Core Skills Analysis

STEM (Science, Technology, Engineering, Mathematics)

- Developed spatial reasoning skills through assembling three-dimensional LEGO structures.
- Practiced fine motor skills and hand-eye coordination while manipulating small LEGO pieces.
- Understood basic engineering principles such as balance, stability, and structure integrity by experimenting with different build designs.
- Explored mathematical concepts including symmetry, patterns, and geometry through repetitive LEGO building and arrangement.

Creative Arts and Design

- Expressed creativity by designing unique structures and selecting which pieces to combine.
- Enhanced problem-solving abilities by figuring out how to connect pieces to achieve the desired form.
- Developed an aesthetic sense by choosing colors and shapes to produce visually appealing models.
- Experimented with imagination, fostering open-ended thinking and innovation.

Tips

Tips: Encourage students to extend their LEGO building activities by setting specific design challenges that introduce new concepts, such as creating bridges or towers that support weight, which deepens understanding of structural engineering. Integrate storytelling by asking them to invent stories behind their creations, connecting creativity with narrative skills. Introduce measurements by using rulers or blocks to quantify their modelsâ€™ dimensions, promoting early math skills. Finally, draw comparisons between their LEGO designs and real-world architecture or engineering to build interdisciplinary awareness and contextual appreciation.

Book Recommendations

- The LEGO Ideas Book by Daniel Lipkowitz: A rich resource full of inspiring LEGO building ideas that encourage creativity and innovative design.
- Rosie Revere, Engineer by Andrea Beaty: A story that motivates children to embrace creativity and persistence in engineering and invention.
- Iggy Peck, Architect by Andrea Beaty: An engaging tale about a young architect whose passion for building encourages young readers to explore design and problem-solving.

Learning Standards

- Australian Curriculum - Mathematics: ACMMG049 - Recognise and describe two-dimensional shapes and three-dimensional objects.
- Australian Curriculum - Science: ACSHE061 - Science knowledge helps people understand the effect of their actions.
- Australian Curriculum - Technologies: ACTDEK004 - Investigate how forces and the properties of materials affect the behaviour of a product or system.
- Australian Curriculum - The Arts: ACADRM031 - Use materials, techniques, technologies and processes to explore visual conventions when making artworks.

Try This Next

- Create a blueprint worksheet where students draw and plan their LEGO constructions before

building.
- Design a quiz with questions about building techniques, shapes, and math concepts used in their LEGO projects.