General Certificate of Education
January 2010
Advanced Level Examination

ENGLISH LANGUAGE (SPECIFICATION A) EA4W
Unit 4 Language Investigation

Monday 11 January 2010 9.00 am to 11.30 am

For this paper you must have:
- a 12-page answer book.

Time allowed: 2 hours 30 minutes

Instructions
- Use black ink or black ball-point pen.
- Write the information required on the front of your answer book. The *Examining Body* for this paper is AQA. The *Paper Reference* is EA4W.
- Do all rough work in the answer book. Cross through any work you do not want to be marked.

Information
- The maximum mark for this paper is 60.
- The marks for questions are shown in brackets.
- You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

Advice
- It is recommended that you spend at least 30 minutes studying the texts and planning your investigation. When you write your answer, the majority of your time should be devoted to analysis of data.

There are no questions printed on this page

Language Investigation

Your task is to carry out a language investigation using **some or all** of the texts that have been provided for you.

(60 marks)

Description of Texts

The subject of these texts is the Moon.

Text	Page	Title	Description
1	4	Extract from *In the High Heavens*	Science book aimed at general readers, 1893
2	5	Extract from *First Steps in Astronomy without a Telescope*	Book aimed at young people, 1942
3	6–7	*Moon Watching*	Woodlands Junior School webpage, accessed 14/12/08
4	8	Extract from 'The Man in the Moon'	The opening of an article in *Astronomy Now*, a monthly magazine, May 2008

Suggested structure for writing up your investigation

1: Aim(s)
State the aim(s) of your investigation and identify which texts you are using.

2: Method
Explain the linguistic frameworks you are using to analyse your data.

3: Analysis
Present a detailed analysis of your data.

4: Conclusion
Draw your conclusions in response to your aim(s) and based on your analysis.

5: Evaluation
Evaluate the validity of your conclusions and suggest any further research that might be undertaken.

END OF QUESTIONS

Text 1

Suppose that we were actually on the moon, and that we had in some way obtained the necessary provision both of air and of water, and had begun to walk about, we should experience sensations of a novel description. The extraordinary lightness of everything would be specially noticeable. Take a lump of iron which weighs six pounds on the earth, you would find on the moon that it seemed to weigh only as much as one pound would do on the earth. Everybody knows that it requires considerable exertion to lift a 56 lbs. weight here, but on the moon it would hardly require as much effort as you ordinarily have to put forth to lift ten pounds. Indeed, the weight of every object on the moon would be reduced to the sixth part of that which the same object has on the earth. No doubt in some ways this might prove a convenience to the moon dwellers. Their bodies would partake of the general buoyancy; walking and running would be amazingly facilitated; and the same effort that would enable you to jump over an obstacle three feet high here would carry you with ease over a wall eighteen feet high on the moon. A good cricketer can throw a ball about a hundred yards here. If he made the same exertion on the moon he could throw the ball over a third of a mile. The diminished gravitation would prove of service in athletic performances on the moon. Not only would a bicycle be driven along with unparalleled ease and rapidity if the lunar roads were smooth, but even the disagreeable process of taking a header over the handles would lose its terrors, for the lunar bicyclist would fall gently and softly to his mother earth. It may, however, be questioned whether our bodies would be adapted for a life under such conditions. It seems almost certain that as the muscular system of the human body has been arranged to work with the particular gravitation that is found on this earth, it would be impossible for it to be accommodated to a gravitation which had only a sixth of the intensity for which it was adapted. On these grounds we conclude that neither the times nor the seasons, neither the gravitation nor the other distinctive features of the moon, would permit it to be an endurable abode for life of the types we are acquainted with.

Source: Sir Robert Ball, *In the High Heavens*, Isbister and Company Limited, 1893

Text 2

THE MOON

" Art thou pale for weariness
Of climbing heaven and gazing on the earth,
Wandering companionless
Among the stars that have a different birth—
And everchanging. . . ."

