#### Generate a bip39 passphrase using 1d4 and 3d8

- 1. Roll all the dice
- 2. Consistently and fairly, to avoid bias, arrange the dice in order left to right, with the d4 first.
- 3. Look up the result in the tables below. No re-rolls necessary.
- 4. After you are finished all 12 words, the last word may need adjustment in order to meet the checksum requirements.
- 5. Using a bip39 wallet try each of the words in the block of 16 that the last word is found inside; one and only one word will work from the group.
- 6. You have now generated a bip39 compliant wallet using manual entropy!

#### ## 11

1111	1112	1113	1114	1115	1116	1117	1118
abandon	ability	able	about	above	absent	absorb	abstract
1121	1122	1123	1124	1125	1126	1127	1128
absurd	abuse	access	accident	account	accuse	achieve	acid
1131	1132	1133	1134	1135	1136	1137	1138
acoustic	acquire	across	act	action	actor	actress	actual
1141	1142	1143	1144	1145	1146	1147	1148
adapt	add	addict	address	adjust	$\operatorname{admit}$	adult	advance
1151	1152	1153	1154	1155	1156	1157	1158
advice	aerobic	affair	afford	afraid	again	age	agent
1161	1162	1163	1164 air	1165	1166	1167	1168
agree	ahead	$\operatorname{aim}$		airport	aisle	alarm	album
1171	1172	1173	1174  all	1175	1176	1177	1178
alcohol	alert	alien		alley	allow	almost	alone
1181	1182	1183	1184	1185	1186	1187	1188
alpha	already	also	alter	always	amateur	amazing	among

1211	1212	1213	1214	1215	1216	1217	1218
amount	amused	analyst	anchor	ancient	anger	angle	angry
1221	1222	1223	1224	1225	1226	1227	1228
animal	ankle	announce	annual	another	answer	antenna	antique
1231	1232	1233	1234	1235	1236	1237	1238
anxiety	any	apart	apology	appear	apple	approve	april
1241	1242	1243	1244	1245	1246	1247	1248
arch	arctic	area	arena	argue	arm	armed	armor

1251	1252	1253	1254	1255	1256	1257	1258
army	around	arrange	arrest	arrive	arrow	art	artefact
1261	1262	1263	1264	1265	1266	1267	1268
artist	$\operatorname{artwork}$	ask	aspect	assault	asset	assist	assume
1271	1272	1273	1274	1275	1276	1277	1278
asthma	athlete	atom	attack	attend	attitude	attract	auction
1281	1282	1283	1284	1285	1286	1287	1288
audit	august	aunt	author	auto	$\operatorname{autumn}$	average	avocado

1311	1312	1313	1314	1315	1316	1317	1318
avoid	awake	aware	away	awesome	awful	awkward	axis
1321	1322	1323	1324	1325	1326	1327	1328
baby	bachelor	bacon	badge	bag	balance	balcony	ball
1331	1332	1333	1334	1335	1336	1337	1338
bamboo	banana	banner	bar	barely	bargain	barrel	base
1341	1342	1343	1344	1345	1346	1347	1348
basic	basket	battle	beach	bean	beauty	because	become
1351	1352	1353	1354	1355	1356	1357	1358
beef	before	begin	behave	behind	believe	below	belt
1361	1362	1363	1364	1365	1366	1367	1368
bench	benefit	best	betray	better	between	beyond	bicycle
1371	1372	1373	1374	1375	1376	1377	1378
bid	bike	bind	biology	bird	birth	bitter	black
1381	1382	1383	1384	1385	1386	1387	1388
blade	blame	blanket	blast	bleak	bless	blind	blood

1411	1412	1413	1414	1415	1416	1417	1418
blossom	blouse	blue	blur	blush	$\mathbf{board}$	boat	body
1421	1422	1423	1424	1425	1426	1427	1428
boil	bomb	bone	bonus	book	boost	border	boring
1431	1432	1433	1434	1435	1436	1437	1438
borrow	boss	bottom	bounce	box	boy	bracket	brain
1441	1442	1443	1444	1445	1446	1447	1448
brand	brass	brave	bread	breeze	brick	bridge	brief
1451	1452	1453	1454	1455	1456	1457	1458
bright	bring	brisk	broccoli	broken	bronze	broom	brother
1461	1462	1463	1464	1465	1466	1467	1468
brown	brush	bubble	buddy	budget	buffalo	build	bulb

