DICECARDS
THE GUIDE

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dicecards.com

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Typeset by X∃TEX in Minion and Museo Sans.

INTRODUCTION

I created Dicecards in the summer of 2009, for use in role-playing games. They grew to include all the different elements in this guide. Production of Dicecards was made possible by the generous support of almost a thousand people through a Kickstarter campaign in January 2013. More than funding, the community of backers provided great advice, suggestions, support and criticism.

The Dicecards website has some of the information in this guide, and may be more up to date if errors are discovered. The website does not provide the rules for all the games in this guide.

Thanks for purchasing a deck of Dicecards. I hope you have lots of fun with them.

— Ian Millington, Wales, 2013

A Note on Shuffling

To draw a card with the same probability as rolling a die, you need to draw a random card. If you start with a shuffled deck you can draw the top card, then cut it back into the deck to put it back in a random location. You don't need a full shuffle each time.

The math of shuffling is complex, and the exact number of cuts you need depends on how random you need your draw to be. From my experimentation, three cuts gives a result that is only as biased as your average store-bought die.

CHAPTER 1

ON THE CARDS

1.1   Playing Cards

The most obvious random element on the cards is the card value itself. The deck is a full 52 card deck, plus a red and a black joker. The jokers are indicated with stars.

The white border around each card ensures that the cards can't be easily identified from the side when they are in a deck, to avoid being able to cut to a desired card.

1.2   Polyhedral Dice

There are a full set of six polyhedral dice on the cards. Each always appears in its own colour, for easy look-up.

As for all the random elements, some dice may not appear on every card. The d20 is the most absent, for example, appearing on 40 cards. If the first card you draw does not have the die you want, then draw again until you see it. You're not allowed to keep drawing until you get the *roll* you want though!

We'd need 100 cards to have a d%, so instead use the d10. Draw two cards: the first card is your tens, and the second your units. A roll of 00 is 100 (so if you roll a zero first, there's that moment of excitement to see if you'll bomb out or ace the roll). Statistically, you should reshuffle the deck between drawing the tens and units, but

most people don't, and the effect on your roll is only tiny: the chance of rolling a pair of the same numbers (100, 11, 22, 33, etc) drops from 10% to just over 8%. If you're playing the Rolemaster RPG, this will decrease your chance of a critical hit, but in most other games will have no noticeable effect.

1.3   Pirate Die

The pirate die has six different faces: a treasure chest (your goal), a key (needed to open the chest), a ship (which has no effect), a skull and crossbones (an attack by a rival) and two treasure maps, one showing a single cross, and another showing two. It is designed for playing a push your luck dice game exclusive to Dicecards. The rules are described in section 2.4.

1.4   Dungeon Tile

The dungeon tile, on every card, allows you to randomly generate a dungeon in a role-playing game. Each tile has a doorway at the side nearest the bottom of the card (representing the direction in which the party entered that room). The tile then has a random selection of doorways leading off. Each doorway off may be empty, or may have a door. All combinations of doors and doorways are present in equal distribution.

   Half of the dungeon tiles have a crossed swords icon on them. You can use this in your game to represent a room with a monster in, for example, or perhaps a trap. Section 2.1 gives rules to play a fast dungeon crawl game with these.

1.5 Fudge Die

FUDGE is a generic tabletop role-playing game system created by
Steffan O'Sullivan, with many variations, including the popular Fate
rule set. It has a unique dice resolution system using custom dice,
called Fudge Dice, or dF. A fudge die appears on each dice card, they
are fudge coloured.

Fudge dice have six sides, two blank, two showing a +
(representing +1) and two showing a − (representing −1). A set of
dice are rolled (normally 4), and the values totalled. Positive values
represent success, and negative values represent failure, with the size
of the roll showing how dramatic a success or failure occurred.

The average roll, on any number of fudge dice, is always zero. So
this scheme makes it very easy to figure out bonuses and modifiers.
A modifier of +1, say, means that on average the result will be a mild
success. A modifier of −3 makes it very unlikely the result will be
anything but a failure.

1.6 Werewolf Roles

Werewolf is a great filler game with a larger group, and a superb way
to break the ice at a geeky party or convention. The game based on
Mafia, by Dimitry Davidoff, re-themed by Andrew Plotkin. If you
are looking for more information, try searching for both Mafia and
Werewolf.

Dicecards contain a full set of roles for up to 24 players. As well
as werewolf and villager roles, there are single cards with a seer, a
hunter, a child, and cupid. Complete rules are given in section 2.3.

1.7   Bonus d3

This six sided die has two sides each with one, two and three pips. It can be used as a d3 in various games.

You can also ignore the grey coloured sides to get a die with faces 0/0/0/1/2/3, this could be used as the reinforcement die in the board game Small World, or in other cases where an occasional bonus is needed.

1.8   Attack Defend Die

This die has three faces with crossed swords, indicating an attack, and two sides with a shield, indicating defence. The remaining side is blank. This format is used in a games such as Battle Masters and its more famous successor Heroscape, as well as for attacks in games such as Mutant Chronicles and Armada.

On this die the attacker has a slight advantage (3 vs. 2). Our version has a pip on two of the attack sides, and on one of the defence sides, this allows you to control the balance of power. To make combat more equal, you can use only pipped attack sides (there are 2 of them) and any defence (so 2 vs. 2). To keep the attacker advantage, but to make it even more pronounced, you can use only the pipped sides of each (giving 1 vs. 2).

1.9   Wargaming Die

There is both a scatter die and an artillery die on the cards. These are commonly used in miniature wargames, both are a dark grey colour. Both were popularised by the Warhammer 40K line of miniature

wargames, and have been used in many other games since.

The scatter die in particular is very useful in lots of contexts. It has four sides with an arrow on it, and two sides with a hit marker. If the roll is a miss, the direction of the arrow shows the direction of the miss. On the cards, this direction is also randomised, so the card can be played in line with the table, and the direction read off. Sometimes you don't want a hit to be possible (let's say you've determined it is a miss already). In that case, the 'hit' sides also show one of the bars of the hit reticule as an arrow, and you can use that arrow as the miss direction.

The artillery die has sides of 2, 4, 6, 8, 10 and miss (an X). To make a d6x2, the miss side also indicates that it can be used as a 12.

