit of XP corresponds to a certain amount of practice. The exact amount of practice contained in each unit of XP is decided implicitly the first time that the GM awards XP, and it crystallizes as the GM continues to award XP in a consistent pattern.

Abilities generally start at level 0 during character creation. The GM provides starting XP to each character based on the practice the character may have gathered throughout their life before the start of the campaign.

Intrinsic Aptitude Ability level is a function of XP, and XP represents *practice*. But ability level is ultimately meant to represent a character's *proficiency*. While practice generally improves proficiency, characters with the same amount of practice may have different levels of proficiency. The discrepancy between practice and proficiency is termed *intrinsic aptitude*. There are two methods to represent intrinsic aptitude:

1. An *XP bonus* involves giving "free" XP in an ability that is then used to advance the level of the ability as usual. This would simply result in the character being further along on the same learning curve for that ability. For example, a character who starts with an XP bonus in the "Chess" ability but has never played chess before may find that she is a natural chess whiz when she first tries it, but still has to work just as hard to further her chess skills as a character who reached the same point through practice.

2. A *level modifier* adds to or subtracts from the level of an ability, but in a way that does not affect the XP cost for leveling up. In this case, the level may be written in the character sheet as a sum: [unmodified level] + [modifier] = [modified level]. The modified level represents actual proficiency, and the unmodified level represents where the character is on the learning curve for the ability. Therefore, when using the ability, the sum is used, but when spending XP to level up the ability, the unmodified level is used to determine the cost. For example, a hobbit and an ogre may get the same amount of Strength practice, but the hobbit will still be weaker than the ogre, and this discrepancy could be represented by a level modifier for either the hobbit or the ogre. This can place them on separate learning curves for Strength in such a way that an ogre would always have an easier time improving its Strength than a hobbit of equal Strength. For a given ability, the type of being that does not take on any modifier is known as the *standard being* for the purposes of level interpretation. In the example, if the ogre gets modified Strength and the hobbit does not, then hobbits are taken to be the *standard being for Strength interpretation*.

How strong is a character with level 5 Strength? It is as strong as a standard being that spent 5 levels worth of practice on its Strength.

Level	0	1	2	3	4	5	6	7	8	9	...
XP Cost	0	1	2	4	8	16	32	64	128	256	...
Total XP	0	1	3	7	15	31	63	127	255	511	...

2 Actions

When a character attempts an action that has a possibility of failure, the outcome is governed by the capability of the character, the difficulty of the action, and a dice roll. Actions are resolved by considering an attempt to be successful if

$$L + A + R \geq D,$$

where

- L is the level of an associated ability for the character attempting the task, if there is one. The set of abilities chosen for the campaign should be tailored to the types of actions that players are expected to attempt. If there isn't a very suitable ability but there is a close enough one, then the level of the close ability can be used with a deduction.

- A is a modifier that summarizes *additional character factors*, which are aspects of the character attempting the action, aside from ability levels, that can contribute to its success or failure. For a character attempting to climb a cliff, additional character factors could be the fact that they have a grappling hook, or that they are afraid of heights.
- R is the result of a dice roll, NdF. The dice roll represents the dependence of the outcome on factors that are not modeled in the game or that are otherwise unpredictable. The default is 4dF, and this can be adjusted if more or less noise seems appropriate.
- D is the difficulty level of the task, summarizing the *difficulty factors*: aspects of the situation, independent of the character, that can contribute to the success or failure of the action. For a character attempting to climb a cliff, difficulty factors could be the steepness of the cliff or the presence of rocks falling from above. Some judgment is needed on the part of the GM in the determination of D. A difficulty level of D corresponds to a task that someone with an ability level of D would be expected to successfully execute about half the time.

If it is unclear whether a factor belongs in A or D, consider whether the factor could be removed from the picture by having a different character attempt the same action. If not, then it belongs in D. Thus every action resolution situation is partitioned into character-dependent (L and A), challenge-dependent (D), and random (R) aspects. The value of R can feed directly into the narrative; it can be fun to assign extreme narrative interpretations to extreme dice rolls. The same goes for $L + A + R - D$, which represents actual performance given all the information.

