

## BRIGHT NEBULA CHALLENGE

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# BRIGHT NEBULA CHALLENGE

| Challenge Number | Catalogue Number | Common Name              | Type                | Constellation | RA       | Dec       | Size    | Observed? | Imaged? |
|------------------|------------------|--------------------------|---------------------|---------------|----------|-----------|---------|-----------|---------|
| 1                | NGC 2467         | Skull & Crossbones       | Emission            | Puppis        | 07:52:30 | -26:26:00 | 8       |           |         |
| 2                | Sh 2-9           |                          | Emission/Reflection | Ophiuchus     | 16:21:06 | -25:35:00 | 60 x 15 |           |         |
| 3                | IC 4603          |                          | Reflection          | Ophiuchus     | 16:26:36 | -24:28:00 | 20      |           |         |
| 4                | NGC 6523         | M8                       | Emission            | Sagittarius   | 18:03:48 | -24:23:00 | 30      |           |         |
| 5                | NGC 6559         |                          | Emission/Reflection | Sagittarius   | 18:10:00 | -24:06:00 | 15      |           |         |
| 6                | IC 1274          |                          | Emission/Reflection | Sagittarius   | 18:09:30 | -23:44:00 | 20      |           |         |
| 7                | NGC 6514         | M20                      | Emission            | Sagittarius   | 18:02:18 | -23:02:00 | 20      |           |         |
| 8                | NGC 6590         |                          | Emission/Reflection | Sagittarius   | 18:17:06 | -19:52:00 | 40      |           |         |
| 9                | Gum 32           |                          | Emission            | Carina        | 10:46:18 | -58:39:00 | 7       |           |         |
| 10               | Gum 39           |                          | Emission            | Centaurus     | 11:28:54 | -62:41:00 | 20      |           |         |
| 11               | Gum 41           |                          | Emission            | Centaurus     | 11:30:24 | -62:41:00 | 15      |           |         |
| 12               | NGC 1990         | Epsilon Orionis          | Emission            | Orion         | 05:36:10 | -01:12:00 | 50      |           |         |
| 13               | NGC 6589         |                          | Reflection          | Sagittarius   | 18:16:54 | -19:47:00 | 4       |           |         |
| 14               | IC 1283          |                          | Emission/Reflection | Sagittarius   | 18:17:48 | -19:40:00 | 3       |           |         |
| 15               | NGC 6618         | M17                      | Emission            | Sagittarius   | 18:21:09 | -16:11:00 | 40      |           |         |
| 16               | NGC 2359         | Thor's Helmet            | Emission            | Canis Major   | 07:18:36 | -13:12:00 | 10      |           |         |
| 17               | Sh 2-54          |                          | Emission            | Serpens       | 18:18:00 | -11:40:00 | 60      |           |         |
| 18               | IC 2177          | Seagull Nebula           | Emission            | Monoceros     | 07:05:18 | -10:18:00 | 20      |           |         |
| 19               | NGC 1999         | Rubber Stamp             | Emission/Reflection | Orion         | 05:36:60 | -06:42:00 | 2       |           |         |
| 20               | NGC 2170         |                          | Reflection          | Monoceros     | 06:07:30 | -06:24:00 | 2       |           |         |
| 21               | NGC 2182         |                          | Reflection          | Monoceros     | 06:09:30 | -06:20:00 | 3       |           |         |
| 22               | NGC 1976         | M 42                     | Emission            | Orion         | 05:35:24 | -05:27:00 | 90      |           |         |
| 23               | NGC 1788         |                          | Reflection          | Orion         | 05:06:54 | -03:21:00 | 2       |           |         |
| 24               | NGC 2024         | Flame Nebula             | Emission            | Orion         | 05:41:54 | -01:51:00 | 90      |           |         |
| 25               | IC 432           |                          | Reflection          | Orion         | 05:40:54 | -01:29:00 | 8       |           |         |
| 26               | IC 423           | Teardrop Nebula          | Reflection          | Orion         | 05:33:24 | -00:37:00 | 2       |           |         |
| 27               | IC 424           |                          | Reflection          | Orion         | 05:33:36 | -00:24:00 | 2       |           |         |
| 28               | IC 426           |                          | Reflection          | Orion         | 05:36:38 | -00:15:00 | 10      |           |         |
| 29               | NGC 2064         |                          | Reflection          | Orion         | 05:46:18 | +00:00:00 | 10      |           |         |