1471	1472	1473	1474	1475	1476	1477	1478
bulk	bullet	bundle	bunker	burden	burger	burst	bus
1481	1482	1483	1484	1485	1486	1487	1488
business	busy	butter	buyer	buzz	cabbage	$\operatorname{cabin}$	cable

1511	1512	1513	1514	1515	1516	1517	1518
cactus	cage	$\operatorname{cake}$	call	$\operatorname{calm}$	camera	$\operatorname{camp}$	can
1521	1522	1523	1524	1525	1526	1527	1528
canal	cancel	candy	cannon	canoe	canvas	canyon	capable
1531	1532	1533	1534	1535	1536	1537	1538
capital	captain	car	carbon	card	cargo	carpet	carry
1541	1542	1543	1544	1545	1546	1547	1548
cart	case	cash	casino	castle	casual	cat	catalog
1551	1552	1553	1554	1555	1556	1557	1558
catch	category	cattle	caught	cause	caution	cave	ceiling
1561	1562	1563	1564	1565	1566	1567	1568
celery	cement	census	century	cereal	certain	chair	chalk
1571	1572	1573	1574	1575	1576	1577	1578
champion	change	chaos	chapter	charge	chase	chat	cheap
1581	1582	1583	1584	1585	1586	1587	1588
check	cheese	chef	cherry	chest	chicken	chief	child

1611	1612	1613	1614	1615	1616	1617	1618
chimney	choice	choose	chronic	chuckle	chunk	churn	cigar
1621	1622	1623	1624	1625	1626	1627	1628
cinnamon	circle	citizen	city	civil	$\operatorname{claim}$	$\operatorname{clap}$	clarify
1631	1632	1633	1634	1635	1636	1637	1638
claw	clay	clean	clerk	clever	click	client	cliff
1641	1642	1643	1644	1645	1646	1647	1648
climb	clinic	$\operatorname{clip}$	clock	clog	close	cloth	cloud
1651	1652	1653	1654	1655	1656	1657	1658
clown	club	$\operatorname{clump}$	cluster	clutch	coach	coast	coconut
1661	1662	1663	1664	1665	1666	1667	1668
code	coffee	coil	coin	collect	color	column	combine
1671	1672	1673	1674	1675	1676	1677	1678
come	comfort	comic	common	company	concert	conduct	$\operatorname{confirm}$

1681	1682	1683	1684	1685	1686	1687	1688
congress	$\operatorname{connect}$	consider	control	convince	$\operatorname{cook}$	cool	copper

1711	1712	1713	1714	1715	1716	1717	1718
copy	coral	core	corn	correct	cost	cotton	couch
1721	1722	1723	1724	1725	1726	1727	1728
country	couple	course	cousin	cover	coyote	$\operatorname{crack}$	cradle
1731	1732	1733	1734	1735	1736	1737	1738
$\operatorname{craft}$	cram	crane	$\operatorname{crash}$	crater	crawl	crazy	cream
1741	1742	1743	1744	1745	1746	1747	1748
credit	creek	crew	$\operatorname{cricket}$	$\operatorname{crime}$	$\operatorname{crisp}$	$\operatorname{critic}$	crop
1751	1752	1753	1754	1755	1756	1757	1758
cross	crouch	crowd	crucial	cruel	cruise	$\operatorname{crumble}$	$\operatorname{crunch}$
1761	1762	1763	1764	1765	1766	1767	1768
$\operatorname{crush}$	cry	crystal	cube	culture	cup	cupboard	curious
1771	1772	1773	1774	1775	1776	1777	1778
current	$\operatorname{curtain}$	curve	cushion	custom	cute	cycle	dad
1781	1782	1783	1784	1785	1786	1787	1788
damage	$\operatorname{damp}$	dance	danger	daring	dash	daughter	dawn

1811	1812	1813	1814	1815	1816	1817	1818
day	deal	debate	debris	decade	december	decide	decline
1821	1822	1823	1824	1825	1826	1827	1828
decorate	decrease	deer	defense	define	defy	degree	delay
1831	1832	1833	1834	1835	1836	1837	1838
deliver	demand	demise	denial	dentist	deny	depart	depend
1841	1842	1843	1844	1845	1846	1847	1848
deposit	depth	deputy	derive	describe	desert	design	$\operatorname{desk}$
1851	1852	1853	1854	1855	1856	1857	1858
despair	destroy	detail	detect	develop	device	devote	$\operatorname{diagram}$
1861	1862	1863	1864	1865	1866	1867	1868
dial	diamond	diary	dice	diesel	diet	differ	digital
1871	1872	1873	1874	1875	1876	1877	1878
dignity	dilemma	dinner	dinosaur	direct	$\operatorname{dirt}$	disagree	discover
1881	1882	1883	1884	1885	1886	1887	1888
disease	dish	dismiss	$\operatorname{disorder}$	display	distance	divert	divide