When setting D, the GM should avoid the pitfall of assessing a task only by comparison to similar tasks. For example, a neurosurgery task should not be given a lower D just because it is easy "for a neurosurgery." Note that D ultimately gets compared to an ability level L, which is a function of experience. Since neurosurgery itself is hard (in the sense of requiring a lot of experience), the D associated with many neurosurgery tasks, even the *relatively* easy ones, should be high. It might be a good idea when setting up the abilities for a given campaign to determine what level for each ability is considered "poor," "decent," "excellent," etc. A decent neurosurgeon may have a higher level in Neurosurgery than a decent hauler has in Hauling.

Opposed Actions If the difficulty factors for an action are due to some other character's abilities, for example during a race between multiple characters, then the action is *opposed*. There are modifications one could make for opposed actions: Instead of comparing one character's $L+A+R$ with a D based on the difficulty of the task, one can compare $L + A + R$ for each character to determine their performance relative to one another. Each character's $L + A + R$ essentially represents D for their opponent(s). When the $L + A + R$ of multiple characters is equal, this should be interpreted as a tie rather than as a success for any of the tied characters. For opposed actions, the default R is 3dF, and this can be modified if more or less noise seems appropriate. For fun, the physical dice rolling can be done by all participants whose characters are involved, with players rolling for their characters and the GM rolling for NPCs.

Happy Peupfudgeing!

A Reference Sheet

To level up:

$$\text{xp required to level up} = 2^{\text{old level (unmodified)}}$$

Level	0	1	2	3	4	5	6	7	8	9	...
XP Cost	0	1	2	4	8	16	32	64	128	256	...
Total XP	0	1	3	7	15	31	63	127	255	511	...

Action success if:

$$\mathbb{L} + \mathbb{A} + \mathbb{R} \geq \mathbb{D}$$

ability level (possibly modified)

additional character factors

dice roll
default: 4dF
(3dF if opposed)

n	$\mathrm{P}(4\mathrm{dF} \geq n)$
-3	.99
-2	.94
-1	.81
0	.62
1	.38
2	.19
3	.06
4	.01

difficulty factors

meaning of *D*: someone with this value as their ability level would succeed about half the time.

B Campaign Setup Checklist

The following checklist only focuses on the Peupfudge aspects of a campaign that should be ready before the first session. It omits elements of worldbuilding such as maps and lore, and it omits setup that is done on a per-session basis such as rooms and NPC character sheets.

- ☐ Which characteristics should show up on character sheets?
- ☐ What kinds of beings could PCs be?
- ☐ What is the range of possible origin stories?
- ☐ Prepare the set of abilities. We recommend first thinking about the sorts of actions characters might attempt, and then working backwards from there to find suitable abilities. Estimate a level-proficiency relationship for each ability. For example, you could record the levels for each ability that are considered to be poor, decent, excellent, etc.
- ☐ Prepare the set of statuses. For each one, decide what states it can take, what causes the state to change, and what effect each state has.
- ☐ Are there any important properties that will serve to modify ability levels? Note that the types of characters that do not end up with such properties are standard beings for the purpose of ability level interpretation.
- ☐ What is the starting XP and how might it vary between characters?
- ☐ Determine the procedure for populating the initial inventory and setting the initial states of statuses.
- ☐ Make a character sheet template.

C Examples

Example 1: You are a mage who is near the end of an arduous journey through a dungeon, looking for a golden teapot at the end of it. You open the door to the final room and enter into a long, narrow room largely taken up by a gaping abyss. On the other side of the abyss you see the teapot! You fish through your pack for your Scroll of Magical Bridge. Your level in the Construction Magic ability is 6, but the GM determines $D = 7$ by considering that a standard being with 7 levels worth of Construction Magic XP would succeed half the time at casting this spell over an abyss of that size. Additionally, you recently fell ill after eating the wrong kind of dungeon mushroom, and this gave a property "Shroom Belly" that makes it harder to focus on magic, granting $A = -1$ for magical actions. You roll 4dF... and you get +3! $L = 6$, $A = -1$, $R = +3$, $D = 7$, and $8 \geq 7$. You successfully create the bridge, walk across it, and grab the golden teapot! The GM awards you 10 XP for completion of this narrative chunk. You decide to allocate 7 XP towards Construction Magic, and 3 XP towards Mycology (another ability you used in this dungeon, albeit not successfully). Construction Magic already had 22 XP allocated to it (out of

the 64 XP required to raise it to level 7), and now has 29. Mycology was at level 0, and has now been raised to level 2.

