

Name:

Date:

Class:

Activity Cards

Super Stretch Slime → Elastomers & medical materials

Real-life connections:

- Surgical gloves (latex/nitrile need high stretch without tearing)
- Elastic bands, bungee cords, and flexible seals
- Artificial skin and soft robotics materials

Engineering idea: Engineers design polymers that stretch a lot but don't permanently deform or break.

High Bounce Slime → Sports equipment & protective materials

Real-life connections:

- Basketballs, tennis balls, and playground balls
- Shock-absorbing soles in shoes
- Protective padding in helmets and gear

Engineering idea: High-elasticity materials return energy efficiently (high "rebound").

Smooth Texture Slime → Consumer products & manufacturing quality control

Real-life connections:

- Lotions, cosmetics, and gels (must feel smooth and consistent)
- Paints and coatings (no clumps or uneven texture)
- Food products like yogurt or sauces (texture consistency matters)

Engineering idea: Manufacturers control mixing and particle structure to ensure uniform texture and user experience.

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Low Stick Slime → Adhesives, medical gels, and industrial coatings

Real-life connections:

- Post-it Notes (stick but release cleanly)
- Medical adhesives that don't damage skin
- Non-stick coatings (like Teflon surfaces)

Engineering idea: Engineers balance adhesion so materials stick only when needed—and release cleanly otherwise.

Slow Flow (High Viscosity) Slime → Industrial fluids & biological systems

Real-life connections:

- Ketchup, honey, and syrup (controlled flow behavior)
- Engine oils and lubricants
- Blood and other biological fluids (viscosity matters for health)

Engineering idea: Viscosity is engineered to control how fast or slow a material moves under force.

Color + Performance Design → Product design & trade-offs in manufacturing

Real-life connections:

- Toys and consumer goods (must be attractive AND functional)
- Food products (appearance vs. texture vs. stability)
- Packaging materials (branding + strength + cost balance)

Engineering idea: Real engineers constantly balance performance vs. aesthetics vs. cost—you rarely get to optimize only one thing.

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