| 30               | NGC 2071         | McNeil's Nebula          | Reflection          | Orion         | 05:47:12 | +00:18:00 | 7       |           |         |
| 31               | NGC 2237-9       | Rosette Nebula           | Reflection          | Monoceros     | 06:32:18 | +05:03:00 | 80      |           |         |
| 32               | NGC 2261         | Hubble's Variable Nebula | Emission/Reflection | Monoceros     | 06:39:12 | +08:44:00 | 2       |           |         |
| 33               | NGC 2264         | Cone Nebula              | Reflection          | Monoceros     | 06:41:06 | +09:53:00 | 10      |           |         |
| 34               | NGC 2245         |                          | Reflection          | Monoceros     | 06:32:42 | +10:10:00 | 2       |           |         |
| 35               | NGC 2247         |                          | Reflection          | Monoceros     | 06:33:12 | +10:20:00 | 2       |           |         |
| 36               | IC 2162          |                          | Emission            | Orion         | 06:13:06 | +17:58:00 | 4       |           |         |
| 37               | NGC 2163         |                          | Reflection          | Orion         | 06:07:48 | +18:40:00 | 3       |           |         |
| 38               | NGC 1554-54      | Struve's Lost Nebula     | Reflection          | Taurus        | 04:21:48 | +19:32:00 | 7       |           |         |
| 39               | NGC 1952         | M1                       | Super Nova Remnant  | Taurus        | 05:34:30 | +22:01:00 | 8       |           |         |
| 40               | NGC 1432         | Maia Nebula              | Reflection          | Taurus        | 03:45:48 | +23:47:00 | 60      |           |         |
| 41               | Sh2-90           |                          | Emission            | Vulpecula     | 19:49:18 | +26:52:00 | 8       |           |         |
| 42               | IC 410           |                          | Emission            | Auriga        | 05:22:36 | +33:31:00 | 40      |           |         |
| 43               | NGC 1931         | Fly Nebula               | Emission/Reflection | Auriga        | 05:31:24 | +34:15:00 | 4       |           |         |
| 44               | IC 417           | Spider Nebula            | Emission            | Auriga        | 05:28:06 | +34:26:00 | 13      |           |         |
| 45               | Sh2-235          |                          | Emission            | Auriga        | 05:41:06 | +35:52:00 | 10      |           |         |
| 46               | NGC 1499         | California Nebula        | Reflection          | Perseus       | 04:00:42 | +36:37:00 | 160     |           |         |
| 47               | Sh2-104          |                          | Emission            | Cygnus        | 20:17:48 | +36:44:00 | 7       |           |         |
| 48               | IC 5067-68       | Pelican Nebula           | Emission            | Cygnus        | 20:50:48 | +44:21:00 | 25      |           |         |
| 49               | Sh2-115          |                          | Emission            | Cygnus        | 20:34:30 | +46:52:00 | 30      |           |         |

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|------------------|------------------|-----------------------------|-----------------------------|---------------|----------|-----------|------|-----------|---------|
| 50               | IC 5146          | Cocoon Nebula               | Emission/Reflection         | Cygnus        | 21:53:24 | +47:16:00 | 10   |           |         |
| 51               | NGC 1624         |                             | Emission                    | Perseus       | 04:40:24 | +50:27:00 | 5    |           |         |
| 52               | NGC 1491         | Fossil Footprint            | Emission                    | Perseus       | 04:03:24 | +51:19:00 | 9    |           |         |
| 53               | NGC 281          | Pacman Nebula               | Emission                    | Cassiopeia    | 00:52:48 | +56:37:00 | 35   |           |         |
| 54               | IC 1396          | Elephant Trunk Nebula       | Emission                    | Cepheus       | 21:39:06 | +57:30:00 | 14   |           |         |
| 55               | IC 1848          | Soul Nebula                 | Emission                    | Cassiopeia    | 02:51:12 | +60:26:00 | 40   |           |         |
| 56               | IC 63            | Ghost Nebula                | Emission/Reflection         | Cassiopeia    | 00:59:30 | +60:49:00 | 10   |           |         |
| 57               | IC 59            | Gamma Cassiopeiae           | Emission/Reflection         | Cassiopeia    | 00:56:42 | +61:04:00 | 10   |           |         |
| 58               | NGC 7635         | Bubble Nebula               | Emission                    | Cassiopeia    | 23:20:42 | +61:12:00 | 15   |           |         |
| 59               | NGC 7538         | Northern Lagoon             | Emission/Reflection         | Cepheus       | 23:13:30 | +61:31:00 | 8    |           |         |
| 60               | IC 1795          | Melotte 15                  | Emission                    | Cassiopeia    | 02:26:30 | +62:04:00 | 100  |           |         |