Example 2: The first session of a new Peupfudge campaign is about to start. The GM tells the players, Kurt and Olivia, about the world, showing them a world map and a character sheet template with a few traits on it specific to this campaign. The GM has chosen the set of abilities to be represented in this campaign, and has also decided how to interpret the proficiency of levels for different abilities:

	poor level	decent level	great level
Muscle	2	4	6
Charisma	2	4	6
Perception	2	4	6
Knowledge	3	5	7

According to this interpretation, attaining a Knowledge level that would be described as "decent" requires more time (and hence more XP) than attaining a Muscle level that would be described as "decent."

The GM says that in this campaign players will first allocate their starting XP (50 each), then choose properties, then come up with a backstory that is congruent with their abilities and properties. Kurt names his character Kotorikh, and Olivia names her character Obazana. For Kotorikh, Kurt allocates 19 XP to Perception and 31 XP to Knowledge. For Obazana, Olivia allocates 21 XP to Muscle, 13 XP to Charisma, 7 XP to Perception, and 9 XP to Knowledge. In order to determine the resulting levels and the XP progress towards the next level, section 1.1 is applied: xp required to level up $= 2^{\text{old level}}$. Their ability levels after allocation are displayed along with any XP progress towards the next levels:

Kotorikh Abilities:

Muscle: 0
Charisma: 0
Perception: 4 (+11/16)
Knowledge: 5

Obazana Abilities:

Muscle: 4 (+6/16)
Charisma: 3 (+6/8)
Perception: 3
Knowledge: 3 (+2/8)

Next, the GM hands the players a list of pre-made properties, and tells them that they can each choose one starting property for their characters. Kurt chooses "talented observer" for Kotorikh, which grants a one-time bonus +7 starting XP towards Perception, so his Perception is still 4, but with 11/16 now allocated towards the next level. Olivia chooses "wealthy" for Obazana, guaranteeing that Obazana will start with a nice heap of rare jewels.

Next, the GM has Kurt and Olivia describe backstories for their characters. Kotorikh is a keen and curious archaeologist from a distant village, who became fascinated by reading about ancient civilizations after his traveling uncle taught him to read and brought him back many books. Obazana is a skilled and successful blacksmith from a large city who one day hopes to make weapons and armor for the king's royal guard.

Next, the GM describes the setup for the campaign. Kotorikh, through his readings, believes he has found clues of an ancient civilization that lived underground beneath distant mountains. He has reason to believe they had access to a powerful metal unknown to current society. He and Obazana have been corresponding via letter, and they have agreed to search for the ancient civilization together. Kotorikh hopes to uncover its mysteries and Obazana hopes to discover the powerful metal to make her shop the best in the city.

At the start of the campaign, Kotorikh and Obazana have traveled far from their homes, and have just met at a town halfway between them, leading up to a long path to the mountain range. There is one status in the campaign, "Energy." Its states are as follows:

- Rested (+1 to A for actions involving Muscle or Perception)
- Neutral (no effect)
- Tired (-1 to A for actions involving Muscle or Perception)
- Exhausted (-2 to A for actions involving Muscle or Perception)

To move up in Energy, the GM decides a character must take a "restful action," such as sleeping, eating a warm meal, or drinking certain potions. To move down in Energy, a character must exert themselves in a particularly tiring way. Kotorikh and Obazana both start off Tired due to their long journey thus far.

