

Peer Design Review of the Rocket

Difficulty Intermediate	Time 45-60 minutes	Type Practice & Review
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Background

Engineering teams use formal reviews to identify risk before spending time and money on fabrication.

Engineering Problem

Conduct a professional, evidence-based review of another team's rocket design and recommend prioritized improvements.

Learning Objectives

- Use criteria to evaluate a design
- Separate observations from opinions
- Identify design risk
- Give actionable technical feedback

Materials

- Another team's rocket sketches or model
- Design review form
- Engineering notebook
- Ruler or calipers if permitted

Procedure

1. Review the project criteria and constraints before seeing the design.
2. Inspect the design silently for three minutes and record only observations.
3. Ask the design team three clarifying questions.
4. Evaluate fit, stability, manufacturability, assembly, documentation, and safety.
5. Identify two strengths supported by evidence.
6. Identify three risks and rate each as low, medium, or high.
7. Write one specific recommendation for each risk.
8. Meet with the team for five minutes and explain the highest-priority recommendation.

Engineering Requirements

- Use respectful, technical language
- Support every rating with observed evidence
- Identify at least two strengths and three risks
- Make recommendations specific enough to act on
- Prioritize the recommendations

Constraints & Safety

- Do not redesign the project for the team
- Do not change or handle a model without permission

- Keep feedback focused on criteria and constraints

Deliverables

- Completed design review form
- Risk-priority table
- Three recommendations
- Brief feedback summary signed by both teams

Reflection Questions

1. Which risk was most likely to affect performance?
2. How did the team's explanation change your evaluation?
3. Which recommendation could be completed fastest?
4. What feedback would help your own design?

Engineering Tip

Use the pattern "I observed..., which may cause..., so I recommend..." for clear feedback.

Common Mistake

"I do not like it" is not engineering feedback. Tie comments to requirements, evidence, or risk.

Stretch Goal

Review the revised design later and document whether each high-priority risk was reduced.

Career Connection

Design review engineers and project teams use preliminary and critical design reviews to find issues before production or flight.