#### ## 21

2111	2112	2113	2114	2115	2116	2117	2118
divorce	dizzy	doctor	document	dog	doll	dolphin	domain
2121	2122	2123	2124	2125	2126	2127	2128
donate	donkey	donor	door	dose	double	dove	draft
2131	2132	2133	2134	2135	2136	2137	2138
dragon	drama	drastic	draw	dream	dress	drift	drill
2141	2142	2143	2144	2145	2146	2147	2148
$\operatorname{drink}$	$\operatorname{drip}$	drive	drop	$\operatorname{drum}$	dry	duck	$\operatorname{dumb}$
2151	2152	2153	2154	2155	2156	2157	2158
dune	during	dust	dutch	duty	dwarf	dynamic	eager
2161	2162	2163	2164	2165	2166	2167	2168
eagle	early	earn	earth	easily	east	easy	echo
2171	2172	2173	2174	2175	2176	2177	2178
ecology	economy	edge	edit	educate	effort	egg	eight
2181	2182	2183	2184	2185	2186	2187	2188
either	elbow	elder	electric	elegant	element	elephant	elevator

# ## 22

2211	2212	2213	2214	2215	2216	2217	2218
elite	$_{ m else}$	$\operatorname{embark}$	$\operatorname{embody}$	$_{ m embrace}$	emerge	emotion	employ
2221	2222	2223	2224	2225	2226	2227	2228
empower	empty	enable	enact	end	endless	endorse	enemy
2231	2232	2233	2234	2235	2236	2237	2238
energy	enforce	engage	engine	enhance	enjoy	enlist	enough
2241	2242	2243	2244	2245	2246	2247	2248
enrich	enroll	ensure	enter	entire	entry	envelope	episode
2251	2252	2253	2254	2255	2256	2257	2258
equal	equip	era	erase	erode	erosion	error	$\operatorname{erupt}$
2261	2262	2263	2264	2265	2266	2267	2268
escape	essay	essence	estate	eternal	ethics	evidence	evil
2271	2272	2273	2274	2275	2276	2277	2278
evoke	evolve	exact	example	excess	exchange	excite	exclude
2281	2282	2283	2284	2285	2286	2287	2288
excuse	execute	exercise	exhaust	exhibit	exile	exist	exit

2311	2312	2313	2314	2315	2316	2317	2318
exotic	expand	expect	expire	explain	expose	express	extend

2321	2322	2323	2324	2325	2326	2327	2328
extra	eye	eyebrow	fabric	face	faculty	fade	faint
2331	2332	2333	2334	2335	2336	2337	2338
faith	fall	false	fame	family	famous	fan	fancy
2341	2342	2343	2344  fat	2345	2346	2347	2348
fantasy	$\operatorname{farm}$	fashion		fatal	father	fatigue	fault
2351	2352	2353	2354	2355 fee	2356	2357	2358
favorite	feature	february	federal		feed	feel	female
2361	2362	2363	2364	2365	2366	2367	2368
fence	festival	fetch	fever	few	fiber	fiction	field
2371	2372	2373	2374	2375	2376	2377	2378
figure	file	$_{ m film}$	filter	final	find	fine	finger
2381	2382	2383	2384	2385	2386	2387  fit	2388
finish	fire	$_{ m firm}$	first	fiscal	fish		fitness

2411 fix	2412	2413	2414	2415	2416	2417	2418
	flag	flame	flash	flat	flavor	flee	$\operatorname{flight}$
2421	2422	2423	2424	2425	2426	2427	2428  fly
flip	float	flock	floor	flower	fluid	flush	
2431	2432	2433	2434	2435	2436	2437	2438
foam	focus	$\log$	foil	fold	follow	food	foot
2441	2442	2443	2444	2445	2446	2447	2448
force	forest	forget	fork	fortune	forum	forward	fossil
2451	2452	2453	2454	2455	2456	2457	2458
foster	found	fox	fragile	frame	frequent	fresh	friend
2461	2462	2463	2464	2465	2466	2467	2468
fringe	frog	front	frost	frown	frozen	fruit	fuel
2471	2472	2473	2474	2475	2476	2477	2478
fun	funny	furnace	fury	future	gadget	gain	galaxy
2481	2482	2483	2484	2485	2486	2487	2488
gallery	game	gap	garage	$_{\rm garbage}$	garden	garlic	garment