1.10   Average Die

The "average" die is intended to represent the fact that an average person should not be expected to show huge success or failure. Rather than running 1–6, this die runs from 2–5, with there being two 3s and two 4s. Using this die instead of a regular d6 gives the same average result (e.g. rolling 2d6 still averages 7), but reduces the range of possibilities: on two dice you can only roll from 4–10. The average die is a greenish grey with an icon on each face showing two arrows pointing together.

1.11   Extreme Die

The "extreme" die is the opposite of the average die. It gives results that are more extreme. You can use it for situations which are

particularly high risk, or where the possible rewards are greater than normal. The extreme die runs from 1–6, but has two 1s and two 6s, with no 3s or 4s. Its average roll is the same as the regular d6, and unlike the "average die" its range is the same too. So you will average 7 on two dice, with a range from 2–12. Unfortunately, the probability distribution for rolling more than one extreme die is not a smooth hump, it has several peaks and troughs, making some intermediate values very unlikely.

1.12 Expectation Die

The "expectation" die has six sides, it has two each of 0, 1 and 2. It has the unique property that its average value is equal to the number of dice you roll, and its range goes from zero to twice that number, with results in the middle being more likely. This makes it perfect for deciding how many of something there is. If you decide that there should be about 10, but there could be anything up to 20, then rolling ten expectation dice gives you the right distribution. The expectation die is grey, with an icon on each face showing a square with a line over it.

1.13 Coloured Meeples

Coloured meeples are ideal for choosing which colour players get to be in a board game, and who moves first.

The colours have been chosen to match the greatest number of games, without having so many colours that you have to keep redrawing to find one you need. There are eight colours in the deck:

red, orange, yellow, green, blue, pink, white and black.

Each meeple has a hit-target on them. The hit targets are distributed between left and right legs, left and right arms, head and torso. There is no relationship between the position of the target and the color of the Meeple. The targets can be used to determine the hit location in a role-playing game.

1.14   Writer's Die

The writer's die was created by Daniel Solis as an aid to creating more interesting plots in stories and story-based games.

One simple use has a player roll the die after they've taken an action, or told part of the story. The result asks them to further elaborate, in a particular way. So rolling 'but' means they have to tell you something else that happens which contrasts in fortunes with their original event. Rolling 'and' requires a non-contrasting event. Rolling 'so' requires a consequence, 'or' needs an alternative, 'as' makes something happen at the same time, and 'if' makes it contingent.

The faces of the writer's die also have pips on them, so the die can be used as a regular d6.

Daniel's blog at **danielsolisblog.blogspot.co.uk** has a much more detailed PDF with many ways to use this die.

1.15   Elements Die

The element die has sides for Earth, Air, Fire and Water. It is primarily designed for role-playing or storytelling games, where it

can be used to figure out the kinds of magic an enemy might have, or what their weaknesses are.

This die uses Bill Sides patented d4 design that removes the need to have three symbols on each side. Unlike a regular d4, there is a clear 'up' side, and this shows the symbol rolled.

1.16   Weather Die

The weather die is designed for role-playing or storytelling games. It let's you randomly decide what the weather is doing. Its six faces cover the most common weather symbols on forecast maps.

The die has separate sides for snow and rain. If the setting of your game or story is in a climate that would not have one or the other, you can either re-roll it, or use both symbols to mean 'precipitation'. You could replace snow with hail, in less snowy climes, for example, or replace rain with sleet.

1.17   Rock Paper Scissors (Lizard Spock) Die

Rock paper scissors is a time tested way of resolving conflict and making decisions.

We've gone to the geeky max by adding a Rock Paper Scissors Lizard Spock die to the cards. Its like Rock Paper Scissors only more.

The rules, in the words of the Big Bang Theory are: "Scissors cuts paper, paper covers rock, rock crushes lizard, lizard poisons Spock, Spock smashes scissors, scissors decapitates lizard, lizard eats paper, paper disproves Spock, Spock vaporises rock. And, as it always has, rock crushes scissors". Table 1.1 shows this in easy to consult form.

Who wins?	Rock	Paper	Scissors	Lizard	Spock
Rock	—	Paper	Rock	Rock	Spock
Paper	Paper	—	Scissors	Lizard	Paper
Scissors	Rock	Scissors	—	Scissors	Spock
Lizard	Rock	Lizard	Scissors	—	Lizard
Spock	Spock	Paper	Spock	Lizard	—

Table 1.1: Victory table for RPSLS

Our RPSLS die is an exact copy of the one by Sandeep and Dave that was funded on Kickstarter in 2012. On the original die the sixth face meant 're-roll'. On the cards this side is never shown, the re-roll has effectively been done for you. So although this is a six sided die, only five sides can ever appear.

If you want a regular game of Roshambo, just redraw if you get a Lizard or a Spock.

1.18 Treasure Map

Underneath the dice on each card is an old map of the world. On each card, a different capital city is marked with a cross hair and its national flag. The key is given in table 1.2.

You can use this element in role-playing games with modern or post-apocalyptic settings, to randomly decide where a character comes from. Or you can use it as a little game in itself. See section 2.5 for rules on how to play.

A♠	Washington DC, USA	A♣	Rome, Italy
K♠	Caracas, Venezuela	K♣	Copenhagen, Denmark
Q♠	Berlin, Germany	Q♣	London, UK
J♠	Wellington, New Zealand	J♣	Bangkok, Thailand
10♠	Seoul, South Korea	10♣	Abuja, Nigeria
9♠	Bogotá, Colombia	9♣	Tehran, Iran
8♠	Beijing, China	8♣	Jakarta, Indonesia
7♠	Baghdad, Iraq	7♣	Reykjavík, Iceland
6♠	Kuala Lumpur, Malaysia	6♣	Lisbon, Portugal
5♠	Islamabad, Pakistan	5♣	Port Moresby, Papua New Guinea
4♠	Ottawa, Canada	4♣	Khartum, Sudan
3♠	Mexico City, Mexico	3♣	Stockholm, Sweden
2♠	Naypyitaw, Myanmar	2♣	Harare, Zimbabwe
A♦	Manila, Philippines	A♡	Hanoi, Vietnam
K♦	Brussels, Belgium	K♡	Buenos Aires, Argentina
Q♦	Canberra, Australia	Q♡	Brasília, Brazil
J♦	Amsterdam, Netherlands	J♡	Pretoria, South Africa
10♦	Tokyo, Japan	10♡	New Delhi, India
9♦	Pyongyang, North Korea	9♡	Paris, France
8♦	Kabul, Afghanistan	8♡	Riga, Latvia
7♦	Moscow, Russia	7♡	Athens, Greece
6♦	Nairobi, Kenya	6♡	Algiers, Algeria
5♦	Madrid, Spain	5♡	Riyadh, Saudi Arabia
4♦	Jerusalem, Israel	4♡	Lima, Peru
3♦	Cairo, Egypt	3♡	Warsaw, Poland
2♦	Colombo, Sri Lanka	2♡	Santiago, Chile
★★	Dodoma, Tanzania	☆☆	Istanbul, Turkey

Table 1.2: Treasure map answers

1.19 Target

The target is intended to resolve ranged attacks in a role-playing game, a wargame or a sports game. On each card the arrow is shown in one of the four coloured segments. The fletching of the arrow is shown in the same colour, so you can quickly see at a glance which section it is in.

