Have you ever looked at the Moon on a clear night? What did you see? At times, the Moon can look like a smooth, glowing ball, but nothing could be further from the truth.

The Moon is covered with craters. Craters are bowl-shaped pits. They are created when objects from space hit the Moon. If these same objects headed towards Earth, they would probably burn up before reaching our planet or lose speed because of Earth’s atmosphere. The Moon does not have an atmosphere surrounding it, so there is nothing to stop objects from hitting its surface.

When a meteoroid, or piece of rock, hits the surface of the Moon, it is a lot like when a rock falls into a puddle of water. On impact, the meteoroid throws up dust and dirt, just like a rock would splash up water into the air. The meteoroid breaks up into pieces, and it leaves a ring on the surface. The dust and dirt that splash out create bright lines that look like rays.

You can tell a lot by looking at these craters. When a large rock strikes the Moon’s surface, it makes a big ring. Smaller rocks make smaller rings. A deep crater means the rock that hit the Moon’s surface was moving very fast, while a shallow crater means that it was moving slowly.

Scientists name the Moon’s craters. One crater that has fascinated them is named Tycho. Tycho is one of the few craters where the bright lines coming out of it can be seen clearly. The reason these rays are so visible is that Tycho is fairly young for such a large crater. It is only 108 million years old! That might seem old to you, but some of the craters on the Moon are more than 1 billion years old!

The patterns found on the surface of the Moon provide scientists with a lot of information. The information tells them about dust particles and other objects that were floating in space millions of years ago. Scientists can even learn about what happened on the Moon before people were on Earth. All of this is possible because of the unique patterns that are created from the force and motion of rocks hitting the Moon’s surface.

The next time you look at the Moon, think about all the craters. Some of them are so big that you can even see them with your own eyes!
1. The author probably wrote this passage to:
   A. persuade you to study the Moon
   B. entertain you with stories about the Moon
   C. inform you about what scientists can learn from craters on the Moon
   D. explain how to use information about craters to calculate how fast meteoroids were traveling when they hit the Moon

2. Scientists measured the depth of four craters. Their data are in the table below. Which crater was caused by a meteoroid moving at the fastest speed?

<table>
<thead>
<tr>
<th>Crater</th>
<th>Depth (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>27</td>
</tr>
</tbody>
</table>

   A. Crater A  
   B. Crater B  
   C. Crater C  
   D. Crater D

3. Another good title for this passage would be:
   A. “Learning from the Moon’s Craters”
   B. “Scientists on the Moon”
   C. “Tycho the Crater”
   D. “Objects in Space”
4  Scientists found two crater rings, one on top of the other. They could tell:

A  How fast the meteoroids that formed the craters were traveling  
B  The crater on the bottom was older  
C  The shape of the meteoroids  
D  What the crater should be named

5  Why aren’t there as many craters on Earth as there are on the Moon?

A  People are able to keep the meteoroids from hitting Earth.  
B  Meteoroids never come near Earth.  
C  Earth’s atmosphere causes most meteoroids to burn up.  
D  People fill in the craters that are formed.