

The ISCC-NBS Colour System

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ISCC-NBS Level 3 Name	sRGB	ISCC-NBS Level 3 Name	sRGB	ISCC- NBS Level 3 Name	sRGB	ISCC- NBS Level 3 Name	sRGB
1 Vivid pink	253, 121, 146	68 Strong orange yellow	240, 161, 33	135 Light yellowish green	156, 198, 156	202 Very pale purplish blue	197, 201, 240
2 Strong pink	244, 143, 160	69 Deep orange yellow	208, 133, 17	136 Moderate yellowish green	102, 144, 105	203 Pale purplish blue	142, 146, 183
3 Deep pink	230, 105, 128	70 Light orange yellow	252, 194, 124	137 Dark yellowish green	47, 93, 58	204 Grayish purplish blue	73, 77, 113
4 Light pink	248, 195, 206	71 Moderate orange yellow	231, 167, 93	138 Very dark yellowish green	16, 54, 26	205 Vivid violet	121, 49, 211
5 Moderate pink	226, 163, 174	72 Dark orange yellow	195, 134, 57	139 Vivid green	35, 234, 165	206 Brilliant violet	152, 127, 220
6 Dark pink	197, 128, 138	73 Pale orange yellow	238, 198, 166	140 Brilliant green	73, 208, 163	207 Strong violet	97, 65, 156
7 Pale pink	239, 209, 220	74 Strong yellowish brown	158, 103, 29	141 Strong green	21, 138, 102	208 Deep violet	60, 22, 104
8 Grayish pink	203, 173, 183	75 Deep yellowish brown	103, 63, 11	142 Deep green	NaN, NaN, NaN	209 Very light violet	201, 186, 248
9 Pinkish white	239, 221, 229	76 Light yellowish brown	196, 154, 116	143 Very light green	166, 226, 202	210 Light violet	155, 140, 202
10 Pinkish gray	199, 182, 189	77 Moderate yellowish brown	136, 102, 72	144 Light green	111, 172, 149	211 Moderate violet	92, 73, 133
11 Vivid red	213, 28, 60	78 Dark yellowish brown	80, 52, 26	145 Moderate green	51, 119, 98	212 Dark violet	52, 37, 77
12 Strong red	191, 52, 75	79 Light grayish yellowish brown	180, 155, 141	146 Dark green	22, 78, 61	213 Very pale violet	208, 198, 239
13 Deep red	135, 18, 45	80 Grayish yellowish brown	126, 105, 93	147 Very dark green	12, 46, 36	214 Pale violet	154, 144, 181
14 Very deep	92, 6,	81 Dark grayish	77, 61,	148 Very pale	199,	215 Grayish	88,

