FIRST LAW OF THERMODYNAMICS LAB REPORT

What is the first law of thermodynamics report? The first law of thermodynamics states that the change in internal energy of a system equals the net heat transfer into the system minus the net work done by the system. In equation form, the first law of thermodynamics is ?U = Q ? W. Here ?U is the change in internal energy U of the system.

How does the first law of thermodynamics relate to the experiment? Final answer: The First Law of Thermodynamics states that energy in an isolated system cannot be created or destroyed but can change forms. It plays a crucial role in experiments by governing the principles of heat transfer, work done, and internal energy changes, ultimately demonstrating energy conservation.

What summarizes the first law of thermodynamics? The laws of thermodynamics are deceptively simple to state, but they are far-reaching in their consequences. The first law asserts that if heat is recognized as a form of energy, then the total energy of a system plus its surroundings is conserved; in other words, the total energy of the universe remains constant.

What is the conclusion of the first law of thermodynamics? 4.CONCLUSION The first law of thermodynamics states that energy can either be created or destroyed, only altered in a form. In analyzing an open system using the first law of thermodynamics, the energy into the system is equal to the energy leaving the system.

Which best summarizes the 1st law of thermodynamics? Energy can neither be created nor destroyed, but it can change from one energy form to another.

What is the first law of thermodynamics in layman's terms? The first law of thermodynamics states that the total energy of a system remains constant, even if it is converted from one form to another. For example, kinetic energy—the energy that an object possesses when it moves—is converted to heat energy when a driver presses the brakes on the car to slow it down.

What is a real life example of the first law of thermodynamics? When you leave an ice cube out in the open, you will notice it melting and converting to water in just a few minutes. This phenomenon happens because the ice absorbs the heat from the surrounding air, thereby cooling the air and changing the ice to water.

What is the experiment for checking the first law of thermodynamics? Joule carried out his famous experiment , he placed known amounts of water, oil, and mercury in an insulated container and agitated the fluid with a rotating stirrer. The amounts of work done on the fluid by the stirrer were accurately measured, and the temperature changes of the fluid were carefully noted.

Which statement explains the first law of thermodynamics? The First Law of thermodynamics states that "energy can neither be created nor be destroyed during a chemical reaction but can be transformed from one form to another", so if energy is lost by the system during a process, then it is gained by the surroundings (in the same form or in some other form of energy).

What does the 1st law of thermodynamics state simply explained? The first law of thermodynamics states that energy cannot be created or destroyed, but it can be transferred.

What is the physical significance of the first law of thermodynamics? Physical significance of first law of thermodynamics includes. This law states that the sum of all the energy present in the universe remains the same. Any system that is present in its isolated state has constant energy.

What is the experimental verification of the first law of thermodynamics? The first law of thermodynamics can be verified by Joule's experiment. Work is done on the fluid kept in an insulated vessel by stirring of the paddle wheel. This work input to the fluid causes a rise in the temperature of the fluid.

What does first law of thermodynamics prove? The first law of thermodynamics states that the total energy of an isolated system is constant. Energy can be transformed from one form to another, but can neither be created nor destroyed. ?W= Work done by the system. ?U = Change in the internal energy of the system.

What is the application of the first law of thermodynamics? The heat engine is the most common and practical example of the first law of thermodynamics. So what is a heat engine? A heat engine is a device that converts thermal energy into mechanical energy and vice versa. A heat engine consists of a cylinder-piston arrangement with working fluid.

What does the first law of thermodynamics deal with? The first law of thermodynamics deals with the total amount of energy in the universe. The law states that this total amount of energy is constant. In other words, there has always been, and always will be, exactly the same amount of energy in the universe.

Which is the best summary of the first law of thermodynamics? The First Law of Thermodynamics, also known as the law of conservation of energy, states that energy can neither be created nor destroyed. It may change from one form to another, but the energy in a closed system remains constant. All biological organisms require energy to survive.