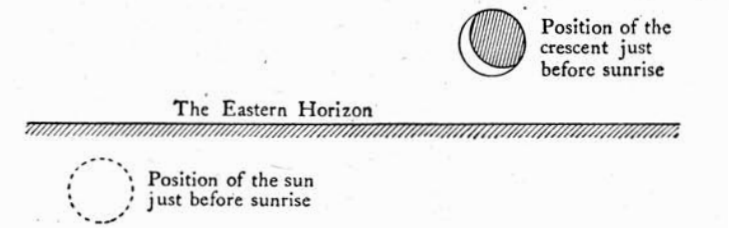
SHELLEY, *A Fragment—To the Moon*

LONG before the days of recorded history, the " everchanging " appearance of the moon must have attracted the attention of intelligent people. They would see, at times, the thin crescent above the western horizon shortly after sunset ; then the *waxing* to *full moon* during the next ten to twelve days, and the *waning* to a thin crescent during a further period of from ten to twelve days, and finally, the disappearance of the moon from the heavens. Its reappearance as a thin crescent above the western horizon several days later was an event, eagerly awaited, and celebrated by ceremonial fires and dances.

Primitive people must have noticed the periodic nature of the " everchanging " appearance of the moon, and no doubt tried to explain the phenomenon. So much is conjecture, but this is known for certain : in the sixth century before Christ it was common knowledge that the moon went through its *phases*, as we now call them, at regular intervals of time, for Pythagoras, who lived in those days, basing his deductions on that knowledge, came to the conclusion that the moon must be a spherical body, because of the curved boundary between the illuminated and the non-illuminated portions of the moon's surface.

Let us examine a problem that must have puzzled the ancients : namely, what happens to the moon in the interval between its disappearance as a crescent from the eastern sky just before dawn on certain days, and its reappearance, four or five days later, as a crescent in the western sky just after sunset ?

We must get up early—just before sunrise—on a clear morning, about twelve days after full moon in say, either September or October. Above the *eastern* horizon we shall see the crescent moon gradually fade away as ". . . day's beamy banner up the east is borne. . . ." The convex edge of the crescent will be turned towards the rising sun, which is, at the moment, below the horizon, and about a hand-span to the *left* of the crescent; the horns of the crescent will be pointing away from the sun. (See Fig. 61.)



Source: P F BURNS, *First Steps in Astronomy without a Telescope*, Ginn and Company Limited, 1942

Text 3

Woodlands Junior School

Moon Watching

Woodland Games | Literacy Zone | Maths Zone | Science Zone | Sign our Guest Book

You are here: Homework Help > Science Zone > Day & Night > **Moon Phases**

- Facts about the Moon
- Phases of the Moon Page 1
- Phases of the Moon Page 2
- Moon Calendar 2008
- Does the moon look the same in the Southern hemisphere?
- Tips for watching the Moon
- Interactive Moon web pages

The Moon rises and sets every day, like the Sun. The Sun always rises in the morning and sets in the evening. The Moon, on the other hand, does it at a different time every day.

If you are watching the moon ...

Please note that after the full phase, the moon won't rise until after sunset and rises later each night.

When it gets too late, get up just after sunrise and watch the moon continue east.

When it gets close to crescent phase again, you may need to get up before sunrise to see earth shine again.

Phases of the Moon Calendar 2008

The moon rises and sets at specific times, according to what phase it is in:

The **new moon** rises and sets at approximately the same time as the sun.

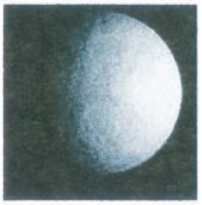
The **first quarter moon** rises at mid-morning and sets at midnight. So it's at its height around dusk, not in the middle of the night.

The **full moon** rises at sunset and sets at sunrise. The full moon is the only moon that will be overhead in the middle of the night.

The **last quarter moon** rises at midnight and sets at mid-morning. So unless you're a late-owl, you've probably never even seen this moon.

Make your own Lunar Calendar
Print out the Calendar and pictures of the different phases.

The image on the right shows you what you would see if you looked at the moon tonight in the Northern hemisphere.
Can you identify which phase it is?
(If it is black then it's a new moon.)