red	37	yellowish brown	51	green	217, 214	violet	78, 114
15 Moderate red	177, 73, 85	82 Vivid yellow	241, 191, 21	149 Pale green	148, 166, 163	216 Vivid purple	185, 53, 213
16 Dark red	116, 36, 52	83 Brilliant yellow	247, 206, 80	150 Grayish green	97, 113, 110	217 Brilliant purple	206, 140, 227
17 Very dark red	72, 17, 39	84 Strong yellow	217, 174, 47	151 Dark grayish green	57, 71, 70	218 Strong purple	147, 82, 168
18 Light grayish red	180, 136, 141	85 Deep yellow	184, 143, 22	152 Blackish green	31, 42, 42	219 Deep purple	101, 34, 119
19 Grayish red	152, 93, 98	86 Light yellow	244, 210, 132	153 Greenish white	224, 226, 229	220 Very deep purple	70, 10, 85
20 Dark grayish red	83, 56, 62	87 Moderate yellow	210, 175, 99	154 Light greenish gray	186, 190, 193	221 Very light purple	228, 185, 243
21 Blackish red	51, 33, 39	88 Dark yellow	176, 143, 66	155 Greenish gray	132, 136, 136	222 Light purple	188, 147, 204
22 Reddish gray	146, 129, 134	89 Pale yellow	239, 215, 178	156 Dark greenish gray	84, 88, 88	223 Moderate purple	135, 94, 150
23 Dark reddish gray	93, 78, 83	90 Grayish yellow	200, 177, 139	157 Greenish black	33, 38, 38	224 Dark purple	86, 55, 98
24 Reddish black	48, 38, 43	91 Dark grayish yellow	169, 144, 102	158 Vivid bluish green	19, 252, 213	225 Very dark purple	55, 27, 65
25 Vivid yellowish pink	253, 126, 93	92 Yellowish white	238, 223, 218	159 Brilliant bluish green	53, 215, 206	226 Very pale purple	224, 203, 235
26 Strong yellowish pink	245, 144, 128	93 Yellowish gray	198, 185, 177	160 Strong bluish green	13, 143, 130	227 Pale purple	173, 151, 179
27 Deep yellowish pink	239, 99, 102	94 Light olive brown	153, 119, 54	161 Deep bluish green	NaN, NaN, NaN	228 Grayish purple	123, 102, 126
28 Light yellowish pink	248, 196, 182	95 Moderate olive brown	112, 84, 32	162 Very light bluish green	152, 225, 224	229 Dark grayish purple	81, 63, 81
29 Moderate yellowish pink	226, 166, 152	96 Dark olive brown	63, 44, 16	163 Light bluish green	95, 171, 171	230 Blackish purple	47, 34, 49
30 Dark yellowish pink	201, 128, 126	97 Vivid greenish yellow	235, 221, 33	164 Moderate bluish green	41, 122, 123	231 Purplish white	235, 223, 239
31 Pale yellowish pink	241, 211, 209	98 Brilliant greenish yellow	233, 220, 85	165 Dark bluish green	21, 75, 77	232 Light purplish gray	195, 183, 198
32 Grayish yellowish pink	203, 172, 172	99 Strong greenish yellow	196, 184, 39	166 Very dark bluish green	10, 45, 46	233 Purplish gray	143, 132, 144

33	Brownish pink	203, 175, 167	100	Deep greenish yellow	162, 152, 18	167	Vivid greenish blue	NaN, NaN, NaN	234	Dark purplish gray	92, 82, 94
34	Vivid reddish orange	232, 59, 27	101	Light greenish yellow	233, 221, 138	168	Brilliant greenish blue	45, 188, 226	235	Purplish black	43, 38, 48
35	Strong reddish orange	219, 93, 59	102	Moderate greenish yellow	192, 181, 94	169	Strong greenish blue	19, 133, 175	236	Vivid reddish purple	212, 41, 185
36	Deep reddish orange	175, 51, 24	103	Dark greenish yellow	158, 149, 60	170	Deep greenish blue	NaN, NaN, NaN	237	Strong reddish purple	167, 73, 148
37	Moderate reddish orange	205, 105, 82	104	Pale greenish yellow	230, 220, 171	171	Very light greenish blue	148, 214, 239	238	Deep reddish purple	118, 26, 106
38	Dark reddish orange	162, 64, 43	105	Grayish greenish yellow	190, 181, 132	172	Light greenish blue	101, 168, 195	239	Very deep reddish purple	79, 9, 74
39	Grayish reddish orange	185, 117, 101	106	Light olive	139, 125, 46	173	Moderate greenish blue	42, 118, 145	240	Light reddish purple	189, 128, 174
40	Strong reddish brown	139, 28, 14	107	Moderate olive	100, 89, 26	174	Dark greenish blue	19, 74, 96	241	Moderate reddish purple	150, 88, 136
41	Deep reddish brown	97, 15, 18	108	Dark olive	53, 46, 10	175	Very dark greenish blue	11, 44, 59	242	Dark reddish purple	95, 52, 88
42	Light reddish brown	172, 122, 115	109	Light grayish olive	142, 133, 111	176	Vivid blue	27, 92, 215	243	Very dark reddish purple	63, 24, 60
43	Moderate reddish brown	125, 66, 59	110	Grayish olive	93, 85, 63	177	Brilliant blue	65, 157, 237	244	Pale reddish purple	173, 137, 165
44	Dark reddish brown	70, 29, 30	111	Dark grayish olive	53, 48, 28	178	Strong blue	39, 108, 189	245	Grayish reddish purple	134, 98, 126
45	Light grayish reddish brown	158, 127, 122	112	Light olive gray	143, 135, 127	179	Deep blue	17, 48, 116	246	Brilliant purplish pink	252, 161, 231
46	Grayish reddish brown	108, 77, 75	113	Olive gray	88, 81, 74	180	Very light blue	153, 198, 249	247	Strong purplish pink	244, 131, 205
47	Dark grayish reddish brown	67, 41, 42	114	Olive black	35, 33, 28	181	Light blue	115, 164, 220	248	Deep purplish pink	223, 106, 172
48	Vivid orange	247, 118, 11	115	Vivid yellow green	167, 220, 38	182	Moderate blue	52, 104, 158	249	Light purplish pink	245, 178, 219
49	Brilliant orange	NaN, NaN, NaN	116	Brilliant yellow green	195, 223, 105	183	Dark blue	23, 52, 89	250	Moderate purplish pink	222, 152, 191
50	Strong	234,	117	Strong	130,	184	Very pale	194,	251	Dark	198,