What best describes the first law of thermodynamics? Answer and Explanation: The first law of thermodynamics is a statement about the law of conservation of energy for a thermodynamic system. It states that energy can neither be created nor be destroyed and introduces the concept of internal energy.

What is the first law of thermodynamics concerned with? The First Law of Thermodynamics states that heat is a form of energy, and thermodynamic processes are therefore subject to the principle of conservation of energy. This means that heat energy cannot be created or destroyed.

What is the essence of the first law of thermodynamics? Energy Transfer: In closed systems, energy can be transferred across the system boundaries via heat or work. However, the mass remains constant. Conservation of Energy: The First Law of Thermodynamics illustrates that the net energy of the system stays conserved

when considering all forms of energy present.

What is the mathematical statement of the first law of thermodynamics? The first law of thermodynamics is given as ?E=q+w, where ?E is the change in internal energy of a system, q is the net heat transfer (the sum of all heat transfer into and out of the system), and w is the net work done (the sum of all work done on or by the system).

What are the limitations of the first law of thermodynamics? The limitations of the First Law of Thermodynamics are: The first law of thermodynamics fails to give the feasibility of the process or change of state that the system undergoes. It fails to explain the direction of heat flow. It doesn't say the process is a spontaneous or non-spontaneous process.

What is described by first law of thermodynamics? Explanation: Around 1850 Rudolf Clausius and William Thomson (Kelvin) developed the first law of thermodynamics, which states that the "total energy of an isolated system is constant".

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What is the Second Law of Thermodynamics report? According to the second law, heat cannot spontaneously flow from a colder location to a hotter one. Thus, work, or energy, is required for refrigeration. A campfire is another example of entropy change in real life. The solid wood used as fuel burns and turns into a disordered pile of ash.

What are 3 cons of the Mediterranean diet?

What do you eat for breakfast if you re on a Mediterranean diet? “An ideal breakfast would be two slices of 100% whole-grain bread with two scrambled eggs sautéed with some spinach and tomatoes, and maybe a little avocado,” Gans explains. “You're getting healthy fats, protein from the eggs, and whole grains.”

What is the fastest way to lose weight on the Mediterranean diet?

Does Mediterranean diet reduce belly fat? The highlights of the findings are as follows: Significant Reduction in Belly Fat: Participants who adhered to the Mediterranean Diet showed a noticeable decrease in abdominal obesity compared to those on other diets.

What foods Cannot be eaten on the Mediterranean diet?

What happens to your body when you start the Mediterranean diet? The Mediterranean diet has been shown to reduce risk of heart disease, metabolic syndrome, diabetes, certain cancers, depression, and in older adults, a decreased risk of frailty, along with better mental and physical function.

What is the staple food of the Mediterranean diet?

Can you eat peanut butter on the Mediterranean diet? And as plant-based protein sources that are high in good and unsaturated fats, peanuts and peanut butter are a natural fit within Mediterranean and Flexitarian ways of eating. Unfamiliar with the Mediterranean and Flexitarian diets?

Are bananas OK on the Mediterranean diet? Yes, you can eat bananas on the Mediterranean diet. It is recommended to eat lots of fruits and vegetables on this diet.

How can I lose 20lbs in 2 weeks?

What to snack on a Mediterranean diet?

How do you kick start a Mediterranean diet? Stock up on shelf-stable items like beans, legumes, quinoa, brown rice, farro, oats, bulgur, barley, nuts and seeds. Fill the fridge and freezer with fruits, vegetables and fish. Step 3 – Change how you prepare food. The Mediterranean diet focuses on eating healthy fats, so start using

olive oil instead of butter.

What foods burn visceral belly fat? The basic premise for both diets is eat foods rich in monosaturated fatty acids (MUFA) that may help reduce your belly fat storage. MUFA-rich foods include olive oil, nuts and seeds, avocados, and fish. Eating yogurt regularly has also been found to be helpful in reducing belly fat.

What are the cons of the Mediterranean diet?