2511	2512	2513	2514	2515	2516	2517	2518
gas	gasp	$_{ m gate}$	gather	gauge	gaze	general	genius
2521	2522	2523	2524	2525	2526	2527	2528
genre	gentle	genuine	gesture	ghost	giant	$_{ m gift}$	giggle
2531	2532	2533	2534	2535	2536	2537	2538
ginger	giraffe	girl	give	glad	glance	$_{ m glare}$	glass

2541	2542	2543	2544	2545	2546	2547	2548
glide	glimpse	globe	gloom	glory	glove	glow	glue
2551	2552	2553	2554	2555	2556	2557	2558
goat	goddess	gold	good	goose	gorilla	gospel	gossip
2561	2562	2563	2564	2565	2566	2567	2568
govern	gown	$\operatorname{grab}$	grace	$\operatorname{grain}$	$\operatorname{grant}$	grape	grass
2571	2572	2573	2574	2575	2576	2577	2578
gravity	great	green	$\operatorname{grid}$	grief	$\operatorname{grit}$	grocery	group
2581	2582	2583	2584	2585	2586	2587	2588
grow	$\operatorname{grunt}$	guard	guess	guide	$\operatorname{guilt}$	guitar	gun

2611	2612	2613	2614	2615	2616	2617	2618
$\operatorname{gym}$	habit	hair	half	hammer	hamster	hand	happy
2621	2622	2623	2624	2625	2626	2627	2628
harbor	hard	harsh	harvest	hat	have	hawk	hazard
2631	2632	2633	2634	2635	2636	2637	2638
head	health	heart	heavy	hedgehog	height	hello	helmet
2641	2642	2643	2644	2645	2646	2647	2648
help	hen	hero	hidden	high	hill	hint	hip
2651	2652	2653	2654	2655	2656	2657	2658
hire	history	hobby	hockey	hold	hole	holiday	hollow
2661	2662	2663	2664	2665	2666	2667	2668
home	honey	hood	hope	horn	horror	horse	hospital
2671	2672	2673	2674	2675	2676	2677	2678
host	hotel	hour	hover	hub	huge	human	humble
2681	2682	2683	2684	2685	2686	2687	2688
humor	hundred	hungry	$\operatorname{hunt}$	hurdle	hurry	$\operatorname{hurt}$	husband

2711 hybrid	2712 ice	2713 icon	2714 idea	2715 identify	2716 idle	2717 ignore	2718 ill
2721	2722	2723	2724	2725	2726	2727	2728
illegal	illness	image	imitate	immense	immune	impact	impose
2731	2732	2733	2734	2735	2736	2737	2738
improve	impulse	inch	include	income	increase	index	indicate
2741	2742	2743	2744	2745	2746	2747	2748
indoor	industry	infant	inflict	inform	inhale	inherit	initial
2751	2752	2753	2754	2755	2756	2757	2758
inject	injury	inmate	inner	innocent	input	inquiry	insane

2761	2762	2763	2764	2765	2766	2767	2768
insect	inside	inspire	install	intact	interest	into	invest
2771	2772	2773	2774	2775	2776	2777	2778
invite	involve	iron	island	isolate	issue	item	ivory
2781	2782	2783  jar	2784	2785	2786	2787	2788
jacket	jaguar		jazz	jealous	jeans	jelly	jewel

2811	2812	2813	2814	2815	2816	2817	2818
job	join	$_{ m joke}$	journey	joy	$_{ m judge}$	juice	jump
2821	2822	2823	2824	2825	2826	2827	2828
jungle	junior	$_{ m junk}$	$_{ m just}$	kangaroo	keen	keep	ketchup
2831	2832	2833	2834	2835	2836	2837	2838 kit
key	kick	kid	kidney	kind	kingdom	kiss	
2841	2842	2843	2844	2845	2846	2847	2848
kitchen	kite	kitten	kiwi	knee	knife	knock	know
2851	2852	2853	2854	2855	2856	2857	2858
lab	label	labor	ladder	lady	lake	lamp	languag
2861	2862	2863	2864	2865	2866	2867	2868
laptop	large	later	latin	laugh	laundry	lava	law
2871	2872	2873	2874	2875	2876	2877	2878
lawn	lawsuit	layer	lazy	leader	leaf	learn	leave
2881	2882	$2883 \log$	2884	2885	2886	2887	2888
lecture	left		legal	legend	leisure	lemon	lend