In addition there are two special configurations. One is a double arrow in the gold segment. This represents some kind of critical hit. Another has an arrow with a white fletching lying on its side on the target. This represents a critical miss.

Segment	# Cards	Approx. chance to better
Double Gold (critical hit)	2	4%
Gold	2	$7\frac{1}{2}\%$
Red	8	$22\frac{1}{2}\%$
Blue	16	52%
Black	24	96%
White on side (critical miss)	2	100%

Table 1.3: Chance of hitting target segments

To use the target, decide what the difficulty of the shot will be, in terms of its colour, and have the player draw a card. If the card has that colour or better, the result is a hit. Otherwise, the arrow will be located in the target in a random direction, which you can use to figure out the direction of the miss. The probabilities are shown in table 1.3.

As a bonus feature, the sides of the target appear in gold, silver and bronze. There is no connection between the colour of the sides and where the arrow is located.

1.20   Compass

The compass is used to generate random directions.

The outer part looks like the regular coloured pointer of a normal compass. The red end points in a random direction, distributed among the four cardinal directions and their four intermediates (i.e. N, S, E, W, NE, SE, SW, NW). This is intended for use with square-paper maps. If you do not wish to allow diagonal movement, then simply draw more cards until a cardinal direction comes up.

The sunken inner bevel of the compass generates random directions for hex based maps. It is distributed among the six adjacent directions. This element assumes your grid is arranged with hexes arranged in vertical columns. If your grid is arranged as hex rows, then turn the cards ninety degrees counter-clockwise (if you hold the card in two hands by the number-and-suit markings, this is the natural direction to rotate it).

1.21   Poker Chips

There are several gambling games you can play with Dicecards, not least poker itself. In the spirit of having everything you need in one place, there is also a full set of poker chips on the cards, in their conventional colours (see table 1.4).

You can draw a random card to figure out what your stake should

White	$1
Red	$5
Blue	$10
Green	$25
Black	$100

Table 1.4: Poker chip colours and values

be (ignoring any values you agree are too high or low). There are ten of each denomination chip in the deck. Chips always appear at the top of the card, making it much easier to tuck cards behind one another and see at a glance how much is in your stack.

1.22   Craps Dice

Thirty six of the cards contain a pair of craps dice. These are regular d6, with spots rather than numbers.

1.23   Dreidel

The Dreidel is a four sided spinning top used in a simple gambling game. It is Jewish in origin and associated with the Hanukkah holiday. The sides are labelled with Hebrew letters, to which I've added numbers as a quick reference (table 1.5).

Letter	Meaning		Symbol
Nun – נ	*nisht*	nothing	0
Gimmel – ג	*gants*	everything	$+1$
He – ה	*halb*	half	$+\frac{1}{2}$
Shin – ש	*shtel ayn*	put in	-1

Table 1.5: Dreidel faces

1.24   Crown and Anchor

Crown and Anchor is an old gambling game dating from the glory days of the tall ships of the English Navy. The Crown and Anchor die has six sides, showing the four playing card suits: spades, diamonds, clubs and hearts, plus a crown and an anchor. In some versions the crown and anchor have a different colour, giving three colours with two suits each. In other versions, including ours, the crown is red, and the anchor black.

The Crown and Anchor die is yellow and appears on 18 cards.

1.25   Slots Die

The slots die is used to recreate the fun of casino slot machines. Each die has six sides with traditional slot-machine fruit symbols on them: An orange, lemon, cherry, plum, bell and 'BAR'.

The slots die is white, and appears on 24 cards.

1.26   Dominoes

Dominoes are one of the all time classic games: a member of the Toy Hall of Fame. It has been said (probably apocryphally), that Dominoes has the highest fatality rate of any sport or game in the world – on account of its popularity at retirement homes. There are a complete set of 28 six-spot Dominoes on the cards. Six-spot Dominoes have values from zero to six on each side, with each combination appearing on one domino.

1.27   Letter Tiles

Each card has a different letter tile on it. The distribution of letters roughly matches the distribution of letters in normal English usage, as shown in table 1.6. Two of the tiles have an asterisk on them, which is a wild-card, representing any letter.

A	4	J	1	S	2
B	1	K	1	T	3
C	2	L	2	U	2
D	2	M	1	V	1
E	5	N	3	W	1
F	1	O	4	X	1
G	2	P	2	Y	1
H	1	Q	1	Z	1
I	4	R	3	✱	2

Table 1.6: Letter tile frequencies

1.28   Short Straw

Anytime you need to decide who gets to buy the next round of drinks, who gets to make the coffee, who plays first in the game, or who gets to take Great Uncle Bob home, the straws come into their own.

Each card has a different length straw on it, running from bottom to top. Each person draws a random card, and the shortest straw gets to do the unpopular deed (or the longest straw gets whatever advantage is available).

Each straw is a different length, but with 54 on the cards, it can sometimes be a little tricky to figure out which of two straws is the shorter. For that reason, each of the straws has a set of markings on it. Although the straws may be slightly off-vertical, the black bands always run exactly horizontally, and are in the same vertical position on every card, regardless of the angle of the straw. You can use these markings to help tell which straw is the longer.

1.29   Zener Card

In 1932, psychologist Karl Zener devised a set of five cards for testing extrasensory perception. The cards were intended to have very clear, unambiguous shapes on them, to maximise the likelihood that someone with ESP could detect the correct shape in the mind of another. The design of the cards is iconic. Each of the five cards has a figure with something of its number about it: a circle (a circle has only one line), a cross (two lines joining at the centre), three wavy lines, a square, and a pentagram (a five pointed star).