What is the secret of the Mediterranean diet? The focus of a Mediterranean lifestyle includes plenty of plant-based foods such as fruits and vegetables, legumes, nuts, whole grains, and healthy fats, with the main dietary fat being extra virgin olive oil.

What is a typical Mediterranean breakfast? Spain and Italy: toasted bread + soft cheese + fresh fruit or freshly squeezed fruit juice. Greece: paximadia (bread made from whole wheat, chickpea, and barley ?our) + olives + cheese. Syria: tahini yogurt with chickpeas + pickles + sliced radishes. Morocco: fried egg in olive oil + soft cheese + olives + ?atbread.

What is a typical Mediterranean lunch? In Greece, lunch might include a ?avorful tomato, olive, cucumber, and feta salad, along with a small piece of grilled ?sh with lemon and olive oil. In Eastern Mediterranean countries, you might have falafel served alongside hummus and pita, salads, and sometimes a vegetable or meat kebab.

What are the top 10 foods on a Mediterranean diet?

Are potatoes ok on a Mediterranean diet? Many people wonder whether you can eat potatoes on the Mediterranean diet. It's recommended by experts that you prioritize non-starchy vegetables like dark leafy greens, bell peppers and broccoli among others. But you can definitely enjoy starchy options like potatoes in moderation on a Mediterranean diet.

What is the best bread for the Mediterranean diet? You can still enjoy bread as part of the Mediterranean Diet, just swap your white bread for whole grains. Whole grain breads and pastas contain more fiber, vitamins and minerals. Whole wheat pitas are a healthier option as they are usually lower in calories.

What is the healthiest diet in the world? The Mediterranean diet has been ranked the healthiest way to eat by US News & World Report. The eating plan is flexible, full of whole foods and plants, and is linked to longevity benefits. Experts say the best diets are easy to follow, not restrictive, and focus on unprocessed foods.

What are the do's and don'ts of the Mediterranean diet?

Is the Mediterranean diet really the healthiest? The Mediterranean diet is a healthy-eating plan. It's focused on plants and includes the traditional flavors and cooking methods of the region. If you're looking for a heart-healthy eating plan, the Mediterranean diet might be right for you. It's less of a diet, meaning a restricted way to eat, and more of a lifestyle.

What are the long term effects of the Mediterranean diet? Research has consistently shown that the Mediterranean diet is effective in reducing the risk of cardiovascular diseases and overall mortality. [3, 4] A study of nearly 26,000 women found that those who followed this type of diet had 25% less risk of developing cardiovascular disease over the course of 12 years.

What vitamins does the Mediterranean diet lack? This explains why inadequate intakes of the B group vitamins (B1, B2, niacin, B6, folates, or B12) were rare in the Mediterranean basin, and intakes of antioxidant vitamins (vitamins E and C) and carotenes were also high [18,19].

What year did Johnson outboards go out of business? Bombardier stopped selling outboards under the Johnson brand after 2007, and moved all sales entirely to Evinrude Outboard Motors until they were discontinued in June 2020.

How do I tell what year my Johnson outboard is by the serial number? The actual year is found in the model number, not the serial number. For example, 150TXL78 is a 150hp engine from 1978. 65ESLR72 would be from 1972. For engines prior to 1969 refer the the Johnson 1960-1979 serial number year chart located here.

What is the fuel mixture for a 115 Johnson outboard motor? Yep, 50 to 1.

How fast will a 115 hp 2 stroke outboard go? With a Mercury 115 ProXS and standard case it's running 50.3 MPH at 6,150 RPM. And, the cruise is 3,500 RPM at 27 MPH. This is from the Mercury Bulletin. These numbers are pretty good for a basic aluminum boat that isn't light and doesn't have much of a hull design.

Are old outboards worth anything? Outboard motors, similar to wooden boats, are valued by the simple laws of supply and demand. Yet, some fairly common models like Mercury kg-7 “Super 10” and Johnson 5 hp green TD models are fairly pricey in restored condition. Some rare, often low horse power, brands like Flambeau or Elgin are easy to bargain for.

