Keeping Time with the Skies

Standard difficulty · 20 questions · 40 marks · Time: 36 minutes

Name: _____ Date: _____ Score: ____ / 40

Show your working for Sections B and C. Answers are on the last page — try every question first!

Section A — Choose the correct answer — 8 × 1 = 8 marks

1. The Moon shines because it:

(a) is on fire **(b)** reflects the Earth's light only
(c) makes its own light **(d)** reflects sunlight

2. Which phase of the Moon is this: a fully lit round Moon?

(a) full Moon **(b)** waning crescent
(c) last quarter (waning half) **(d)** first quarter (waxing half)

3. Is 2026 a leap year?

(a) yes **(b)** only for 100 years
(c) only in India **(d)** no

4. The Moon rises at 7:05 p.m. today. If it rises about 50 minutes later each day, at about what time will it rise 2 days later?

(a) 8:05 p.m. **(b)** 9:05 p.m. **(c)** 8:45 p.m. **(d)** 9:45 p.m.

5. A lunar year is about 11 days shorter than a solar year. By about how many days does a lunar calendar fall behind in 23 years?

(a) 8,142 days **(b)** 34 days **(c)** 253 days **(d)** 276 days

6. A satellite goes around the Earth once every 144 minutes. How many times does it go around in one day (24 hours)?

(a) 10 times **(b)** 9 times **(c)** 24 times **(d)** 12 times

7. Which of these can happen only on a NEW Moon day?

(a) a bright Moon overhead at midnight
(b) the brightest Moon of the month
(c) the Moon rising and setting along with the Sun
(d) a lunar eclipse

8. A lunar month is about 29.5 days. About how many days are there in 20 lunar months?

(a) 580 days **(b)** 600 days **(c)** 590 days **(d)** 560 days

Section B — Short answer — 8 × 2 = 16 marks

9. Why does the Moon show phases?

10. Are these leap years? Write "yes" or "no": (a) 1700 (b) 1996

11. Does each need a "new Moon" or a "full Moon"? (a) the Moon rising at about sunset (b) a night with no Moon at all

12. About how many days does a 12-month lunar calendar drift from the seasons in 15 years? After about how many years has it drifted by a whole month (30 days)?

13. The Moon rose at 8:00 p.m. on Monday. If it rises about 50 minutes later each day, at what time will it rise 3 days later?

14. A satellite takes 160 minutes for each orbit. How many orbits does it make in 6 days?

15. Name the phase and say whether the Moon is waxing or waning: (a) half the Moon lit, overhead at sunset (b) the Moon cannot be seen at all

16. How many days does the year 2079 have?

Section C — Word problems — 4 × 4 = 16 marks

17. Describe the phases of the Moon over a lunar month.

18. Write the leap-year rule of the Gregorian calendar and use it to check 2400, 2026, 1900, 2000. Why do we need leap years at all?

19. Name the phase in each case and draw it: a thin lit curve in the western sky after sunset; half the Moon lit, overhead at sunset; half the Moon lit, overhead at sunrise. Why do we see phases at all?

20. A date is fixed by a purely lunar calendar of 12 months. (a) By about how many days does it move earlier on the Gregorian calendar each year? (b) About how many days earlier will it be after 10 years? (c) Why does a date in a solar calendar, like 22 March in the Indian National Calendar, not move in the same way?

Want another sheet on this chapter? In the Ambiful Worksheets app every sheet is new, with its answer key, and your child never gets the same question twice.
Scan the code to get the free app, or open **worksheets.ambiful.com/get**

Answer key

Keeping Time with the Skies · AW-8S-KTS-2026-V1 · For parents — fold back or tear off before handing the sheet to your child.

Q	Answer	Working
1	**(d) reflects sunlight**	—
2	**(a) full Moon**	—
3	**(d) no**	2026 ÷ 4 = 506.5
4	**(c) 8:45 p.m.**	100 minutes later
5	**(c) 253 days**	11 × 23 = 253
6	**(a) 10 times**	1440 ÷ 144 = 10
7	**(c) the Moon rising and setting along with the Sun**	—
8	**(c) 590 days**	29.5 × 20
9	**Half the Moon is always lit by the Sun; as it goes around the Earth we see different amounts of that lit half.**	—
10	**(a) no (b) yes**	divisible by 4; century years must be divisible by 400
11	**(a) full Moon (b) new Moon**	—
12	**165 days; about 3 years (2.7 years)**	11 × 15; 30 ÷ 11
13	**about 10:30 p.m.**	150 minutes later
14	**54 orbits**	1440 ÷ 160 × 6
15	**(a) first quarter (waxing half) (b) new Moon**	—
16	**365 days**	2079 is not a leap year
17	**From new Moon (not visible), a thin waxing crescent appears; after about a week it is a half Moon; then waxing gibbous; after about two weeks full Moon. Then it wanes: waning gibbous, half Moon, waning crescent, and back to new Moon after about 29.5 days.**	—
18	**A year divisible by 4 is a leap year, but a century year must be divisible by 400. 2400: leap; 2026: not leap; 1900: not leap; 2000: leap. The Earth takes about 365¼ days to go round the Sun, so a day is added every four years to keep the calendar with the seasons.**	—
19	**a thin lit curve in the western sky after sunset: waxing crescent; half the Moon lit, overhead at sunset: first quarter (waxing half); half the Moon lit, overhead at sunrise: last quarter**	—

Q	Answer	Working
	(waning half). Half the Moon is always lit by the Sun; as it goes around the Earth we see different amounts of the lit half.	
20	**(a) About 11 days (b) About 110 days (c) A solar calendar follows the Sun, so it matches the solar year.**	—