| 61               | NGC 7133         |                             | Reflection                  | Cepheus       | 21:43:48 | +66:08:00 | 2    |           |         |
| 62               | IC 1805          |                             | Reflection                  | Cassiopeia    | 02:32:42 | +61:27:00 | 100  |           |         |
| 63               | NGC 1333         | Embryo                      | Reflection                  | Perseus       | 03:29:18 | +31:25:00 | 9    |           |         |
| 64               | IC 2118          | Witch Head                  | Reflection                  | Eridanus      | 05:06:54 | -07:13:00 | 180  |           |         |
| 65               | IC 4604          | Rho Ophiuchi                | Emission/Reflection         | Ophiuchus     | 16:25:36 | -23:26:00 | 60   |           |         |
| 66               | IC 1287          |                             | Reflection                  | Scutum        | 18:30:24 | -10:48:00 | 5    |           |         |
| 67               | NGC 7000         | North America Nebula        | Emission                    | Cygnus        | 20:58:48 | +44:20:00 | 120  |           |         |
| 68               | NGC 2174         | Monkey Head Nebula          | Emission                    | Orion         | 06:09:42 | +20:30:00 | 40   |           |         |
| 69               | IC 443           | Jellyfish Nebula            | Super Nova Remnant          | Gemini        | 06:16:54 | +22:47:00 | 80   |           |         |
| 70               | Sh2-16           |                             | Emission                    | Sagittarius   | 17:46:36 | -29:18:00 | 12   |           |         |
| 71               | IC 4592          |                             | Reflection                  | Scorpius      | 16:12:00 | -19:28:00 | 150  |           |         |
| 72               | Sh2-307          |                             | Emission                    | Puppis        | 07:35:30 | -18:46:00 | 6    |           |         |
| 73               | Sh2-302          |                             | Emission                    | Puppis        | 07:31:36 | -16:58:00 | 21   |           |         |
| 74               | Sh2-47           |                             | Emission                    | Serpens       | 18:17:44 | -15:36:00 | 5    |           |         |
| 75               | Sh2-46           |                             | Emission                    | Serpens       | 18:06:06 | -14:10:00 | 30   |           |         |
| 76               | Sh2-55           |                             | Emission                    | Scutum        | 18:32:12 | -11:46:00 | 20   |           |         |
| 77               | NGC 2183         |                             | Reflection                  | Monoceros     | 06:10:48 | -06:13:00 | 1.6  |           |         |
| 78               | NGC 2185         |                             | Reflection                  | Monoceros     | 06:11:06 | -06:13:00 | 5    |           |         |
| 79               | CED 44           |                             | Reflection                  | Taurus        | 04:27:18 | +23:00:00 | 10   |           |         |
| 80               | CED 214          |                             | Emission                    | Cepheus       | 04:42:00 | +67:10:00 | 50   |           |         |
| 81               | Sh2-311          |                             | Emission                    | Puppis        | 07:52:30 | -26:24:00 | 8    |           |         |
| 82               | IC 1318 (a)      |                             | Emission                    | Cygnus        | 20:14:18 | +39:54:00 | 40   |           |         |
| 83               | Sh2-64           |                             | Emission                    | Serpens       | 18:31:36 | -02:01:00 | 20   |           |         |
| 84               | CED 34           |                             | Reflection                  | Taurus        | 04:27:18 | +23:00:00 | 10   |           |         |
| 85               | IC 4954/55       |                             | Reflection                  | Vulpecula     | 20:04:48 | +29:15:00 | 1    |           |         |
| 86               | Gum 12           | Gum Nebula                  | Super Nova Remnant          | Vela          | 08:30:00 | -45:00:00 | 1200 |           |         |
| 87               | NGC 7023         | Iris Nebula                 | Reflection                  | Cepheus       | 21:01:37 | +68:10:00 | 10   |           |         |
| 88               | Sh2-132          |                             | Emission                    | Cepheus       | 22:18:42 | +56:08:00 | 90   |           |         |
| 89               | Sh2-129          | Flying Bat                  | Emission                    | Cepheus       | 21:11:48 | +59:57:00 | 75   |           |         |
| 90               | IC 348           |                             | Reflection                  | Perseus       | 03:44:60 | +32:10:00 | 10   |           |         |
