

Mars Greenhouse Registry

HOST ONLY - preparation and story

Includes answers. Keep these pages and all hint pages with the adult host.

Welcome to the Mars greenhouse. The planting bed must match the resources and conditions in the greenhouse registry. Your team has the original records on the table. First recover five pieces of information, then use the final plan to build the moon-bean growing bed. Keep every result beside its badge so another teammate can check your reasoning.

1. Print the six player sheets and two record sheets for each team. Keep answers and hints with the host.
2. Lay out Fictional food-web rules, Fictional field cards, the remaining clue sheets and the final plan. All task records are printed inside the sheets; no extra prop is needed.
3. After each clue, pass roles one seat clockwise. With two players, combine Reader with Recorder and Checker with Builder. With five or six, add a second checker and a source finder; everyone explains one decision.
- 4 players; 1 team. Give each team 6 player sheets and 2 record sheets. Share one host guide and one set of three hint levels.

Paper and pencils are enough. Keep whole sheets at one table; nothing needs cutting, folding or hiding.

Optional: 4 invitations or certificates, only if selected.

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HOST ONLY - solution guide

1. Food: MOTH

Propagate food availability from the printed starting food. The OR visitor has a supported food chain; the AND visitor lacks one food and the circular pair never gets started. Result: MOTH.

2. Habitat: MOSS

Compare feature values across all field cards. Apply positive and negative requirements together; only one complete feature set remains. Result: MOSS.

3. Delivery: 5

Known stock: $8 + 3 - 3 = 8$. Closing stock 13 minus 8 gives the missing return 5. Cancelled +7 never arrived. Result: 5.

4. Plot: 8

B1, C2, C2, D3 reads SEED. The conversion table gives 8. Result: 8.

5. Weight: 2

Remove 1 from 7; share 6 among 3 parcels to get 2. Check $2 \times 2 + 3 = 7$. Result: 2.

6. Final: R2-F1-W2-D1-E2

Each recovered field result sets one separate habitat requirement. Match all five layers; a complete plan must include suitable cover, ground, water, food and access. Checked result: R2-F1-W2-D1-E2.

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HOST ONLY - timeline, story and ending

3 minutes: Read the opening. Show the evidence record and choose starting roles.

5 minutes: Solve Food. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Habitat. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Delivery. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Plot. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Weight. Offer one hint at a time and rotate roles after checking.

7 minutes: Build the five-part habitat design using all five results.

3 minutes: Read the ending. Ask each teammate to explain one rejected alternative.

After Habitat: A suitable roof does not guarantee suitable food or water. Keep each habitat need beside its field evidence. Pass the record sheet to a new checker before opening the next clue.

After Plot: Four results are recorded. Each teammate points to a source supporting one result. Complete the fifth check before building the five-part habitat design.

Check every result using the solution guide. Offer the next hint only when requested; save the answer reveal until the group is ready.

The paper model uses parts R2-F1-W2-D1-E2, with every habitat layer matched to its evidence. Thank each teammate for a different piece of reasoning.

Explain one tempting wrong choice and the evidence that ruled it out. Show how each of the five results affected the five-part habitat design. If a clue is missing, say what remains uncertain before reopening that sheet.

Duration and ages are estimates. Adjust the pace and offer help for your group.