

EARTH

Perihelion	Jan. 05d 07h 49m	(147,091,144 km, 0.983243564 au)
Aphelion	Jul. 04d 11h 56m	(152,095,296 km, 1.016694252 au)

Equinoxes	Mar. 20d 03h 50m	Sep.	22d 13h 31m
Solstices	Jun. 20d 21h 44m	Dec.	21d 10h 02m

Obliquity	2000 23.43929°	2020	23.43669°
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MOON

PHASES OF THE MOON

2020

New Moon			First Quarter			Full Moon			Last Quarter						
d	h	m	d	h	m	d	h	m	d	h	m				
Jan.	24	21	42	Jan.	03	04	45	Jan.	10	19	21	Jan.	17	12	58
Feb.	23	15	32	Feb.	02	01	42	Feb.	09	07	33	Feb.	15	22	17
Mar.	24	09	28	Mar.	02	19	57	Mar.	09	17	48	Mar.	16	09	34
Apr.	23	02	26	Apr.	01	10	21	Apr.	08	02	35	Apr.	14	22	56
May	22	17	39	Apr.	30	20	38	May	07	10	45	May	14	14	03
Jun.	21	06	41	May	30	03	30	Jun.	05	19	12	Jun.	13	06	24
Jul.	20	17	33	Jun.	28	08	16	Jul.	05	04	44	Jul.	12	23	29
Aug.	19	02	42	Jul.	27	12	33	Aug.	03	15	59	Aug.	11	16	45
Sep.	17	11	00	Aug.	25	17	58	Sep.	02	05	22	Sep.	10	09	26
Oct.	16	19	31	Sep.	24	01	55	Oct.	01	21	05	Oct.	10	00	40
Nov.	15	05	07	Oct.	23	13	23	Oct.	31	14	49	Nov.	08	13	46
Dec.	14	16	17	Nov.	22	04	45	Nov.	30	09	30	Dec.	08	00	37
				Dec.	21	23	41	Dec.	30	03	28				

APSIDES

2020

PERIGEE				APOGEE															
Date	Diam.			Date	Diam.			Date	Diam.										
d	h	'	"	d	h	'	"	d	h	'	"	d	h	'	"				
Jan.	13	20	32	39	Jul.	25	05	32	26	Jan.	2	01	29	32	Jul.	12	19	29	34
Feb.	10	20	33	09	Aug.	21	11	32	52	Jan.	29	21	29	29	Aug.	9	14	29	32
Mar.	10	06	33	28	Sep.	18	14	33	17	Feb.	26	11	29	25	Sep.	6	06	29	28
Apr.	7	18	33	29	Oct.	17	00	33	29	Mar.	24	15	29	23	Oct.	3	17	29	24
May	6	03	33	13	Nov.	14	12	33	24	Apr.	20	19	29	24	Oct.	30	19	29	24
Jun.	3	04	32	48	Dec.	12	21	33	02	May	18	08	29	28	Nov.	27	00	29	26
Jun.	30	02	32	23						Jun.	15	01	29	32	Dec.	24	17	29	30