| 91               | IC 360           |                             | Emission                    | Taurus        | 04:13:00 | +25:38:00 | 180  |           |         |
| 92               | IC 2220          | Butterfly                   | Emission                    | Carina        | 07:56:49 | -59:08:00 | 6    |           |         |
| 93               | IC 4628          | Prawn Nebula                | Emission                    | Scorpius      | 16:57:00 | -40:20:00 | 90   |           |         |
| 94               | IC 4954/55       |                             | Reflection                  | Vulpecula     | 20:04:48 | +29:15:00 | 25   |           |         |
| 95               | NGC 1971/75/77   | Running Man                 | Emission/Reflection         | Orion         | 05:35:06 | -04:44:00 | 40   |           |         |
| 96               | NGC 2736         | Pencil Nebula               | Super Nova Remnant+Emission | Vela          | 09:00:18 | -45:57:00 | 20   |           |         |
| 97               | NGC 6950         | West Veil                   | Super Nova Remnant+Emission | Cygnus        | 20:45:42 | +30:43:00 | 70   |           |         |
| 98               | NGC 6962         | Pickering's Triangular Wisp | Super Nova Remnant          | Cygnus        | 20:48:50 | +31:09:00 | 45   |           |         |

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|------------------|------------------|---------------------|-----------------------------|------------------|----------|-----------|------|-----------|---------|
| 99               | NGC 6992         | East Veil           | Super Nova Remnant+Emission | Cygnus           | 20:56:24 | +31:43:00 | 80   |           |         |
| 100              | Sh2-240          | Spaghetti Nebula    | Super Nova Remnant          | Taurus           | 05:39:06 | +29:00:00 | 200  |           |         |
| 101              | Sh2-246          | Barnard's Loop      | Emission                    | Orion            | 05:48:00 | +01:00:00 | 600  |           |         |
| 102              | IC 1340          | Lacework            | Emission                    | Cygnus           | 20:56:12 | +31:04:00 | 25   |           |         |
| 103              | NGC 2068         | M78                 | Reflection                  | Orion            | 05:46:42 | +00:03:00 | 8    |           |         |
| 104              | Sh2-282          |                     | Emission                    | Monoceros        | 06:38:00 | +01:31:00 | 25   |           |         |
| 105              | Sh2-155          | Caldwell 9          | Emission                    | Cepheus          | 22:56:48 | +62:37:00 | 50   |           |         |
| 106              | NGC 3373         | Eta Carina          | Emission                    | Carina           | 10:45:00 | -59:52:00 | 120  |           |         |
| 107              | NGC 6334         | Cat's Paw           | Emission                    | Scorpius         | 17:20:24 | -35:51:00 | 40   |           |         |
| 108              | NGC 6357         | Lobster             | Emission                    | Scorpius         | 17:24:42 | -34:12:00 | 25   |           |         |
| 109              | NGC 2070         | Tarantula           | Emission                    | Dorado           | 05:38:36 | -69:05:00 | 30   |           |         |
| 110              | NGC 2149         |                     | Reflection                  | Monoceros        | 06:03:30 | -09:44:00 | 3    |           |         |
| 111              | NGC 6888         | Crescent Nebula     | Emission                    | Cygnus           | 20:12:00 | +38:12:00 | 20   |           |         |
| 112              | NGC 3199         |                     | Emission                    | Carina           | 10:16:48 | -57:57:00 | 20   |           |         |
| 113              | NGC 6188         |                     | Emission/Reflection         | Ara              | 16:40:30 | -48:47:00 | 20   |           |         |
| 114              | NGC 6820         |                     | Emission                    | Vulpecula        | 19:43:06 | +23:17:00 | 40   |           |         |
| 115              | NGC 3579         |                     | Emission                    | Carina           | 11:11:54 | -61:14:00 | 20   |           |         |
| 116              | Sh2-13           |                     | Emission                    | Scorpius         | 17:29:06 | -31:33:00 | 40   |           |         |
| 117              | NGC 2296         |                     | Reflection                  | Canis Major      | 06:48:39 | -16:54:00 | 0.6  |           |         |
| 118              | IC 425           | Flaming Star Nebula | Emission/Reflection         | Auriga           | 05:16:12 | +34:16:00 | 60   |           |         |
| 119              | IC 434           | Horsehead Area      | Emission                    | Orion            | 05:44:00 | -02:24:00 | 60   |           |         |
| 120              | IC 1470          |                     | Emission                    | Cepheus          | 23:05:12 | +60:15:00 | 1.2  |           |         |
