

Project Checklist: Fire-Resistant Home Design

Phase 1: Research & Application

- **Research Summary:** I have identified at least 3 fire-safe materials and 3 architectural best practices.
- **Concept Transfer:** I can explain how fire behaves (convection, radiation, ignition temperatures) in relation to my chosen materials.

Phase 2: The Physical Model

- **Structural Design:** My model is constructed to be fire-resistant based on my research.
- **The "10-15" Rule:** My model includes at least 10–15 specific fire-safe components (e.g., fire-rated drywall, sprinkler systems, tempered glass, non-combustible roofing).
- **Precision Labeling:** Every fire-safe component is clearly labeled on the model.

Phase 3: Scientific Documentation

- **The "How" (Description):** I have written a clear explanation for each labeled item describing what it does.
- **The "Why" (Scientific Concept):** I have linked each component to a scientific principle (e.g., "This stone siding is fire-safe because it has a high **thermal mass** and is **non-combustible**").
- **Systems Thinking:** I have explained how the house works as a whole system to mitigate fire growth.

Phase 4: The Developer Pitch

- **The 2-Minute Script:** I have a timed "elevator pitch" that highlights my best features.
- **Visual Integration:** I have practiced pointing to my labels while speaking.
- **Persuasive Reasoning:** My pitch focuses on why a developer should choose my "safe and scientifically-proven" design over others.

The "Developer" Pitch Scorecard

Project Architect(s): _____

Project Title/Model Name: _____

Instructions: Award points based on the quality of the pitch and the scientific evidence presented.

Criteria	Points	Score	Evidence Observed / Notes
Component Count	1-5		Did they show 10–15 labeled fire-safe features?
Technical Accuracy	1-5		Did they use terms like <i>convection</i> , <i>combustion</i> , or <i>thermal transfer</i> ?
The "Why" (Reasoning)	1-5		Did they explain the science behind why the materials are safe?
Pitch Professionalism	1-5		Was it under 2 minutes? Was it persuasive and clear?
TOTAL SCORE	/20		

Developer's Final Decision:

- **Approved:** "I would build this house because..." _____
- **Needs Revision:** "I need more scientific evidence regarding..." _____