orange	129, 39	yellow green	161, 43	blue	210, 236	purplish pink	125, 157
51 Deep orange	194, 96, 18	118 Deep yellow green	72, 108, 14	185 Pale blue	145, 162, 187	252 Pale purplish pink	235, 200, 223
52 Light orange	251, 175, 130	119 Light yellow green	206, 219, 159	186 Grayish blue	84, 104, 127	253 Grayish purplish pink	199, 163, 185
53 Moderate orange	222, 141, 92	120 Moderate yellow green	139, 154, 95	187 Dark grayish blue	50, 63, 78	254 Vivid purplish red	221, 35, 136
54 Brownish orange	178, 102, 51	121 Pale yellow green	215, 215, 193	188 Blackish blue	30, 37, 49	255 Strong purplish red	184, 55, 115
55 Strong brown	138, 68, 22	122 Grayish yellow green	151, 154, 133	189 Bluish white	225, 225, 241	256 Deep purplish red	136, 16, 85
56 Deep brown	87, 26, 7	123 Strong olive green	44, 85, 6	190 Light bluish gray	183, 184, 198	257 Very deep purplish red	84, 6, 60
57 Light brown	173, 124, 99	124 Deep olive green	NaN, NaN, NaN	191 Bluish gray	131, 135, 147	258 Moderate purplish red	171, 75, 116
58 Moderate brown	114, 74, 56	125 Moderate olive green	73, 91, 34	192 Dark bluish gray	80, 84, 95	259 Dark purplish red	110, 41, 76
59 Dark brown	68, 33, 18	126 Dark olive green	32, 52, 11	193 Bluish black	36, 39, 46	260 Very dark purplish red	67, 20, 50
60 Light grayish brown	153, 127, 117	127 Grayish olive green	84, 89, 71	194 Vivid purplish blue	68, 54, 209	261 Light grayish purplish red	178, 135, 155
61 Grayish brown	103, 79, 72	128 Dark grayish olive green	47, 51, 38	195 Brilliant purplish blue	128, 136, 226	262 Grayish purplish red	148, 92, 115
62 Dark grayish brown	62, 44, 40	129 Vivid yellowish green	63, 215, 64	196 Strong purplish blue	83, 89, 181	263 White	231, 225, 233
63 Light brownish gray	146, 130, 129	130 Brilliant yellowish green	135, 217, 137	197 Deep purplish blue	42, 40, 111	264 Light gray	189, 183, 191
64 Brownish gray	96, 82, 81	131 Strong yellowish green	57, 150, 74	198 Very light purplish blue	183, 192, 248	265 Medium gray	138, 132, 137
65 Brownish black	43, 33, 30	132 Deep yellowish green	23, 106, 30	199 Light purplish blue	137, 145, 203	266 Dark gray	88, 84, 88
66 Vivid orange yellow	NaN, NaN, NaN	133 Very deep yellowish green	5, 66, 8	200 Moderate purplish blue	77, 78, 135	267 Black	43, 41, 43
67 Brilliant orange yellow	255, 190, 80	134 Very light yellowish green	197, 237, 196	201 Dark purplish blue	34, 34, 72		

In 1955, the [Inter-Society Color Council](#) and the National Bureau of Standards (NBS, now NIST) jointly developed the ISCC-NBS colour system. The system was designed to describe colours in non-technical, everyday terms that anybody could understand. Rather than specifying an exact colour, many common colour descriptions, such as *pale blue*, could apply to a variety of easily distinguishable colours. The ISCC-NBS system formally defines such descriptions, calling them *names*, *designators*, or *categories*. Each name consists of a common term like *orange*, *brown*, or *gray*, preceded by one or more modifiers such as *pale*, *greenish*, or *very deep*. One example is the name *very dark reddish purple*. In the ISCC-NBS system, the set of all the colours that a category could refer to is called a *block*, and is defined as a subset of the [Munsell System](#).

