Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Practice Test/Study Tool for “Moon Patterns - Performance Assessment”**

|  |  |  |
| --- | --- | --- |
| **Date** | **Moon-Rise Time** | **Moon Phase** |
| Oct. 30 | 6:57 am | New Moon |
| Oct. 31 | 7:49 am | Waxing crescent |
| Nov. 1 | 8:42 am | Waxing crescent |
| Nov. 2 | 9:34 am | Waxing crescent |
| Nov. 3 | 10:25 am | Waxing crescent |
| Nov. 4 | 11:14 am | Waxing crescent |

1. Using the information above, create a chart that shows the moon-rise times and moon phases for November 5 – 8th. Remember to use the patterns in the table above along with your knowledge about the moon’s movements to make reasonable estimates. Include appropriate headings for your chart and make sure the data is displayed clearly.

Possible answer:

|  |  |  |
| --- | --- | --- |
| Date | Moon-Rise Time | Moon Phase |
| Nov. 5 | 12:04 pm | Waxing Crescent |
| Nov. 6 | 12:54 pm | 1st Quarter Moon |
| Nov. 7 | 1:44 pm | Waxing Gibbous |
| Nov. 8 | 2:34 pm | Waxing Gibbous |

1. Write a claim with evidence about the moon-rise time and phase for one of the dates above (i.e. I claim that on \_\_\_\_\_\_ the moon was [tell the phase] and it rose at \_\_\_\_\_\_. I know that this is likely because…….)

Possible answer:

I claim that on November 6th, the moon was a 1st quarter moon and it rose at 12:54. This claim is reasonable because the data for November 4th shows that the moon was a waxing crescent. The first quarter comes after the waxing crescent, and it also comes seven days after the new moon – which was on October 30th, seven days before November 6th. It takes one quarter of a 28 day cycle (seven days) for the the moon to go from a new moon to a first quarter moon. I know that it it is reasonable to say that the moon will rise at 12:54 on November 5th for two reasons. First, this is 10o minutes later, than the time the data chart says it will rise on November 4th – and I know that the moon rises about 50 minutes later each day. Second, this rise time matches the 1st quarter moon phase, because when the moon is one quarter of the way around the Earth from the sun, it rises at noon because when the sun is at its highest point, the moon will be just rising on the eastern horizon.

1. Draw a model that shows the Earth, moon, and sun on the date you chose for question #2. Remember to use good modeling techniques (labels, arrows, and explanations) to make it clear that your model accurately shows the moon’s location on the date you have chosen.

Sample model for:

Moon’s location

On:

November 6th

Sun

The moon revolves around the Earth counterclockwise

Seven days ago (Oct. 30), the moon was a new moon and would have been located directly between the Earth and the sun

Moon Phase 11/6:

1st Quarter - the moon will have completed 1/4 of its journey around the Earth. We will be able to see half of the lit side of the moon and half of the shaded side.

Moon Rise Time: 12:54

When the moon is at this position, it will appear to rise on the eastern horizon close to noon (when the sun appears high in the sky)

West

East

Earth

Moon

\*Answer questions on a separate sheet of paper

\*\*This practice test does not need to be turned in. Students will need to be prepared to complete a similar task for tomorrow’s performance assessment.