Twenty-five of the cards have a Zener card on them, lying on the table, normally towards the top. Zener cards are not seriously used in research any more. There are a number of reported biases and tricks which make it possible to score more highly than chance on the test. As such they are now considered a novelty and design icon, rather than a serious research tool. Section 2.12 gives rules of how to run your own ESP experiment with them.

1.30   Elder Futhark Runes

The cards contain small stone tiles with the 24 runes of the Elder Futhark on them. These runes are the oldest Germanic runic alphabet, dating as far back as the second century. Though once used as a script, they are now used for fortune telling. They are also iconic in a number of fantasy settings. J.R.R. Tolkien based the dwarven writing in Middle Earth on them, though he wrote on the moon map (the map in the Hobbit) using runes in a simple English cypher.

Each rune tile appears on one card.

1.31   Major Arcana of the Tarot

The cards feature small versions of the twenty-two trump cards of the tarot deck (also known as the Major Arcana). Although these cards are most commonly associated with fortune telling, they are also traditional playing cards, which (along with a regular deck of 54 cards) are used in several games. They can also be used for their symbolic functions in storytelling or role-playing games.

Because the cards are reproduced in rather small format, the

names of the cards aren't given. Instead they are given their traditional number, as shown in table 1.7.

I	The Magician	XII	The Hanged Man
II	The High Priestess	XIII	Death
III	The Empress	XIV	Temperance
IV	The Emperor	XV	The Devil
V	The Hierophant	XVI	The Tower
VI	The Lovers	XVII	The Star
VII	The Chariot	XVIII	The Moon
VIII	Strength	XIX	The Sun
IX	The Hermit	XX	Judgement
X	The Wheel of Fortune	XXI	The World
XI	Justice	0	The Fool

Table 1.7: The Major Arcana of the Tarot

The art and format of the tarot here was inspired by "The Haunted Doll House Tarot block printed Major Arcana" by J.E.Moores – a beautiful hand made tarot deck which is actually the size depicted on my cards: each being only about an inch in size. You can see Jay's work at **jemtoy.com**.

1.32   Fortune Cookie Slip

Near the bottom of each card is a slip from a fortune cookie. There are a bunch of randomisers on here. They always appear in the same order, though on some cards, some elements may not be present.

Number   The first element is a number. Each card is numbered from 1–54, but these numbers don't correspond to any particular order of the cards.

Answer   Fortune cookie slips feature answers to your questions, inspired by the famous Lucky-8 ball (the actual words and the distributions are totally different). There are 27 different answers, each appearing on two cards. Of those 27, 9 are positive, 9 are negative and 9 are neutral or ambiguous.

Gender   A gender symbol follows the answer on each card. There are three genders present: male, female and the intersex symbol. The male and female signs appear 4x more often than the intersex symbol.   The intersex symbol is intended to represent some complication in the gender of a character. It could indicate a woman posing as a man to be allowed to go into battle, or it could represent a non-straight relationship. The interpretation is up to you.

Western Zodiac   On 48 of the cards is the astrological symbol of one of the signs of the western Zodiac. In astrology, personality traits are often associated with sign. This can help generate a random personality type. A key to the symbols is in table 1.8.

Blood Group   The cards feature an A/B/AB/O blood group. Some Asian cultures associate blood groups with personality traits. Unlike most elements on the cards, the different groups don't appear in the same proportion. There are 12 cards with O, 12 with A, 8 with B and

Aries	The Ram	♈
Taurus	The Bull	♉
Gemini	The Twins	♊
Cancer	The Crab	♋
Leo	The Lion	♌
Virgo	The Virgin	♍
Libra	The Scales	♎
Scorpio	The Scorpion	♏
Sagittarius	The Centaur / The Archer	♐
Capricorn	The Sea Goat	♑
Aquarius	The Water Bearer	♒
Pisces	The Fish	♓

Table 1.8: Symbols of the Western Zodiac

4 with AB.

Chinese Zodiac On 48 of the cards is the Chinese character for the Chinese Zodiac (often called the Chinese year in the west, e.g. "the year of the dog"). Again these are associated with personality traits. A key to the Chinese characters is found in table 1.9.

I Ching Trigram 48 of the cards contain a trigram (e.g. ☳) from the I Ching traditional divination technique. The I Ching, however, is mostly concerned with the meaning of *hexa*grams (e.g. ䷲). A hexagram is made up of two trigrams stacked on top of one another,

Rat	鼠	Horse	馬
Ox	牛	Goat / Ram	羊
Tiger	虎	Monkey	猴
Rabbit	兔	Rooster	雞
Dragon	龍	Dog	狗
Snake	蛇	Pig	豬

Table 1.9: Symbols of the Chinese Zodiac

the bottom trigram is known as the inner, and the top is the outer. (e.g. ䷓ is made up of the outer ☲ on top of the inner ☷). There are not enough cards to feature the 64 hexagrams. To generate a hexagram from the cards, draw two cards.

Alignment The last element is an alignment grid, used in Dungeons and Dragons and games derived from it. One of the nine cells is shaded. The cells from the top left, reading right then down in rows represent: lawful good, neutral good, chaotic good, lawful neutral, true neutral, chaotic neutral, lawful evil, neutral evil, chaotic evil.

1.33   Coin

Every card features the Dicecards' lucky quarter, showing either heads or tails. The particular quarter on the cards was chosen as a movie reference; for the movie geeks.

1.34   Ball

Some of the cards feature a black or white ball. These are voting tokens, used to elect people to secret societies. Hence the phrase "to blackball" someone. Each person is given both a white and a black card. White means 'yes', black 'no'. Each person chooses the card corresponding to their vote, and places it face down in the middle. The cards are then shuffled before being turned over and counted. After the vote each person puts their remaining card in the centre and these two are shuffled before being put back in the deck (so there is never any record of who voted which way).

1.35   Other Stuff

There are loads of bits of minor randomness on the cards. The orientation of each piece, for example, is largely random, although some pieces, such as the compass, always have a fixed orientation.

The material that the desk is made out of is randomly selected from a group of options. Less obvious is that the direction of the sun is different on each card, from an hour after dawn to an hour before dusk. The effect is subtle, and while this isn't useful, it gives an extra bit of variation to the images.

