Lunar Bamboo Greenhouse Rubric

Because of its fast growth, producing Bamboo on the moon could potentially remove large amounts of CO2, produce O2, produce food for astronauts and be a structural material. These teams are developing a physical model to show their ideas of how this Greenhouse should be constructed, to allow for bamboo and some other plants for produce. Students should also be growing some bamboo to help influence their model with experience and data about bamboo growth.

1. 1. Does the team have a good Presentation Board (edited for spelling and grammar) with drawings, descriptions, early prototypes and any research to help them present their ideas?

   Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

2. 2. Does the team have a good Brochure that has pictures of their team and current prototype along with a QR code for more information about their prototype and ideas?

   Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

Model Presentation

3. Does the design presented
effectively describe how the project requirements will be arranged?

3. a. Grow beds or chambers?

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

4. b. Lighting

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

5. c. Plumbing and drainage

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

6. d. Mixture of air between habitat modules

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

7. e. Walkways and work areas

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

4. Does the design presented adequately demonstrate the ability to reconfigure for future growth needs, such as plants for food?

8. a. Grow beds or chambers?

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

9. b. Lighting

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

10. c. Plumbing and drainage

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

11. d. Mixture of air between habitat modules

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

12. e. Walkways and work areas

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

5. Has the team effectively described how they will evaluate the variables for successfully growing at least one species of bamboo?

13. a. Light

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

14. b. Water

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

15. c. Temperature

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

16. d. Nutrients

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

17. 5. Does the design presented effectively demonstrate how the humidity in the green house will be controlled, and prevent excess humidity in the other modules of the habitat?

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

18. 6. Has the team effectively described the materials and method they will use to build their updated model for the critical design review?

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

19. 7. Did everyone on the team share in the discussion?

Mark only one oval.

	1	2	3	4	
Insu	◯	◯	◯	◯	Excellent

20. 8. Comments--Constructive criticism or Compliments related to lighting

21. Comments--Constructive criticism or Compliments related to Plumbing and drainage

22. Comments--Constructive criticism or Compliments related to mixture of air between habitat modules.