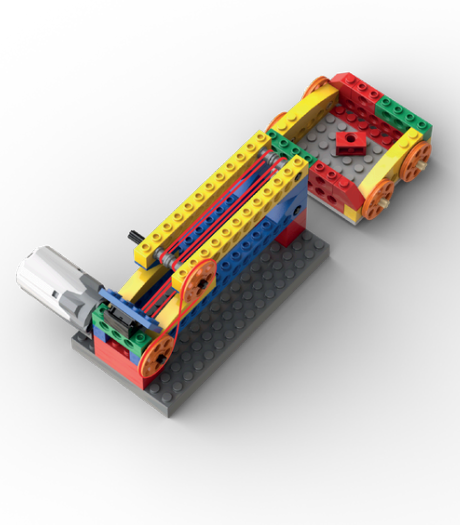
GRADE 4 SIMPLE MACHINES. CRITICAL THINKERS

Grade 4students apply design thinking to build, test, and improve working models that meet real-world needs.



2-LAYERED CONVEYOR BELT *Popular model

Focus: Learn how pulleys and belts make it easier to move objects over a distance.

Curriculum Connections:

Science – Design and Innovation

✓ Test the model to confirm it meets the goal of moving objects over a distance.

✓ Use design thinking to adjust belt and pulley placement for direction and speed.

✓ Discuss how material choice affects performance and efficiency.

Welness – Collaboration & Critical Thinking

✓ Work respectfully in groups, and share ideas.

✓ Demonstrate perseverance and creative thinking during problem solving.

POWERPLANT

Science:

✓ Learn how wind (a renewable resource) meets energy needs.

✓ Explore gears and pulleys as simple machines that transform energy.

Design & Tech:

✓ Build, test, and improve a working model.

✓ Apply design thinking to improve function.

✓ Apply problem-solving and collaboration during the build.

FERRIS WHEEL

Science:

✓ Understand how machines like gears control speed and movement.

Design & Tech:

✓ Apply design thinking to improve safety and function.

✓ Collaborate, build, and test solutions using mechanical systems.

✓ Practice critical thinking and iteration through challenges.

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