CHAPTER 2
THINGS TO DO

2.1 Dungeon Crawl

Dungeon Crawl is played with several elements on the cards: the dungeon tiles, the pirate die, the d6, the d20, the target, and the letter tiles. You will also need a 2 minute countdown timer, and you may want a selection of matchsticks, tokens or cubes to mark cards with.

Dungeon Crawl can be played solo, or competitively among any number of players. When played with multiple players, each player plays on their own, in turn, and the highest scoring player wins.

To begin with, choose which class of hero you will be as you venture into the dungeon: you can be a Brawler, an Archer, or a Mage. Your choice determines which element on the cards you will use to resolve combat. The brawler uses the d20, the archer uses the target, and the Mage uses the letter tiles. You must declare your chosen class before your turn begins.

Shuffle the deck and deal the top five cards into a hand. The rest of the deck should be placed face-down on the table next to you. You will also need room for a face-up discard pile. Because the game is timed, an unfair advantage can be gained by playing two handed. So you must hold your hand of cards in one hand (or in a card holder for players with limited mobility), and pick up and play cards with the other.

Choose a card from the initial five in your hand and play it onto the table, with the bottom of the card towards you. The dungeon tile on this card is the entrance to the dungeon. Dungeon tiles have one entrance (always from the bottom of the card,) and up to three exits, each of which may be blocked by a locked door.

The timer begins when the first card is played. You can then play additional cards as quickly as possible. Your turn is over when you have no more cards to play, when your deck is exhausted and none of the cards in you hand can be played, or when the two minutes is over.

Playing Cards and Drawing   Cards may be played from the hand either as dungeon tiles to the table, as combat cards, as key cards to go through locked doors, or purely to discard them.

After playing a card, you can draw another from the deck, as long as you never have more than five cards in your hand at any time. You can choose not to draw, if you prefer to play a sequence of cards quickly, and can then draw back up to five afterwards.

A player may discard any number of cards from their hand at any time, and draw back up to five. This gets rid of poor cards, but it also reduces the cards you have available.

Expanding the Dungeon   You may play a card to the table to expand the dungeon. Cards representing the dungeon should form a square grid on the table (you may have to leave a little room for this to work).

To expand the dungeon, you place a new card adjacent to an

existing card. The bottom of the new card *must* be facing towards the tile you are expanding from. So if you choose to exit the first tile to the right, the next card will be placed so its bottom is towards the right hand side of the previous card.

You can expand any part of the dungeon at any time, jumping back to other sides of the dungeon, if you like.

When a tile is placed in a location where it has two or more neighbours, the tile must match the entrances in all directions. There are two rules for matching: you cannot have a wall bordering a doorway, and you cannot have two locked doorways bordering each other.

Tiles with locked doors and crossed swords in them have their own rules which need to be followed before they can be used to expand the dungeon.

In addition, look out for skull-and-crossbones and treasure chest symbols on the Pirate die, these impact your score (see the section on scoring, below, for more details).

Locked Doors   A dungeon can only be expanded in the direction of a locked door if you pay a key. A key is any card from your hand with the key symbol on the black pirate die. If you have no such card, then you may not expand the dungeon through the locked door. Once a tile is placed on the other side of a locked door (this may happen by paying a key, or by finding a different route into the same location) that room may be used again without paying additional keys. A key that is paid is placed in the discard pile.

After paying a key you may only place the dungeon tile beyond the door, or draw. You may not expand the dungeon elsewhere, pay additional keys, engage in combat, or discard. This rule ensures that you don't need to keep track of which doors have been paid for: an unlocked door will have a tile on the other side of it.

Fighting Monsters   Tiles with crossed swords in them represent encounters with the foul beasts in the dungeon. You must fight and defeat the monster before being able to expand from that room. When a monster has been defeated, mark the card in some way, with a matchstick or token or cube.

When first playing a dungeon tile with a monster in it, you do not need to fight it immediately. You can expand the dungeon elsewhere if you prefer. Combat differs depending on the class you chose at the start of the game.

Brawlers Combat   If you are a brawler, you must play cards from your hand with a total of 21 or more on the d20 to defeat a monster. These cards can be played in one go, or can be played one at a time interspersed by drawing cards. You cannot fight another monster, expand the dungeon, or pay a key while doing this. You may discard cards and draw, however. If you decide to stop fighting the monster at any point before you have a total of at least 21, any combat cards you have played are discarded. If you later choose to fight that monster again, you must begin again from zero.

Archers Combat   If you are an archer, you must play a card with an arrow in the red or gold of the target to defeat a monster. A double arrow in the gold is a critical hit, and can destroy two monsters *in two adjacent rooms connected by a doorway*. If there are no such pair of monsters, then the double arrow counts just as a single hit. The doubling effect can only be used at the time when the card is played.

Unlike the other classes, as an archer, you will never require more than one card to kill a monster. But you will have only 12 cards in the deck capable of this feat, so you will need to manage your arrows carefully to score highly.

Mage Combat   If you are a mage, you must cast spells with the letter tiles to defeat a monster. A spell is cast whenever you play a series of cards whose letters make a regular word in the dictionary (for serious players in English, the official Scrabble dictionary should be considered canonical).

Like the brawler, letter tiles must be played in one go (though discarding and drawing are allowed), and the word they spell must be declared. The letter tiles can be played in any order. Words may have any number of letters, though obviously the fewer the better.

Scoring   When you run out of time, or cards, or have exhausted your deck and cannot play any of the cards in your hand, your turn is over, and you can count up your score.

Your score is based on the dungeon you have laid out. Each card in your dungeon scores one point, representing the small amount of treasure found within it. In addition, some rooms contain bonus

treasure: each card that has a treasure chest symbol on the Pirate die represents an extra haul. Score the number of points shown on the d6 for that card in addition to the one point that the tile would normally give. Of the rooms with bonus treasure, one has 1 treasure, one has 2, two have 3, one has 4, three have 5 and one has 6, giving you a maximum of 34 extra treasure points.

If a card has a monster on it (4 of the 9 treasure rooms contain monsters), then you can only score that card (for either its one point, or its bonus treasure) if the monster was defeated.

As well as treasure, the dungeon contained traps. Count up the cards in your dungeon with a skull-and-crossbones symbol on the Pirate die. These are rooms with traps in them. If you hit one or two traps, then you are fine. If you hit three or four traps, then you returned injured, and spent some of your treasure on medical care: take a penalty of -10 points for three traps, or -20 for four. If you have more than four traps, then you died in the dungeon, and score zero. Tiles with undefeated monsters do not count against you: as you did not enter them fully enough to trigger the trap (again, 4 of the 9 trap rooms contain monsters).