Next, the GM gives the player characters their starting inventory. He bases it off their profession and backgrounds. Kotorikh starts with a pack containing a magnifying glass, a map, a guide to regional plants, a book of myths, eight sheets of parchment, a vial of ink, a quill, a worn old shovel, a sling, and a pouch containing 12 stones. Obazana starts with iron armor and a pack containing a quality iron sword, a quality iron axe, a pocket knife, a shard of flint, a smithing hammer, a whetstone, and a pouch containing 10 rare jewels.

As an example, Kotorikh's character sheet at the start of the game is shown below.

Character Sheet

Characteristics

Name: Kotorikh

Profession: Archaeologist

Backstory: A keen and curious archaeologist from a distant village, who became fascinated by reading about ancient civilizations after his travelling uncle taught him to read and brought him back many books.

Abilities

		poor, decent, great
Muscle:	0	2, 4, 6
Charisma:	0	2, 4, 6
Perception:	4 (+11/16)	2, 4, 6
Knowledge:	5	3, 5, 7

Inventory

pack (on back)
magnifying glass (in pack)
plant guidebook (in pack)
book of olde myths (in pack)
8 sheets of parchment (in pack)
vial of ink (full, in pack)
quill (in pack)
old shovel (worn, in pack)
sling (in pack)
pouch (in pack)
12 stones (in pouch)

Statuses

Energy (affects Muscle and Perception rolls):

-2	-1	0	1
Exhausted	Tired	Neutral	Rested

Properties

– talented observer (+5 bonus starting XP to Perception)

The GM gives the players a quick description of the town the PCs are starting in. The PCs explore it, and soon decide to sleep due to their Tired state. After asking around, they discover that the only inn in town is very expensive, demanding three of Obazana's jewels for both of them to stay the night. They decide to sleep outside instead. While sleeping, the GM requests Perception checks of both characters; unbeknownst to them, someone is trying to steal the jewels while they sleep! The GM determines that D will be 3 for them to wake up to this particular bandit (that is, someone with a Perception of 3 would wake up to this bandit about half the time). Kotorikh has an L of 4 in Perception, an A of -1 due to his Tired state, and rolls 4dF getting $R = -1$, for $L + A + R = 2$. Obazana has an L of 3 in Perception, an A of -1 due to her Tired state, and rolls 4dF getting $R = 0$, for $L + A + R = 2$. They sleep peacefully through the night, and wake up with their Energy state changed from "Tired" to "Neutral." But...all of the jewels are missing! They ask around about whether anyone has seen the thief. Perhaps they should have just slept at the inn.

Example 3: You are the GM and the players have just fought their way into a dungeon room with a closed door at the opposite end. The door is cracked open from the other side, just barely revealing a stack of nasty gremlins. Adam announces that his archer character attempts to fire an arrow into the narrow crack. As the GM, you need to set the difficulty D for this action. You decide that in order to have about a 50% chance of success, one would need about a year of dedicated archery training. Earlier in the campaign a different character did a month of dedicated training and received 2 XP for her Archery ability. A year of dedicated archery training then

corresponds to 24 XP, which corresponds to a level of about 4. So you let Adam know that $D = 4$ for this action. "That's pretty harsh man," Adam complains. "It's not that hard for an archery task." Being the wise GM that you are, you understand that D comes down to the amount of needed practice and not a comparison with similar tasks. Once you explain how you determined D, Adam has a further complaint: "My Archery ability level is 2, which corresponds to 3 XP. By your convention that's 1.5 months of archery practice... but my character has been an archer for like 3 months! What gives?! Why do I get less XP?!" After calming Adam down, you explain that his character's practice wasn't dedicated archery training. His 3 months of undedicated practice is being treated as though it were 1.5 months of dedicated training. Finally, Adam needs to roll to resolve the action. With $L = 2$ and $D = 4$, it appears that Adam has to roll at least $+2$ to succeed. Rolling 4dF, this gives him about a 1/5 chance of success. Adam rolls his 4dF and gets $R = -1$, failing the shot. Since -1 is not such a surprising roll, you do not interpret Adam's failure in a dramatically unlucky way. His relative performance, on the other hand, is quite low: $L + A + R - D = 2 + 0 - 1 - 4 = -3$. And so you narrate that the arrow appears to have had little hope of hitting its target, and the gremlins all snicker at Adam's character.