3111	3112	3113	3114	3115	3116	3117	3118
length	lens	leopard	lesson	letter	level	liar	liberty
3121	3122	3123	3124	3125	3126	3127	3128
library	license	life	lift	light	like	limb	limit
3131	3132	3133	3134	3135	3136	3137	3138
link	lion	liquid	list	little	live	lizard	load
3141	3142	3143	3144	3145	3146	3147	3148
loan	lobster	local	lock	logic	lonely	long	loop
3151	3152	3153	3154	3155	3156	3157	3158
lottery	loud	lounge	love	loyal	lucky	luggage	lumber
3161	3162	3163	3164	3165	3166	3167	3168
lunar	lunch	luxury	lyrics	machine	mad	$\operatorname{magic}$	magnet
3171	3172	3173	3174	3175	3176	3177	3178
maid	mail	main	major	$_{\mathrm{make}}$	$_{\rm mammal}$	man	manage

3181	3182	3183	3184	3185	3186	3187	3188
mandate	mango	mansion	manual	maple	marble	march	margin

3211	3212	3213	3214	3215	3216	3217	3218
marine	$\max$ ket	marriage	$\operatorname{mask}$	mass	master	$_{\mathrm{match}}$	material
3221	3222	3223	3224	3225	3226	3227	3228
math	matrix	matter	maximum	maze	meadow	mean	measure
3231	3232	3233	3234	3235	3236	3237	3238
meat	mechanic	medal	media	melody	$\operatorname{melt}$	member	memory
3241	3242	3243	3244	3245	3246	3247	3248
mention	menu	mercy	merge	merit	merry	$\operatorname{mesh}$	message
3251	3252	3253	3254	3255	3256	3257	3258
metal	method	middle	midnight	milk	million	mimic	$\min d$
3261	3262	3263	3264	3265	3266	3267	3268
minimum	minor	minute	miracle	mirror	misery	miss	mistake
3271	3272	3273	3274	3275	3276	3277	3278
mix	mixed	mixture	mobile	model	modify	mom	moment
3281	3282	3283	3284	3285	3286	3287	3288
monitor	monkey	monster	month	moon	moral	more	morning

3311	3312	3313	3314	3315	3316	3317	3318
mosquito	mother	motion	motor	mountain	mouse	move	movie
3321	3322	3323	3324	3325	3326	3327	3328
much	muffin	mule	multiply	$\operatorname{muscle}$	museum	mushroon	n music
3331	3332	3333	3334	3335	3336	3337	3338
must	mutual	myself	mystery	myth	naive	name	napkin
3341	3342	3343	3344	3345	3346	3347	3348
narrow	nasty	nation	nature	near	neck	need	negative
3351	3352	3353	3354	3355	3356	3357	3358
neglect	neither	nephew	nerve	nest	net	network	neutral
3361	3362	3363	3364	3365	3366	3367	3368
never	news	next	nice	$\operatorname{night}$	noble	noise	nominee
3371	3372	3373	3374	3375	3376	3377	3378
noodle	normal	north	nose	notable	note	nothing	notice
3381	3382	3383	3384	3385	3386	3387	3388
novel	now	nuclear	number	nurse	nut	oak	obey

3411	3412	3413	3414	3415	3416	3417	3418
object	oblige	obscure	observe	obtain	obvious	occur	ocean
3421	3422	3423 off	3424	3425	3426	3427 oil	3428
october	odor		offer	office	often		okay
3431	3432	3433	3434	3435	3436	3437	3438
old	olive	olympic	omit	once	one	onion	online
3441	3442	3443	3444	3445	3446	3447	3448
only	open	opera	opinion	oppose	option	orange	orbit
3451	3452	3453	3454	3455	3456	3457	3458
orchard	order	ordinary	organ	orient	original	orphan	ostrich
3461	3462	3463	3464	3465	3466	3467	3468
other	outdoor	outer	output	outside	oval	oven	over
3471	3472	3473	3474	3475	3476	3477	3478
own	owner	oxygen	oyster	ozone	pact	paddle	page
3481	3482	3483	3484	3485	3486	3487	3488
pair	palace	palm	panda	panel	panic	panther	paper

