Polyhedral dice are a near-universal component of roleplaying games, however there are several obstacles dice have; they require a relatively open area to be rolled, but either a very clean area to deal with dice that roll too far or some way to contain the dice as well. Getting a good random roll requires some amount of velocity and dexterity.

Some groups that lack resources or are otherwise barred from using dice will create some kind of spinner, which introduces a unique trait: Separate bands of results representing different polyhedral dice. A single spinner can provide random numbers for D4, D6, D8, D10, D12, and D20 as needed. These are often hand-crafted, and as such are quite fragile as they are often made of styrofoam cups, or scraps of packaging boxes.

An alternative for games that only use one size of dice is often a deck of cards, which works directly for up to 10-sided dice but doesnt work directly for games that require a variety of dice such as many table-top role playing games do. These tend to be fragile compared to dice; getting wet, tearing from rough handling, damaged by the food and drink often enjoyed as part of the gaming session, etc.

A less common type of card is those used for sleight-of-hand magic work; these are made from much sturdier materials, sometimes entirely solid plastic and effectively indestructible for the situations encountered in general gaming.

Combining the concept of a spinner (with multiple results to choose from depending on the die you are rolling) with a deck of cards is possible, however mathematics (lowest common multiple) requires that a polyhedral dice set as a deck be at least 120 cards. This is more than double common playing card deck sizes and can be unweidly. The deck size is so large due to the D8; removing any other die does not reduce the minimum 'perfect' deck size.

Another issue with removing the D8 is it would change the total points needed on all cards from an integer 33 to a fractional 28.5 (the sum of the average of all dice sizes involved), which has other statistical issues which will be explored later. So is there a way to retain the D8 but somehow split the 120-card deck into two more usable 60-card portions? With caveats, yes.

The main obstacle is that 60 modulo 8 has a remainder of 4; meaning there would be 56 cards evenly distributed for the faces of the D8, then 4 cards remaining but 8 faces. There are four possible splits of the faces of a D8 which can be chosen which do not impact the statistical mean:

Single Wave

1	2					7	8
		3	4	5	6		

Triple Wave

1		3			6		8
	2		4	5		7	

Double Wave

1			4	5			8
	2	3			6	7	

Asymmetric

1			4		6	7	
	2	3		5			8

All but one among these have a specific trait; one half of the split has both the minimum and maximum value, the other has neither of these. The ‘Single Wave’ split for example reduces one side to the equivalent of D4+2 instead which, while fair, cannot get the best or worst results and can break the game mechanics that rely on having the full range when asking for a D8 to be rolled.

Looking at the smallest numerical range covered by each pattern, ‘Single Wave’ is the worst with one side only having a 4-number range. ‘Double Wave’ and ‘Triple Wave’ both have a 6-number range. ‘Asymmetrical’ has a 7-number range, only one lower than a true D8. It's also the sole case neither half gets both the minimum or the maximum value.

The statistical mean for all four patterns is 4.5, the same as a full D8, and for all of the Wave types the statistical median is also 4.5, once again the same as a full D8. The Asymmetrical pattern has raw statistical median of 4 or 5 for the two halves, however once the remaining 56 faces are added back in the median becomes 4.5 again in that case as well.

Using one half or the other of the asymmetrical pattern for just 4 cards out of 60 allows for a statistically balanced and fair 60-card deck, and allows for two such decks using each half of the pattern to be combined for a fully balanced 120-card deck for times when that is feasible, all while the sum of all dice on any one card is kept equal to 33.

Bringing all cards to this equal point total value makes cards quick to be verified as nominally balanced, and minimizes the value of deck tampering as a whole: Removing all the cards with a 1 on the D20 slot would be removing 99 points worth of dice from the deck, not 3; 60 cards ÷ D20 = 3 cards × 33 points. This greatly reduces the difference between “good” and “bad” cards.