Some names, like *light purplish pink*, refer to a narrow range of colours, while other names, like *red*, refer to a very broad range. The ISCC-NBS system recognizes this common usage by distinguishing three levels of precision. Each level consists of a list of colour names, or colour categories, each of which refers to a specific block. As the level of precision increases, the blocks get smaller. Level 1 is the simplest and most approximate level. It contains the following 13 names:

1. Pink
2. Red
3. Orange
4. Brown
5. Yellow
6. Olive
7. Yellow green
8. Green
9. Blue
10. Purple
11. White
12. Gray
13. Black

Each of these 13 categories covers a plethora of colours; for instance, an apple and a cardinal would both be described as red at Level 1, even though their reds are distinct. Level 2 contains 29 names, allowing finer descriptions than Level 1:

- | | | |
|--------------------|---------------------|--------------------|
| 1. Pink | 11. Olive brown | 21. Purplish blue |
| 2. Red | 12. Greenish yellow | 22. Violet |
| 3. Yellowish pink | 13. Olive | 23. Purple |
| 4. Reddish orange | 14. Yellow green | 24. Reddish purple |
| 5. Reddish brown | 15. Olive green | 25. Purplish pink |
| 6. Orange | 16. Yellowish green | 26. Purplish red |
| 7. Brown | 17. Green | 27. White |
| 8. Orange yellow | 18. Bluish green | 28. Gray |
| 9. Yellowish brown | 19. Greenish blue | 29. Black |
| 10. Yellow | 20. Blue | |

Level 3 is the finest level of the ISCC-NBS system, and contains 267 names. Each Level 3 category is formed by subdividing a Level 2 category, using modifiers such as "light" or "grayish." For instance, Level 2 Pink is subdivided into ten Level 3 categories: Vivid pink, Strong pink, Deep pink, Light pink, Moderate pink, Dark pink, Pale pink, Grayish pink, Pinkish white, and Pinkish gray.

The three ISCC-NBS levels refer to the *precision* of a colour description. A colour can be described at all three levels simultaneously, depending on the degree of accuracy required. For instance, the artist's pigment burnt sienna would be described at Level 3 as moderate reddish brown, but at Level 2 it would be described as reddish brown, and at Level 1 just as brown. The Level 1 category of brown contains many browns that are definitely not burnt sienna, such as tans, or yellow ochers. The Level 2 category of reddish brown is a subset of Level 1 brown, and contains no tans or yellow ochers. The Level 3 category of moderate reddish brown is even more descriptive, indicating that a red component is noticeable but not very strong.

Artists and designers move naturally between the levels, sometimes lumping burnt sienna with browns in general (Level 1), and other times focusing not just on its brownness, but also on its reddish shade (Level 2 or 3).

Applications require a convenient way of visualizing the ISCC-NBS system. Each category refers to a subset of the [Munsell System](#), and covers some range of hues, values, and chromas. Representing the entire category would require a three-dimensional block of colours. A simpler representation, however, that is helpful for practical purposes, just uses a colour near the center of that block, to stand in for the entire block. Such central colours have been found in terms of Munsell coordinates.

While Munsell coordinates work well for printed applications, representative colours are also needed for digital applications, such as displaying colours on a computer monitor. The standard red-green-blue (sRGB) system defines the colours that are produced by specifying a monitor's output in terms of red, green and blue values. The sRGB standard is widely recognized, though not often adhered to. True sRGB compliance would require both that a monitor's phosphors meet the standard, and that the monitor has been colour-calibrated. In addition, the ambient lighting in which the monitor is viewed should be controlled. The table at the top of the page shows sRGB representatives for the Level 3 ISCC-NBS categories, under the assumption that a monitor is viewed in indirect daylight. Seven of the 267 categories are outside the sRGB gamut, so they cannot be displayed on a monitor; they are indicated by NaN (not a number). Details of the sRGB calculations can be found in the paper [sRGB Centroids for the ISCC-NBS Colour System](#); a downloadable [text file](#) listing the sRGBs is also available.

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