2.2 The Dicecards Mini-RPG

The Dicecards RPG is a generic action resolution and character development system for tabletop role-playing games. Because of the inevitably tiny space available, the rules given here will be the briefest sketch of a very rules-light system. The rules will focus on the Dicecards-specific rules, and will ignore important advice on GM

Die	Colour	Attribute	Abbrev.
d4	Red	Noticing, Perception	NOT
d6	Green	Persuasion, Charisma	CAR
d8	Orange	Agility, Speed, Jumping, Dodging	ADJ
d10	Blue	Brute Force, Strength, Power	FOR
d12	Sky Blue	Accuracy, Hand-Eye Coordination	HEC
d20	Purple	Magic, Technical Ability	TAB

Table 2.1: Interpretation of Polyhedral Dice in Dicecards RPG

technique, on role-playing, and on group dynamics. You can also extend these rules by using other elements on the cards, such as the target to resolve ranged combat, the meeples to determine where hits land, and the dungeon tiles to give a random map.

The rules are for an RPG that feels strongly Game-like, they are not designed to enhance Acting, Story or to be particularly good at Simulation.

In the Dicecards RPG players have a hand of cards which represent their character. The number of cards representing a character is the level of that character. On each card, the polyhedral dice represent specific character attributes (see table 2.1).

The game is split into scenes, which are continuous chunks of action, separated by times when the characters can take a break and recuperate. During a scene, a player may play one of her character's cards to carry out some action in the game. When playing a card, the character declares which attribute the card is being played for. Once

a card is played, it cannot be played again for the remainder of the scene. At the end of the scene, players collect their cards again ready for the next chunk of play.

When a player achieves a particularly notable victory, the GM may award them a point of experience (XP). This can be represented as a matchstick or token or can just be noted down. When a character has as many XP as their level, they draw a new card to increase in level, and their XP returns to zero.

Character Creation and Development The GM decides what level the characters should begin at. I recommend beginning at level 2 or 3. Each player takes turns to deal three cards in front of them, *two face up and one face down*. They may choose to keep one, and return the others to the deck. They may not look at the face-down card, but they may choose it (it is fairly rare for a player to need to chose the face down card, but it can be a fun gamble). The deck is then shuffled and passed to the next player. This continues until all players have drawn as many cards as their character's starting level. Characters begin with zero XP.

If a player has their own deck of Dicecards, then they may deal their character from their own deck. Cards must still be dealt in threes and one of each three retained. If the game is likely to last for more than one session, then players will normally keep a note of the cards that make up their character.

When a character has the same number of XP as their level, they spend their XP and gain a new card as a way of levelling up. This can

only happen between scenes. The process for gaining a new card is exactly the same as for character creation: three cards are dealt and one is chosen.

Action Resolution   In a scene, the GM describes an obstacle facing the party. Obstacles may be physical barriers (chasms, walls, locked doors), enemies (monsters, evil minions, wild beasts), puzzles, people, devices, weather conditions, mazes, and so on.

For passive obstacles (those not involving NPCs or monsters), a simple action resolution method is used. Active obstacles use a more complex variant, which is described in the next section.

The players decide how to overcome the passive obstacle and declare what their character is going to do. When a player describes their action, they play one of their cards and declare which skill or attribute they are using. So a player may have their character leap across a chasm using their Agility ability. The value on the corresponding die determines their proficiency in the action. If a player has no more cards to use (or if they choose not to play a card), they still declare an ability type, but score only one.

The GM decides how difficult the action would be, and gives this a number. Actions with positive difficulty are hard, actions with negative difficulty are easy. It is a good idea to allow players to ask the GM how difficult an action would be before playing their card and attempting it. So, in the example above, the player asks the GM how hard a jumping challenge the chasm poses; the GM says it is a $+4$ difficulty (which is a hard challenge for Agility).

To resolve the action, the GM draws a card at random, and looks up the value on the appropriate die, corresponding to the ability being used. To this, the difficulty modifier is then added. And the result is compared against the corresponding roll on the player's card.

If the player's result is higher, then the action was a success. If the two values are the same, then the result was ambiguous, and the GM should describe some intermediate result between success and failure. For example, our character jumps the chasm by playing a card with 8 on the d8. The GM draws a card, which has no d8, so they draw again, finding a card with 4 on the d8. The result is therefore $4 + 4 = 8$, which is a draw with the player. The GM explains that the character made the jump, but landed awkwardly, and will be unable to stand for the rest of the scene.

Active Obstacle Action Resolution   When characters are pitted against one another, or against a character played by the GM (an NPC), the action resolution system changes slightly.

The active opposition to the player character will have its own level, and should therefore have its own hand of cards. If the opposition is a major NPC the GM may go through the full character creation dealing process. Otherwise the GM may just deal the appropriate numbers of cards at random. NPCs with very specific skills might be preprepared by the GM selecting a specific set of cards.

The GM may also add a difficulty modifier to the encounter. So a player pushing against a door that is being propped closed by an

NPC might face a more difficult job than the NPC. The GM may say there is a +3 difficulty to the action.

To resolve a conflict, the player plays a card as normal, and the GM plays a card from the NPCs hand. The difficulty modifier is added to the appropriate ability value on the NPC's card.

The winner is whoever has the higher value in the appropriate ability. If there is a draw, then neither opponent is the clear winner. The result can be intermediate, or it can be a stalemate, at the GM's discretion. If a stalemate, then the player may choose to try again, by playing another card (remember that once a card is played, it cannot be played again during the same scene). If either side cannot or chooses not the play a card, then they will score 1.

Player characters are likely to have a range of things they need to do with their cards during a scene, while NPCs more often only exist to resist the players. An equal level opponent is therefore a very hard challenge for a player. I'd recommend you drop a level or two in the opponents you marshal.

Multi-Stage Actions and Combat Both kinds of action resolution above are one-shot process. Unless there is a draw, then the character either succeeds or fails. Some obstacles may involve a sequence of challenges. Scaling a tall rock-wall might involve more than one stage. The most common example of a multi-stage action is combat.

For multistage actions, the GM determines how many victories are required for success. Players then must continue to play cards until the overall challenge is completed.

