

Nova's Material Investigation

Learning objective: To identify, describe, and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard.

Nova the owl is planning to build a new stargazing hut! Use the word bank to label the materials in your drawing and explain why they were chosen for specific parts of the structure.

Draw: Draw a creative stargazing hut in a forest setting. Ensure the hut includes a large, clear window for a telescope, a sturdy roof, and a strong base. Use your labels to show which parts are made of glass, wood, metal, and brick. Draw Nova the owl perched on the roof looking through her telescope. The style should be detailed and clear, similar to a scientific diagram.



Label words: transparent · opaque · rigid · durable · waterproof · flexible · thermal insulator · conductor

Steps:

1. Explain why glass is the most suitable material for the telescope viewing window. Why would using wood for the window be a poor choice?
2. Justify why Nova should use metal for the roof hinges but wood for the main structural frame.
3. Compare and contrast the properties of plastic and rock. Why might rock be better for the foundation but plastic better for a storage container?

4. What might happen if Nova decided to build the entire hut out of paper? Use scientific vocabulary in your answer.
5. If Nova wants to keep the hut warm, how does the choice of material for the walls act as a thermal insulator?
6. Design a 'smart' feature for the hut using one flexible material. Explain your choice.