Which outboards last the longest? Outboards from big brands (Yamaha, Mercury, Honda, ePropulsion, etc) tend to have longer boat motor hours life.

How can I tell what year my engine is by the serial number? The date code for the engine is built into the serial number after the first two numbers. As an example, a 2013 engine would read something like this, 1013426. The “13" designates it as a 2013 engine.

Can you tell a year by a serial number? For the serial number the typical format is to have the 4th, 5th, and 6th characters to reference when the product was built. The first character is the year date (Y) and the next two (WW), the week in that year it was made. Hope this helps you and anwsers your questions.

Are Johnson and Evinrude motors the same? In 1936 the Evinrude company merged with the Johnson Motor Company to form the Outboard Marine Corporation.

Is a Johnson 115 a 2 stroke or 4 stroke? The Johnson 115 Fast Strike V4, like other Johnson outboards, is a two-stroke engine.

What is the fuel economy of a 115 Johnson outboard motor? The 115 should use 11.5 gallons per hour at WOT.

What octane to use in outboard motor? “We recommend 87 octane for both our two- and four-stroke motors. We stress the importance of a good, name-brand gasoline.”

How many miles per gallon does a 115 hp outboard get? All of the boats we studied powered by the Mercury 115 had WOT speeds of 24 mph, except for the smallest and lightest boat which went one mph faster. Most efficient cruising speeds were in the mid teens and all of the boats got from 4.5 to 4.9 mpg at these speeds.

What is considered high hours on a 2 stroke outboard? Most boat experts say that 1500 hours on a boat is considered a lot.

What is the life expectancy of a 2 stroke outboard motor? I don't remember where I read this, but 2 strokes were designed to last for up to 1,500 hours with regular maintenance and good oil. 4-stroke outboards (according to the article I read) should last way up in the thousands of hours exactly like a car engine.

When were 2 stroke outboards banned? In 2004, the Environmental Protection Agency (EPA) put an end to the 2-strokes dominance by enacting stricter limits on pollutants, and then in 2007, making the restrictions even stricter.

Do they make Johnson boat motors anymore? No longer in production.

Who is the oldest outboard motor manufacturer? It is the motor of 1906 that is generally regarded as the first commercially produced outboard. 1908 -Ole Evinrude produced a motor which clamped on the back of a boat. 1909 -Ole Evinrude and his wife Bess formed the Evinrude Detachable Rowboat Motor Company.

Who makes the best outboard motor?

The Illustrious Life and Legacy of Vasco da Gama

Vasco da Gama, a renowned Portuguese explorer and navigator, left an indelible mark on history with his epoch-making voyage to India. His accomplishments continue to inspire awe and curiosity centuries later.

1. Who was Vasco da Gama?

Born in Sines, Portugal, in 1469, Vasco da Gama was a skilled mariner from a noble family. He possessed a deep understanding of maritime navigation and a burning desire to explore the world.

2. What were his major achievements?

Da Gama's greatest achievement was his successful voyage to India in 1498. He led a fleet of four ships around the Cape of Good Hope, pioneering a new sea route to the East. This voyage opened up unprecedented trade opportunities for Portugal and Europe, forever changing the global economy.

3. What challenges did he face?

Da Gama's journey was fraught with adversity. He encountered storms, hostile natives, and dwindling supplies. His crew faced disease, starvation, and near-mutiny. Despite these formidable obstacles, da Gama persevered and ultimately reached his destination.

4. What was his legacy?

Da Gama's voyage transformed the map of the world, connecting Europe to Asia. He paved the way for the establishment of European trading posts and the colonization of India. His discoveries also led to the exchange of knowledge, goods, and ideas between different civilizations.

5. How is he remembered today?

Vasco da Gama is celebrated as a legendary explorer and one of Portugal's greatest heroes. Monuments, museums, and ships bear his name. His life and achievements continue to captivate historians, students, and explorers alike, serving as a testament to the indomitable human spirit that drives us to explore the unknown.

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