



Worldwide Student Poster Contest

CASH PRIZES

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Help Spread
the News:
#STLEPOSTER75

Celebrating STLE's
75th Anniversary

Four Age Categories
4-8 9-11 12-14 15-18

Winners in Each Category Receive Cash Prizes!

Contestants Should Submit a Poster Showing How

Tribology*
Can Affect the Future World.

*The science and engineering of interacting surfaces in relative motion.

Poster submission period
July 1-Dec. 31, 2019

Contest information and entry form available at www.stle.org on July 1.

Questions?

Contact Dr. Maureen Hunter:
mhunter@kingindustries.com

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Four Age Categories

4 – 8 years

9 – 11 years

12 – 14 years

15 – 18 years

!! WORLDWIDE !!



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Society of Tribologists and Lubrication Engineers, 840 Busse Highway, Park Ridge, IL 60068, info@stle.org, www.stle.org



Society of Tribologists and Lubrication Engineers

Tribology Poster Project Ideas: Lubrication Fundamentals

1. Effect of temperature on viscosity

This science fair project was conducted to find out how the temperature of a fluid affects its viscosity. The testing was done by measuring the viscosity at different temperatures of water, milk and corn oil using a graduated cylinder and ball bearing.

2. Household items best for lubricating metal

In my experiment, I planned to find out which household items lubricated metal the best. Of baby oil, Softsoap, vegetable oil, and Vaseline, I thought vegetable oil would lubricate metal the best followed by baby oil, Softsoap, and Vaseline.

Questions?
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mhunter@kingindustries.com



Tribology Poster Project Ideas: Friction and Energy

1. Friction and speed

This science fair project was done to find out how road surface conditions affects the speed of a moving car. The testing was done using 3 types of model cars on 5 different types of surfaces.

2. DC motor energy Loss

This experiment was conducted to find the amount of energy lost due to friction in DC motors. The testing was done using 30 watt, 50 watt, 70 watt and 100 watt DC motors.

Questions?
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Tribology Poster Project Ideas: Surface Tension

1. Soap and surface tension

Ever see water striders (a type of insect) travel across the surface of pond water? Have you ever seen what happens when you add oil to water? Both examples demonstrate the concept of surface tension, a condition where the molecules of a substance are so closely attracted to each other that they form a barrier. The clinging water molecules form a barrier strong enough to support both the water skater and the oil. In this science fair project, you can observe how soap affects water tension.

2. Surface tension of water

This science fair project was conducted to observe how adding salt to water and increasing its temperature can affect the surface tension of water. The experiment was done by adding grains of rice to a piece of aluminum foil floating on water of varying temperatures, i.e. of 15°C, 25°C, 35°C, 45°C and 55°C.

Questions?
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Tribology Poster Project Ideas: Reducing Friction

1. Effect of friction

Newton's First Law of Motion states that when an object is set in motion, it will remain in motion until acted on by an outside force. Theoretically, this could mean you could travel at the same speed forever in one direction, right? The reason we don't see this happen is because of friction. The force of friction is the resistance to motion that is in the opposite direction of the traveling object. This is why if you roll a ball on the ground it eventually stops. Friction is also the reason you can hold a book, and the reason why you don't slip when walking! The ground and other solid surfaces can cause friction, called dry friction, but fluids (liquids and gases) like water, air, and oils can also cause frictional forces, called fluid friction. Design an experiment to show various ways to reduce friction and conserve energy.

Questions?
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