Combat works in the same way. Both parties in combat have a number of hit points. Player characters have the same number of hits as their level. NPCs may have any number of hits, at the GM's discretion. For each action resolution in combat, the loser deducts one hit point. When the number of hits is zero, that party is killed. Combat between two parties of equal level is unlikely to leave either dead, therefore. It is important to work together as a team in combat.

Player character regain their hit points between scenes.

2.3   Werewolf

The game is set in an isolated village, where some of the villagers have succumbed to lycanthropy. The village has resolved to hunt down the werewolves in their midst, but nobody knows who they are. Each player is secretly given a role, either villager or werewolf (there are some additional optional roles, discussed below). One person acts as the moderator and does not play. The villagers' goal is to kill all the werewolves, the werewolves' goal is to kill all the uninfected villagers.

First, the werewolves need to make contact with each other. The players sit in a circle. The moderator tells everyone to close their eyes and pat gently on their knees (to create sound that will mask the sound of slight movements). When everyone has their eyes closed, the moderator tells the werewolves to open their eyes and look around, to make visual contact with the others of their kind. After a few seconds, the moderator tells everyone to close their eyes again. Then the first round can begin.

The game takes place in a series of rounds, each representing one

24 hour period. Each round is split into two turns: one for the day and one for the night. The moderator announces that it is morning, and everyone may open their eyes. The village meeting begins. All the players (of all roles) discuss who they think is a werewolf. The village must choose one player to kill as a werewolf. Anything can be said in this time, any claims made, any lies told. The only rule is that players may not under any circumstances show their card (though they may, of course, *tell* people what role they are, or lie). Once a victim is decided that player is immediately killed, and cannot say anything more. They reveal the role on their card, and leave the game.

The night turn follows. The moderator asks everyone to close their eyes and pat once again. Then they ask the werewolves to open their eyes. The werewolves must select a villager to kill. The werewolves make their decision non-verbally, pointing at their desired victim. The victim receiving the most points will be killed (but not just yet). The moderator asks the werewolves to close their eyes again. After a second, the asks everyone to open their eyes. The moderator says that morning has broken, and the village awake to find a villager dead. The moderator indicates which villager was killed, and that villager leaves the game immediately.

Each round two players are eliminated: one by village lynching, one by werewolf attack. The game continues until only genuine villagers or werewolves remain.

The number of werewolves and villagers depends on the number of players. Recommended numbers are given in table 2.2. The four

# of Players	6–8	9–11	12–16	17+	Total in deck
Werewolves	2	2	3	4	5
Special Roles	0	1	1–2	2	4
Villagers		*everyone else*			15

Table 2.2: Number of roles for number of Werewolf players

special roles below can modify the way the game plays, and add additional victory conditions.

Cupid   During the first night, after the werewolves have gone back to sleep, the moderator asks cupid to wake up and point to two people. These people will be *lovers* for the duration of the game (the gender of players is irrelevant). The moderator then walks around the circle and taps the two lovers gently on the back. These two then open their eyes and identify each other. The goal of these players changes: their only goal is to make sure the other survives. If one is a villager and the other a werewolf, then this can only happen if they work together to eliminate everyone else in the game. Lovers still act as if they were their starting role (i.e. werewolves still wake at night with the others). If one lover dies at any time, the other lover immediately commits suicide, and reveals their card. After the first night, cupid acts as a regular villager.

Hunter   The hunter is a regular villager. When a hunter is killed (either by werewolves in the night, or as a mistaken lynching), they

can shoot any other player in the game. They point at their intended victim (they still may not say anything after being killed). That player is then also killed, and reveals their role. A hunter may choose not to use this ability.

Seer   The seer is a regular villager, but gets a special action each night. After the werewolves have gone back to sleep, the moderator asks the seer to open their eyes and point to any other player. The moderator then puts their thumb up to indicate that person is a villager, or down to indicate they are a werewolf. The seer may freely share this knowledge during the day.

The Child   The child is a regular villager, but can open their eyes during the night to observe the deliberation of the werewolves. This power cannot be used on the first night, when the werewolves are first making contact.   If the werewolves spot the child looking, they will most likely choose to devour them, so the child must act discretely. This role usually biases the game very strongly in favour of the villagers, so you may want to add one more werewolf than usual if you are playing with this role.

2.4   Pirate Dice

The aim of the game is to collect the most treasure. To collect treasure you'll need to sail the high seas, avoiding rival pirates, following treasure maps, and finding keys to unlock the treasure chests. Each player takes their turn to collect as much treasure as possible. When every player has taken their turn, the player with

the most treasure wins.

The pirate die has six different faces: a treasure chest (your goal), a key (needed to open the chest), a ship (which has no effect), a skull and crossbones (an attack by a rival) and two treasure maps, one showing a single cross, and another showing two.

Players begin by drawing three cards. They may then choose to take one more card at a time, until they decide to stop. If the player has drawn three skull-and-crossbones, then they lose all their treasure and score zero for the round. It is important, then, to balance greed for going after new treasure, and the risk of losing it all.

When a player finishes their turn, they score two points for every treasure chest they have drawn, *plus one bonus point for every corresponding key*. So if they draw six chests, but only three keys, they would score 15 points. If they draw three chests, but six keys, they score only nine (the extra three keys don't give a bonus if they have no corresponding chest).

If a player draws a treasure map during their turn, they must follow up this important lead immediately, and draw one or two extra cards, depending on the number of crosses on the map. If, when taking the extra cards for a map, another map is drawn, then it adds even more cards to be drawn.

The cards are shuffled before each player takes their turn, but cards are not replaced in the deck during a player's turn. This means that, the chances of drawing different symbols changes as the turn goes on. If you've got lots of keys but no chests, then you are more

likely to get a chest if you continue to draw. There are nine copies of each symbol in the deck, so the maximum score in one turn is 27 (two points for each of 9 chests, plus one for each of 9 keys).

2.5 Cities of the World

The aim of the game is to score the most points by correctly identifying the location of the treasure on each map.

Up to six players are each dealt a hand of eight cards. One further card per player is dealt into a central pile. Each player then takes their turn.

On their turn a player can either play a card, or swap a card. If they play a card, they place it in front of them and guess the city and country marked: they gain one point for each correct element (i.e. 2 points if they get both city and country - the city is always the capital city of its country). If they swap a card, they take the top card from the central pile, then discard any card from their hand back onto the pile (they can discard the card just picked up). The central pile is then thoroughly shuffled. In this way players can get rid of difficult cards from their hand, but as time goes on the central pile will have a higher risk of having other people's difficult cards in it.