Example 4: Three characters, Gromanno (PC), Nyrv (NPC), and Polthova (PC) just came across a set of exquisite marbles in a cave, and they all want it. They decide to race to the entrance of the cave, and the marbles will go to the winner. The GM says that this will be treated as an opposed action, where $L + A + R$ is compared among all participants, and the ability being used is *Fitness*. In this campaign, a Fitness of 2 is interpreted as poor, a Fitness of 4 is interpreted as decent, and a Fitness of 7 is interpreted as excellent. Here is the outcome for L, A, and R:

- L: Gromanno has a Fitness of 2, Nyrv has a Fitness of 5, and Polthova is a professional athlete with a Fitness of 8.
- A: Gromanno is wearing his "Old running shoes [+1 to A for running actions]" and the GM gives him an A of $+1$ for this. Nyrv has the property "Poor low-light vision" and can't navigate well in the cave, and the GM gives her an A of -1 for this. Polthova does not have any distinct character-based factors that would affect his A for this action, and the GM gives him an A of 0.
- R: They all roll 3dF. Gromanno's player rolls a 0 for him, the GM rolls a $+2$ for Nyrv, and Polthova's player rolls a -3 for him.

Comparing $L + A + R$ for all participants:

- Gromanno: $2 + 1 + 0 = 3$
- Nyrv: $5 - 1 + 2 = 6$
- Polthova: $8 + 0 - 3 = 5$

The GM narrates the events that led to this outcome. Polthova, very fit, started out ahead, with the other two trailing far behind him. But due to his terrible luck, around two thirds of the way

through, he slipped on some cave slime and injured his ankle. He limped the rest of the way to the entrance. Nyrv exerted herself very well and was able to push through her difficulty navigating, and eventually surpassed the limping Polthova. Gromanno, as expected, trailed behind the other two, despite his nice running shoes. Nyrv emerges from the cave first, victorious, delighted in her new set of exquisite marbles!

Example 5: In a campaign where the GM has decided that humans are the standard being for the Strength ability, and that a Strength level of 3 is to be interpreted as "decent," an odd group of pals is sitting around a table arm wrestling. One is a hobbit, one is a cyborg human with a mechanical left arm, and one is an ant bodybuilder.

- The hobbit, small by nature, has an unmodified Strength of 3 (for the purposes of determining XP cost for leveling up) and a property "hobbit strength" that modifies his Strength by -1 (for the purposes of using Strength in an action); his iL is therefore represented as $3-1=2$.
- The cyborg human has an unmodified Strength of 3, and a property "cyborg left arm" that modifies his Strength by $+2$ when using the arm in an action; his L for Strength for actions using his left arm can be represented as $3+2=5$, and for actions not using his left arm would be represented as $3+0=3$.
- The ant, an avid athlete but several orders of magnitude smaller than its friends, has a property "bug strength" that modifies its Strength by -50. Its L is represented as $7-50=-43$.

The GM and players agree that A for all characters is 0 here, with no current situational factors that will aid or hold back any characters.

The GM decides to resolve the arm wrestling match as a series of opposed actions. He believes that this is an action that incorporates less luck than most actions (where the better prepared character is more certain to succeed than usual), and decides that 1dF is to be used for R.

The group agrees to using their left arms (left foreleg in the case of the ant), as is customary in this world. The hobbit and the cyborg face off first: the hobbit rolls a $+1$ for an $L+A+R$ of $2+0+1=3$, and the cyborg rolls a -1 for an $L+A+R$ of $5+0-1=4$. After a long back-and-forth struggle, the cyborg wins.

Next, the hobbit and the ant face off. The hobbit's arm is tired after the last match, and A for him will be -1 for this next match. The hobbit rolls a -1 for an $L+A+R$ of $2-1-1=0$, and the ant rolls a $+1$ for an $L+A+R$ of $-43+0+1=-42$. Despite the ant's noble preparation and efforts, it is flung across the room immediately.

The pals schedule a rematch, and each of them resolves to train in preparation.