| 121              | IC 1287          |                     | Reflection                  | Scutum           | 18:30:24 | -10:48:00 | 20   |           |         |
| 122              | IC 4812          |                     | Reflection                  | Corona Australis | 19:01:06 | -37:04:00 | 10   |           |         |
| 123              | vdB 14           |                     | Reflection                  | Camelopardalis   | 03:29:12 | +59:57:00 | 46   |           |         |
| 124              | vdB 15           |                     | Reflection                  | Camelopardalis   | 03:30:06 | +58:54:00 | 54   |           |         |
| 125              | vdB 20           | Electra (Pleiades)  | Reflection                  | Taurus           | 03:44:54 | +24:07:00 | 11   |           |         |
| 126              | vdB29            |                     | Reflection                  | Taurus           | 04:48:24 | +49:27:00 | 7    |           |         |
| 127              | vdB23            | Alcyone (Pleiades)  | Reflection                  | Taurus           | 03:47:30 | +24:06:00 | 17   |           |         |
| 128              | vdB22            | Merope (Pleiades)   | Reflection                  | Taurus           | 03:46:10 | +23:56:00 | 34   |           |         |
| 129              | vdB21            | Maia (Pleiades)     | Reflection                  | Taurus           | 03:45:40 | +24:22:00 | 52   |           |         |
| 130              | vdBH21           |                     | Emission                    | Ara              | 17:04:00 | -51:05:00 | 6    |           |         |
| 131              | Sh2-249          | IC 444              | Emission                    | Gemini           | 06:20:24 | +23:16:00 | 80   |           |         |
| 132              | Sh2-183          |                     | Emission                    | Cassiopeia       | 00:53:50 | +65:42:00 | 45   |           |         |
| 133              | Sh2-210          |                     | Emission                    | Perseus          | 04:30:50 | +52:33:00 | 20   |           |         |
| 134              | Sh2-280          |                     | Emission                    | Monoceros        | 06:34:20 | +02:30:00 | 40   |           |         |
| 135              | Sh2-304          |                     | Emission                    | Canis Major      | 06:34:20 | +02:30:00 | 40   |           |         |
| 136              | Sh2-12           |                     | Emission                    | Scorpius         | 17:35:50 | -32:35:00 | 150  |           |         |
| 137              | Sh2-82           |                     | Emission/Reflection         | Sagitta          | 19:30:18 | +18:16:00 | 7    |           |         |
| 138              | RCW 50           |                     | Emission                    | Carina           | 10:27:24 | -57:10:00 | 10   |           |         |
| 139              | RCW 102          |                     | Emission                    | Norma            | 16:17:48 | -51:55:00 | 7    |           |         |
| 140              | RCW 47           |                     | Emission                    | Carina           | 10:05:12 | -58:57:00 | 25   |           |         |
| 141              | RCW 58           |                     | Emission                    | Carina           | 11:06:18 | -65:32:00 | 8    |           |         |
| 142              | Sh2-235          |                     | Emission                    | Auriga           | 05:41:06 | +35:52:00 | 7    |           |         |
| 143              | Gum 15           | RCW 32              | Emission                    | Vela             | 08:44:48 | -41:20:00 | 20   |           |         |
| 144              | Gum 17           | RCW 33              | Emission                    | Vela             | 08:51:00 | -42:05:00 | 5    |           |         |
| 145              | Gum 23           | RCW 38              | Emission                    | Vela             | 08:59:30 | -47:27:00 | 25   |           |         |
| 146              | Gum 25           | RCW 40              | Emission                    | Vela             | 09:02:24 | -48:42:00 | 7    |           |         |
| 147              | NGC 6357         | War & Peace Nebula  | Emission                    | Scorpius         | 17:24:42 | -34:12:00 | 25   |           |         |

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|------------------|------------------|-------------|------------|---------------|----------|-----------|------|-----------|---------|
| 148              | RCW 79           | Gum 48c     | Emission   | Centaurus     | 13:40:47 | -61:42:00 | 24   |           |         |
| 149              | RCW 49           | Gum 29      | Emission   | Carina        | 10:24:14 | -57:46:00 | 25   |           |         |
| 150              | IC 2631          | Ced 112     | Reflection | Chamaeleon    | 11:09:52 | -76:36:00 | 2    |           |         |
| 151              | IC 4703          |             | Emission   | Ophiuchus     | 18:18:36 | -13:58:00 | 55   |           |         |