

VR Lunar Habitat Video Rubric

After landing on the moon, NASA and its international partners will need to plan out a work site that will eventually grow to a small city to support the mining of water ice from the south pole craters to provide living and working space for the astronauts for missions as long as 6 months. This ice will have to be separated from the lunar regolith and will be used to make rocket fuel as well as water for consumption for the astronauts. Good planning of the production site and city will make work activities more efficient and minimize loss of materials as well as save future astronauts from tearing down early construction and building new. Students will show a video of their plan that will tour reviewers around the local area of Shackleton Crater to show placement of various facilities necessary to support long term developments on the Lunar Surface. This will include critical

1. Crater Area

1. a. Shackleton Crater and the surrounding terrain--crater is 12 miles in diameter.

Mark only one oval.

1	2	3	4		
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Insu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exceptional
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2. a. Sun low on the horizon with long shadows on the terrain.

Mark only one oval.

1 2 3 4

Insu Exceptional

2. Landing Pads

3. a. 3 landing sites—spaced to avoid dusting other landers, the modules and equipment—Landers are expected to be Space X Lunar Landers

Mark only one oval.

1 2 3 4

Insu Excellent

3. Habitat

4. a. Regolith covered inflatable modules (5) located for optimizing efficient work

Mark only one oval.

1 2 3 4

Insu Excellent

4. Power

5. a. Solar Farm--at least 20 solar panels spaced out to minimize shadowing each other

Mark only one oval.

1 2 3 4

Insu Excellent

6. b. Mini nuclear Reactor (SMR)

Mark only one oval.

1 2 3 4

Insu Excellent

7. c. Power cables to habitat and other equipment

Mark only one oval.

1 2 3 4

Insu Excellent

8. d. Power Cables—avoiding roadways

Mark only one oval.

1 2 3 4

Insu Excellent

5. Production Plant

9. a. Processing plant for removing ice from regolith--Large enclosed building

Mark only one oval.

1 2 3 4

Insu Excellent

10. b. Pile of Left over regolith from processing

Mark only one oval.

1 2 3 4

Insu Excellent

11. c. Proximity to Crater and Habitat

Mark only one oval.

1 2 3 4

Insu Excellent

12. d. Road up to crater from Habitat and processing plant

Mark only one oval.

1 2 3 4

Insu Excellent

13. e. Road (other transportation) into crater from processing plant

Mark only one oval.

1 2 3 4

Insu Excellent

14. f. Transportation roads that avoid dusting solar panels and running over cables

Mark only one oval.

1 2 3 4

Insu Excellent

3. Refuse Areas

15. a. Trash location--organized?

Mark only one oval.

1 2 3 4

Insu Excellent

16. b. Boneyard –organized?

Mark only one oval.

1 2 3 4

Insu Excellent

4. Equipment

17. a. Communications tower—able to transmit to satellites or directly to Earth.

Mark only one oval.

1 2 3 4

Insu Excellent

18. b. Lunar electric Scooter—bigger wheels needed for undulating, sandy landscape.

Mark only one oval.

1 2 3 4

Insu Excellent

19. c. Sample/Tool wagon—hand pull/push

Mark only one oval.

1 2 3 4

Insu Excellent

20. d. Astronaut driven Rover—doubles as bull dozer and farm tractor

Mark only one oval.

1 2 3 4

Insu Excellent

21. e. Lunar Supply Pod Trailer—moving supplies, equipment, rocks, dirt

Mark only one oval.

1 2 3 4

Insu Excellent

22. f. Warning Signs for future astronauts to keep from damaging or dusting equipment

Mark only one oval.

1 2 3 4

Insu Excellent

23. g. Lighting for nighttime

Mark only one oval.

1 2 3 4

Insu Excellent

24. h. Cameras for monitoring moon walks and construction

Mark only one oval.

1 2 3 4

Insu Excellent

25. i. Multi-national flag on pole

Mark only one oval.

1 2 3 4

Insu Excellent

26. j. Garage for working on vehicle

Mark only one oval.

1 2 3 4

Insu Excellent

27. 5. Did everyone on the team share in the discussion?

Mark only one oval.

1 2 3 4

Insu Excellent

28. 6. Comments--Constructive criticism or Compliments

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