# ## 35

3511	3512	3513	3514	3515	3516	3517	3518
parade	parent	park	parrot	party	pass	patch	$\operatorname{path}$
3521	3522	3523	3524	3525	3526	3527	3528
patient	patrol	pattern	pause	pave	payment	peace	peanut
3531	3532	3533	3534	3535	3536	3537	3538
pear	peasant	pelican	pen	penalty	pencil	people	pepper
3541	3542	3543	3544	3545	3546	3547	3548
perfect	permit	person	$\operatorname{pet}$	phone	photo	phrase	physical
3551	3552	3553	3554	3555	3556	3557	3558
piano	picnic	picture	piece	$_{ m pig}$	pigeon	pill	$\operatorname{pilot}$
3561	3562	3563	3564	3565	3566	3567	3568
pink	pioneer	pipe	pistol	$\operatorname{pitch}$	pizza	place	planet
3571	3572	3573	3574	3575	3576	3577	3578
plastic	plate	play	please	$_{ m pledge}$	pluck	plug	plunge
3581	3582	3583	3584	3585	3586	3587	3588
poem	poet	point	polar	pole	police	pond	pony

3611	3612	3613	3614	3615	3616	3617	3618
pool	popular	portion	position	possible	post	potato	pottery

3621	3622	3623	3624	3625	3626	3627	3628
poverty	powder	power	practice	praise	predict	prefer	prepare
3631	3632	3633	3634	3635	3636	3637	3638
present	pretty	prevent	price	$\operatorname{pride}$	primary	print	priority
3641	3642	3643	3644	3645	3646	3647	3648
prison	private	prize	problem	process	produce	profit	program
3651	3652	3653	3654	3655	3656	3657	3658
project	promote	proof	property	prosper	protect	proud	provide
3661	3662	3663	3664	3665	3666	3667	3668
public	pudding	pull	pulp	pulse	pumpkin	punch	pupil
3671	3672	3673	3674	3675	3676	3677	3678
puppy	purchase	purity	purpose	purse	push	put	puzzle
3681	3682	3683	3684	3685	3686	3687	3688
pyramid	quality	quantum	quarter	question	quick	quit	quiz

3711	3712	3713	3714	3715	3716	3717	3718
quote	rabbit	raccoon	race	rack	radar	radio	rail
3721	3722	3723	3724	3725	3726	3727	3728
rain	raise	rally	ramp	ranch	$\operatorname{random}$	range	rapid
3731	3732	3733	3734	3735	3736	3737	3738
rare	rate	rather	raven	raw	razor	ready	real
3741	3742	3743	3744	3745	3746	3747	3748
reason	rebel	rebuild	recall	receive	recipe	record	recycle
3751	3752	3753	3754	3755	3756	3757	3758
reduce	reflect	$\operatorname{reform}$	refuse	region	regret	regular	reject
3761	3762	3763	3764	3765	3766	3767	3768
relax	release	relief	rely	remain	remember	remind	remove
3771	3772	3773	3774	3775	3776	3777	3778
render	renew	rent	reopen	repair	repeat	replace	report
3781	3782	3783	3784	3785	3786	3787	3788
require	rescue	${\bf resemble}$	resist	resource	response	result	retire

3811	3812	3813	3814	3815	3816	3817	3818 rib
retreat	return	reunion	reveal	review	reward	rhythm	
3821	3822	3823	3824	3825	3826	3827	3828
ribbon	rice	$\operatorname{rich}$	ride	ridge	rifle	$\operatorname{right}$	$\operatorname{rigid}$
3831	3832	3833	3834	3835	3836	3837	3838
ring	$\operatorname{riot}$	$_{ m ripple}$	risk	$_{ m ritual}$	rival	river	road

3841	3842	3843	3844	3845	3846	3847	3848
roast	$\operatorname{robot}$	robust	$\operatorname{rocket}$	romance	roof	rookie	room
3851	3852	3853	3854	3855	3856	3857	3858
rose	rotate	$\operatorname{rough}$	round	route	royal	rubber	$\operatorname{rude}$
3861	3862	3863	3864	3865	3866	3867	3868
rug	rule	run	runway	$\operatorname{rural}$	sad	saddle	sadness
3871	3872	3873	3874	3875	3876	3877	3878
safe	sail	salad	salmon	salon	salt	salute	same
3881	3882	3883	3884	3885	3886	3887	3888
sample	sand	satisfy	satoshi	sauce	sausage	save	say

4111	4112	4113	4114	4115	4116	4117	4118
scale	scan	scare	scatter	scene	$_{\rm scheme}$	school	science
4121	4122	4123	4124	4125	4126	4127	4128
scissors	scorpion	scout	scrap	screen	$\operatorname{script}$	$\operatorname{scrub}$	sea
4131	4132	4133	4134	4135	4136	4137	4138
search	season	seat	second	secret	section	security	seed
4141	4142	4143	4144	4145	4146	4147	4148
seek	segment	select	sell	seminar	senior	sense	sentence
4151	4152	4153	4154	4155	4156	4157	4158
series	service	session	settle	setup	seven	shadow	shaft
4161	4162	4163	4164	4165	4166	4167	4168
shallow	share	shed	shell	sheriff	shield	$_{ m shift}$	shine
4171	4172	4173	4174	4175	4176	4177	4178
$_{ m ship}$	shiver	shock	shoe	shoot	shop	short	shoulder
4181	4182	4183	4184	4185	4186	4187	4188
shove	$\operatorname{shrimp}$	shrug	shuffle	shy	sibling	sick	side