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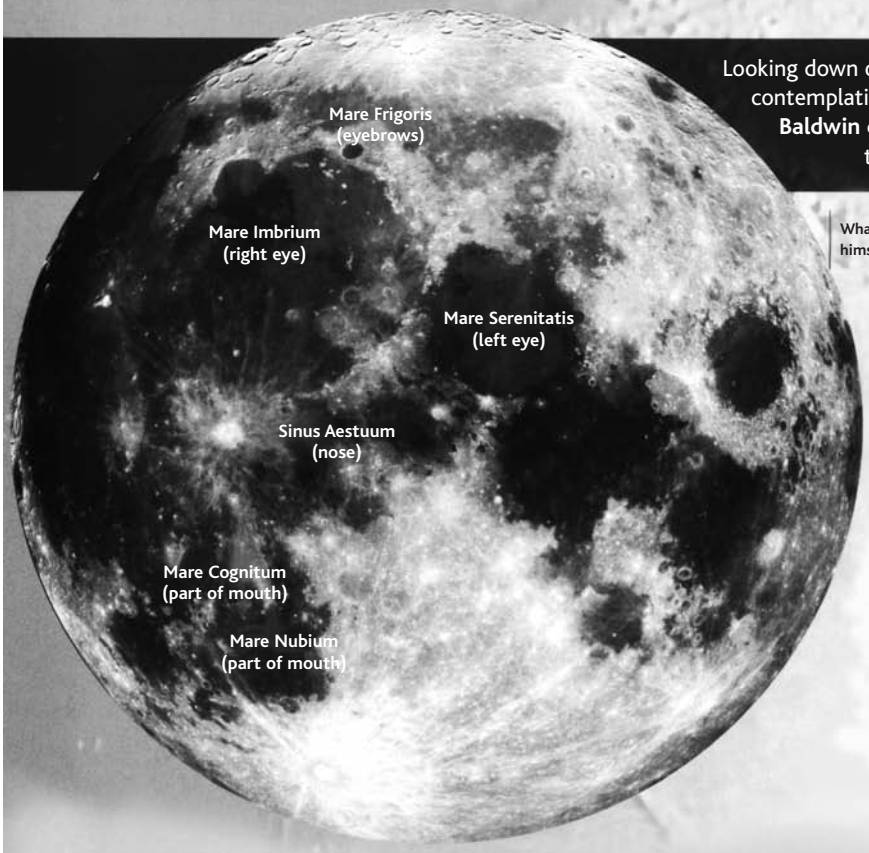
Woodlands Junior School

Source: www.woodlands-junior.kent.sch.uk

Text 4

The Man in the Moon

Looking down on you on moonlit nights is a contemplative face in the heavens. **Emily Baldwin** discovers the mystery behind the fabled 'Man in the Moon'.



What does the Man in the Moon have to say for himself? Image: NASA/JPL-Caltech/USGS.

Ancient tales of folklore and culture have long been telling of the Moon's mysterious features, sometimes perceived as a human face, a lady or even a hare. Perhaps the most commonly recognised 'pattern' is the 'Man in the Moon'. But just how did he get his good looks?

The story begins with the birth of the Moon itself, way back at the start of the Solar System, 4.6 billion years ago. Life in this early planetary construction site was very chaotic, with leftover rocky building blocks whizzing around our local neighbourhood. Current scientific theory suggests that shortly after the Earth had formed, a Mars-sized object slammed into our planet, throwing large amounts of material into space. Over a period of a few days to weeks this material coalesced to form the beginnings of the familiar orb that we see in our skies today. The newly born Moon was a fiery cauldron of molten liquid, and from this giant magma ocean a chemically distinct crust, mantle and core were derived. But the story doesn't end there; the grey lifeless world that we know of today was once subject to a much more violent past.

A large portion of the Moon's post-magma ocean geological evolution was dominated by a period of unrelenting bombardment by asteroids and comets (known as the Heavy Bombardment Era – see page 62) impacting the surface at speeds of several hundred thousand kilometres per hour, creating the main features of the Man in the Moon's pock-marked face. These impact scars are recorded on the lunar surface as roughly circular features ranging in size from less than a millimetre across to thousands of kilometres in diameter. Covering the whole of this surface to a depth of a few metres is a finely comminuted dust-like material, grading into blockier fragments at greater depths. The regolith, as it is known, forms from the continual bombardment of micrometeorites and the action of solar radiation, which 'gardens' the surface, turning it over and ensuring that the top few centimetres are always well mixed over a timescale of billions of years.

Source: EMILY BALDWIN, 'The Man in the Moon', from *Astronomy Now*, Pole Star Publications, 2008
Image: Courtesy NASA/JPL/USGS

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