

October 01, 2022 12:00:00 PM MDT

Object	Right ascens	Declination	Earth distance	Sun distance
Sun	12h 31m 14.0s	-03° 22' 20"	0	0
Mercury	11h 38m 36.5s	+02° 08' 52"	115,669,860	47,241,431
Venus	12h 13m 09.1s	+00° 06' 55"	255,676,712	107,677,242
Mars	05h 18m 04.0s	+22° 27' 42"	116,689,083	216,689,053
Ceres	10h 21m 19.5s	+17° 40' 35"	489,185,037	382,970,549
Jupiter	00h 13m 44.0s	-00° 16' 44"	592,012,041	741,192,723
Saturn	21h 27m 17.5s	-16° 23' 14"	1,373,179,025	1,474,760,042
Uranus	03h 03m 58.0s	+16° 55' 46"	2,828,033,312	2,944,604,256
Neptune	23h 38m 32.1s	-03° 39' 21"	4,330,265,633	4,475,146,447
Pluto	19h 54m 18.3s	-23° 04' 59"	5,131,337,846	5,178,610,671
Moon	17h 25m 04.0s	-26° 49' 45"	371,697	0

(Distances in km)

Object	Rise:	Tran	Set:	Phase	Constl	Magnitud
Sun	06:56	12:50	18:42	0.00%	Vir	unknown
Mercury	05:48	11:57	18:06	18.77%	Vir	1.1
Venus	06:28	12:32	18:34	99.52%	Vir	-3.9
Mars	22:11	05:37	13:00	87.71%	Tau	-0.6
Ceres	03:38	10:41	17:44	99.50%	Leo	8.8
Jupiter	18:29	00:34	06:35	99.99%	Psc	-2.9
Saturn	16:38	21:44	02:53	99.85%	Cap	0.5
Uranus	20:19	03:24	10:24	99.97%	Ari	5.7
Neptune	18:05	23:55	05:48	100.00%	Aqr	7.8
Pluto	15:30	20:10	00:53	99.98%	Sgr	14.4
Moon	13:22	17:55	22:28	35.44%	Oph	unknown

Meteor Radiant Report

Name	Month/Day	RA	Decl	Hourly Rate
Southern Annual Andromedids	10/03	0.3	8.0	13
Northern Annual Andromedids	10/03	1.3	34.0	10
October Draconids/Giacobinids	10/09	17.5	54.1	2
Northern Piscids	10/12	1.7	14.0	6
Epsilon Geminids	10/19	6.9	27.0	5
Orionids	10/21	6.3	15.8	30
Leo Minorids	10/24	10.8	37.0	3

Equinox/Solstice Report

Vernal equinox: 3/20/22 8:34 AM STD
 Summer solstice: 6/21/22 2:14 AM STD
 Autumnal equinox: 9/22/22 6:05 PM STD
 Winter solstice: 12/21/22 2:49 PM STD

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Date	Moonrise	Moonset	Sunrise	Sunset	Begin Twilight	End Twilight
10/1/22	13:25	22:27	06:56	18:42	05:27	20:12
10/2/22	14:31	23:28	06:57	18:40	05:28	20:10
10/3/22	15:28	-----	06:58	18:39	05:29	20:08
10/4/22	16:15	00:38	06:59	18:37	05:30	20:07
10/5/22	16:53	01:52	07:00	18:36	05:31	20:05
10/6/22	17:25	03:08	07:01	18:34	05:32	20:04
10/7/22	17:52	04:21	07:02	18:32	05:33	20:02
10/8/22	18:16	05:33	07:03	18:31	05:34	20:00
10/9/22	18:41	06:42	07:04	18:29	05:35	19:59
10/10/22	19:06	07:50	07:05	18:28	05:36	19:57
10/11/22	19:33	08:58	07:06	18:26	05:37	19:56
10/12/22	20:03	10:05	07:07	18:25	05:38	19:55
10/13/22	20:37	11:10	07:08	18:23	05:39	19:53
10/14/22	21:19	12:12	07:09	18:22	05:40	19:52
10/15/22	22:06	13:10	07:10	18:20	05:41	19:50
10/16/22	23:00	14:01	07:11	18:19	05:42	19:49
10/17/22	23:59	14:45	07:13	18:17	05:43	19:47
10/18/22	-----	15:22	07:14	18:16	05:44	19:46
10/19/22	01:00	15:54	07:15	18:14	05:45	19:45
10/20/22	02:03	16:20	07:16	18:13	05:46	19:43
10/21/22	03:06	16:45	07:17	18:12	05:47	19:42
10/22/22	04:10	17:08	07:18	18:10	05:48	19:41
10/23/22	05:15	17:31	07:19	18:09	05:49	19:40
10/24/22	06:22	17:55	07:20	18:08	05:50	19:38
10/25/22	07:32	18:22	07:21	18:06	05:51	19:37
10/26/22	08:44	18:54	07:22	18:05	05:52	19:36
10/27/22	10:00	19:33	07:23	18:04	05:53	19:35
10/28/22	11:15	20:21	07:25	18:03	05:54	19:34
10/29/22	12:24	21:21	07:26	18:01	05:55	19:33
10/30/22	13:26	22:29	07:27	18:00	05:56	19:31
10/31/22	14:15	23:42	07:28	17:59	05:56	19:30

'-----' means the event does not occur on this date.