4211	4212	4213	4214	4215	4216	4217	4218
siege	$\operatorname{sight}$	$\operatorname{sign}$	$\operatorname{silent}$	$\operatorname{silk}$	silly	silver	similar
4221	4222	4223	4224	4225	4226	$4227 \sin$	4228
$_{\rm simple}$	since	sing	siren	sister	situate		size
4231	4232	4233  ski	4234	4235	4236	4237	4238
$_{\rm skate}$	sketch		skill	$\operatorname{skin}$	$_{ m skirt}$	skull	$\operatorname{slab}$
4241	4242	4243	4244	4245	4246	4247	4248
$_{\mathrm{slam}}$	sleep	slender	slice	slide	slight	$_{ m slim}$	slogan
4251	4252	4253	4254	4255	4256	4257	4258
slot	slow	slush	$\operatorname{small}$	$\operatorname{smart}$	$\operatorname{smile}$	$\operatorname{smoke}$	$\operatorname{smooth}$

4261	4262	4263	4264	4265	4266	4267	4268
$\operatorname{snack}$	$\operatorname{snake}$	$\operatorname{snap}$	$\operatorname{sniff}$	snow	soap	soccer	social
4271	4272	4273	4274	4275	4276	4277	4278
$\operatorname{sock}$	soda	soft	$\operatorname{solar}$	soldier	solid	solution	solve
4281	4282	4283	4284	4285	4286	4287	4288
someone	song	soon	sorry	$\operatorname{sort}$	soul	sound	soup

4311	4312	4313	4314	4315	4316	4317	4318
source	$\operatorname{south}$	space	spare	spatial	spawn	$_{ m speak}$	special
4321	4322	4323	4324	4325	4326	4327	4328
$_{\mathrm{speed}}$	$_{ m spell}$	spend	sphere	spice	spider	$_{ m spike}$	spin
4331	4332	4333	4334	4335	4336	4337	4338
spirit	$\operatorname{split}$	spoil	sponsor	spoon	$\operatorname{sport}$	$\operatorname{spot}$	spray
4341	4342	4343	4344	4345	4346	4347	4348
spread	spring	spy	square	squeeze	squirrel	stable	stadium
4351	4352	4353	4354	4355	4356	4357	4358
$\operatorname{staff}$	stage	stairs	$\operatorname{stamp}$	stand	start	state	stay
4361	4362	4363	4364	4365	4366	4367	4368
steak	steel	$_{ m stem}$	step	stereo	$\operatorname{stick}$	still	sting
4371	4372	4373	4374	4375	4376	4377	4378
$\operatorname{stock}$	stomach	stone	stool	story	stove	strategy	street
4381	4382	4383	4384	4385	4386	4387	4388
strike	strong	struggle	student	$\operatorname{stuff}$	stumble	style	$\operatorname{subject}$

4411	4412	4413	4414	4415	4416	4417	4418
submit	subway	success	$\operatorname{such}$	$\operatorname{sudden}$	$\operatorname{suffer}$	sugar	suggest
4421	4422	4423	4424	4425	4426	4427	4428
suit	summer	$\operatorname{sun}$	sunny	$\operatorname{sunset}$	super	supply	supreme
4431	4432	4433	4434	4435	4436	4437	4438
sure	surface	surge	surprise	surround	survey	suspect	sustain
4441	4442	4443	4444	4445	4446	4447	4448
swallow	swamp	swap	swarm	swear	sweet	swift	$\operatorname{swim}$
4451	4452	4453	4454	4455	4456	4457	4458
swing	switch	sword	symbol	symptom	syrup	system	table
4461	4462	4463	4464	4465	4466	4467	4468
tackle	tag	tail	talent	talk	tank	tape	target
4471	4472	4473	4474	4475	4476	4477	4478
task	taste	tattoo	taxi	teach	team	tell	ten

4481	4482	4483	4484	4485	4486	4487	4488
tenant	tennis	tent	$\operatorname{term}$	test	text	thank	that