The game ends at the end of the turn when any player plays the final card from their hand. At this point nobody else gets to take a turn, and everyone adds up their score. The answers are given in table 1.2.

2.6   Craps

Craps is played in two phases. The first is called the 'come-out'. On the come out roll, a roll of 2, 3, or 12 is called 'craps', and is an automatic loss. A roll of 7 or 11 is a natural, and an automatic win. Any other number is called the 'point'. The shooter wins by rolling this number again, before rolling a seven. If the seven appears before the point is hit again, then the shooter loses.

Because the aim of craps is to roll the same value twice, it is important to shuffle the cards between each roll, if you deal two cards in sequence, there is a much lower chance of rolling your point again (it reduces the chance of rolling a 4 or 10 by a third, for example).

In casino craps anyone can bet on the shooter winning or losing (the shooter must bet at least a minimal stake on either). This is called betting on 'the pass' or 'don't pass'. In addition, there are normally a range of side-bets at different payouts, such as betting on what value will be the point, or betting on whether the shooter will win or lose in the 'come-out' phase. To play a full casino game of craps you probably need a craps layout, where players can place their bets. Even without this, craps is fun to play based solely on whether the shooter will win or lose.

The pass usually pays out even money, and has a 1.41% edge for the house (i.e. over time the person taking the bet will take 1.41% of the bets made). 'Don't pass' usually also pays out even money. But because 'don't pass' isn't paid out if the come-out roll is a 12 (called a 'push') this brings the edge to 1.36% for the house. So the 'don't pass' bet is better than the 'pass' bet, but because you are betting on the

shooter losing, it is sometimes considered bad form to bet this way.

2.7   Dreidel

Each player takes turns to spin the Dreidel by drawing a card. As usual, skip cards with no Dreidel on them. A result of Nun (0 / נ) means you do nothing. A result of Shin (-1 / ש), you add a stake to the pot. Stakes are often matchsticks, but the game can be played for money, or you can use the poker chips on the cards without a Dreidel. A result of Gimmel ($+1$ / ג) means you take the whole pot, and a result of He ($+\frac{1}{2}$ / ה) means you take half the pot (rounding up).

If each player starts with the same amount of money, the game will continue until one person has won everything, though this can take a considerable amount of time.

2.8   Crown and Anchor

The game is played between the house and a player. In a group, each person takes it in turns to play, and the person on their left is the house.

Before rolling, the player places a bet on one of the suits of the die. They can do this simply by naming the suit and placing a stake. The player then rolls three crown and anchor dice. The banker pays out even money if the player rolled one of their named suit, double if they rolled two, or triple if they rolled three. If they rolled none of their nominated suit, their stake goes to the house. The house has an edge of about 8% (i.e. after lots of games, the house will earn about

8% of the money bet).

You can play this game as a casino game by labelling a pot or area of the table with each suit. Any player can then bet on the result of any other player's rolls, though the rolling player is usually required to make a bet.

Because this game involves trying to roll the same thing on multiple dice, it is important to re-shuffle the deck before each die is rolled. Otherwise the chances of making a double or triple are substantially reduced.

2.9   Slots

Each player takes it in turns to spin the slot machine by drawing three cards. Depending on the pattern, the player scores the points given in table 2.3. The first player to hit 200 points wins.

Each player is also given three 'nudges', which they can use to draw another card to replace one of their three. These nudges must last through the entire game, and can be used whenever they choose, including re-rolling all three on one turn, or re-rolling a single value three times.

This game can be played solo, by having a fixed game of ten turns, and seeing how big a score can be attained.

2.10   Dominoes

All the domino cards are dealt face down on the table. Each player takes seven. The winner is the first person to play all their dominoes and have none in hand.

Symbols	Score
Two fruit of the same kind	20
Two fruit of a kind and a BAR	30
Two bells and a fruit	30
Two BARs and a fruit	40
Three fruit of the same kind	75
Two bells and a BAR	75
Two BARs and a bell	90
Three bells	100
Three BARs	150

Table 2.3: Slots scoring

Each player takes turns to play a domino. The first player may play any of their dominoes. Thereafter, the dominoes form a line of play, where a new domino may only be played if it matches the number on one of the two ends of the line. When a domino is played, its non-matching end then becomes the new end of the line. If a player is not able to play a domino from their hand, then they must draw another from the face-down set.

2.11   Word Maker

To begin with, deal each player (up to four players) seven cards. The aim of the game is to score the most points. Each turn a player may either draw another card, or may play a word. Points are scored based on the length of the word, as shown in table 2.4. If a player

Number of letters in word	Score
1	−10
2	−5
3	0
4	2
5	5
6	7
7	10
each additional letter	+5

Table 2.4: Word Maker scoring

uses all their cards in a word, they can draw seven more cards. When there are no more cards, and no players can (or want to) make a further word, the game ends and the scores are totalled.

Valid words are those in whatever dictionary is to hand. Proper nouns are not allowed, but pluralisation and modifications to other parts of speech are allowed, as long as the dictionary explicitly gives them.

2.12   ESP Experiment

It takes two people to run the experiment, the shower and the receiver. The shower deals out all the Dicecards with a Zener card on them, and puts aside the other cards. They shuffle the cards thoroughly.

The receiver sits in front of the sender, facing them. The sender

draws the top card from the set, making sure the receiver doesn't see it. They hold the card up with its back to the receiver, and concentrate hard on the Zener symbol. The receiver tunes into the thoughts of the sender and guesses the symbol. The sender keeps a score of correct and incorrect answers, but doesn't tell the receiver at this point.

Continue until all 25 of the Zener cards have been used. Do not use the same card multiple times.

Guessing should give the receiver 5 correct answers. A few more or less are quite likely, by chance. A receiver who gets 10 or more correct answers is showing results that are unlikely by chance. A receiver who gets 20 right is clearly gifted in ESP (or cheating, of course!).

You can do this experiment in a school critical thinking class. If you do, you'll often find at least one group who claims exceptional results. This is a great occurrence in the lesson, because you can then talk about rechecking results like this. Have the receiver come up and do the challenge again, with you as the sender, and taking more care to avoid cheating (in particular, be careful about reflections, and shuffling the decks). The exceptional results will disappear when the test is performed more rigorously.