- The hobbit lifts weights for a few minutes every day. After a few weeks of training, the GM awards the hobbit 9 XP to be allocated to Strength, raising his unmodified Strength to 4 ($+1/16$ towards the next level). His L would now be represented as $4-1=3$.

- The cyborg human repeatedly exerts his left arm in a misguided attempt to apply biological strength training concepts to a mechanical arm. No XP is gained.
- The ant is determined to level up its Strength. The ant's current unmodified Strength is 7, so the XP needed for a level-up is 2^7, and the ant trains accordingly. The ant's effective Strength for the next match has increased to $L = 8 - 50 = -42$.

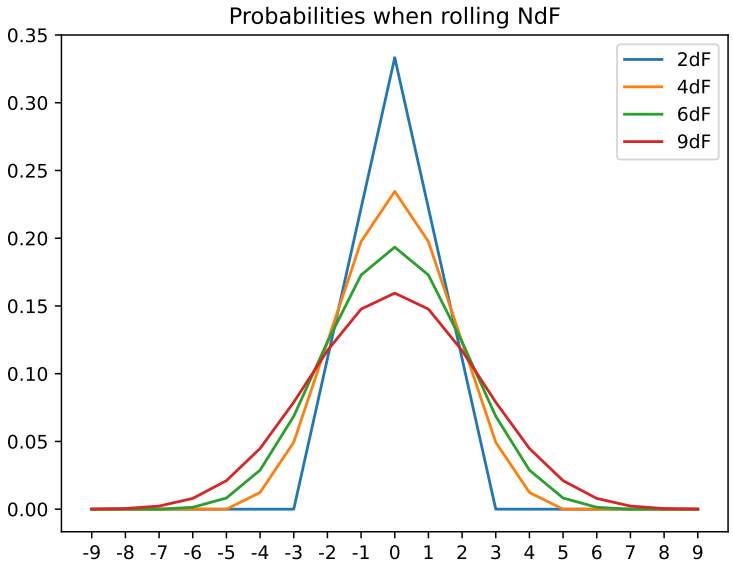
D Probability Reference

The following table shows the probabilities of success when rolling different amounts of fudge dice. Each entry is the probability that NdF will be $\geq D$, for some N and D.

	≥ -5	≥ -4	≥ -3	≥ -2	≥ -1	≥ 0	≥ 1	≥ 2	≥ 3	≥ 4	≥ 5
1dF	1.00	1.00	1.00	1.00	1.00	0.67	0.33	0.00	0.00	0.00	0.00
2dF	1.00	1.00	1.00	1.00	0.89	0.67	0.33	0.11	0.00	0.00	0.00
3dF	1.00	1.00	1.00	0.96	0.85	0.63	0.37	0.15	0.04	0.00	0.00
4dF	1.00	1.00	0.99	0.94	0.81	0.62	0.38	0.19	0.06	0.01	0.00
5dF	1.00	1.00	0.98	0.91	0.79	0.60	0.40	0.21	0.09	0.02	0.00
6dF	1.00	0.99	0.96	0.89	0.77	0.60	0.40	0.23	0.11	0.04	0.01
7dF	1.00	0.98	0.95	0.87	0.75	0.59	0.41	0.25	0.13	0.05	0.02
8dF	0.99	0.98	0.94	0.86	0.74	0.58	0.42	0.26	0.14	0.06	0.02
9dF	0.99	0.97	0.92	0.84	0.73	0.58	0.42	0.27	0.16	0.08	0.03

The values in the highlighted column are close to 0.5, hence the rule of thumb: A task of difficulty level D is one that someone with an ability level of D would be expected to successfully execute about half the time.

The highlighted row corresponds to 4dF, a nice standard number of dF to roll. By rolling more or fewer dF, one can vary the spread of the distribution of outcomes. The outcome of rolling NdF approaches a normal distribution as N increases, with the standard deviation being a constant multiple of $\sqrt{N}$. Note that the spread of the distribution does not vary linearly with the number of dice. There's a bigger difference between rolling 2dF and rolling 4dF than there is between rolling 4dF and rolling 6dF.


Probabilities when rolling NdF
2dF
4dF
6dF
9dF
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9