4511	4512	4513	4514	4515	4516	4517	4518
theme	then	theory	there	they	thing	this	thought
4521	4522	4523	4524	4525	4526	4527	4528
three	thrive	throw	$_{\mathrm{thumb}}$	thunder	ticket	tide	tiger
4531	4532	4533	4534	$4535  ext{ tip}$	4536	4537	4538
tilt	timber	time	tiny		tired	tissue	title
4541	4542	4543	4544	4545	4546	4547	4548
toast	tobacco	today	toddler	toe	together	toilet	token
4551	4552	4553	4554	4555	4556	4557	4558
tomato	tomorrow	tone	tongue	tonight	tool	tooth	top
4561	4562	4563	4564	4565	4566	4567	4568
topic	topple	torch	tornado	tortoise	toss	total	tourist
4571	4572	4573	4574	4575	4576	4577	4578
toward	tower	town	toy	$\operatorname{track}$	$\operatorname{trade}$	$\operatorname{traffic}$	$\operatorname{tragic}$
4581	4582	4583	4584	4585	4586	4587	4588
$\operatorname{train}$	${\it transfer}$	$\operatorname{trap}$	$\operatorname{trash}$	travel	$\operatorname{tray}$	treat	tree

4611	4612	4613	4614	4615	4616	4617	4618
trend	$\operatorname{trial}$	$\operatorname{tribe}$	$\operatorname{trick}$	$\operatorname{trigger}$	$\operatorname{trim}$	$\operatorname{trip}$	trophy
4621	4622	4623	4624	4625	4626	4627	4628
trouble	$\operatorname{truck}$	true	truly	trumpet	trust	$\operatorname{truth}$	$\operatorname{try}$
4631	4632	4633	4634	4635	4636	4637	4638
tube	tuition	tumble	tuna	tunnel	$\operatorname{turkey}$	$\operatorname{turn}$	$\operatorname{turtle}$
4641	4642	4643	4644	4645	4646	4647	4648
twelve	twenty	twice	twin	twist	two	$_{\mathrm{type}}$	typical
4651	4652	4653	4654	4655	4656	4657	4658
ugly	umbrella	unable	unaware	uncle	uncover	under	undo
4661	4662	4663	4664	4665	4666	4667	4668
unfair	unfold	unhappy	uniform	unique	$\operatorname{unit}$	universe	unknown
4671	4672	4673	4674	4675	4676	4677	4678
unlock	until	unusual	unveil	update	upgrade	uphold	upon
4681	4682	4683	4684	4685	4686	4687	4688
upper	upset	urban	urge	usage	use	used	useful

4711	4712	4713	4714	4715	4716	4717	4718
useless	usual	utility	vacant	vacuum	vague	valid	valley
4721	4722	4723	4724	4725	4726	4727	4728
valve	van	vanish	vapor	various	vast	vault	vehicle
4731	4732	4733	4734	4735	4736	4737	4738
velvet	vendor	venture	venue	verb	verify	version	very
4741	4742	4743	4744	4745	4746	4747	4748
vessel	veteran	viable	vibrant	vicious	victory	video	view
4751	4752	4753	4754	4755	4756	4757	4758
village	vintage	violin	virtual	virus	visa	visit	visual
4761	4762	4763	4764	4765	4766	4767	4768
vital	vivid	vocal	voice	void	volcano	volume	vote
4771	4772	4773	4774	4775	4776	4777	4778
voyage	wage	wagon	wait	walk	wall	walnut	want
4781	4782	4783	4784	4785	4786	4787	4788
warfare	warm	warrior	wash	wasp	waste	water	wave

4811	4812	4813	4814	4815	4816	4817	4818
way	wealth	weapon	wear	weasel	weather	web	wedding
4821	4822	4823	4824	4825	4826	4827	4828
weekend	weird	welcome	west	wet	whale	what	wheat
4831	4832	4833	4834	4835	4836	4837	4838
wheel	when	where	whip	whisper	wide	width	wife
4841	4842	4843	4844	4845	4846	4847	4848
wild	will	win	window	wine	wing	wink	winner
4851	4852	4853	4854	4855	4856	4857	4858
winter	wire	wisdom	wise	wish	witness	wolf	woman
4861	4862	4863	4864	4865	4866	4867	4868
wonder	wood	wool	word	work	world	worry	worth
4871	4872	4873	4874	4875	4876	4877	4878
wrap	wreck	wrestle	wrist	write	wrong	yard	year
4881	4882	4883	4884	4885	4886	4887	4888
yellow	you	young	youth	zebra	zero	zone	ZOO