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Physics Lab Instruments

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List of Physics Lab Instruments

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1. Vernier Caliper:

A vernier caliper is one of the physics lab instruments used to measure the internal or external dimensions of an object. It consists of two scales, one fixed and one movable, that are calibrated to provide a precise measurement.

The vernier caliper is a precision measuring tool that is used in many physics laboratories. It is a one of the versatile physics lab instruments that can be used to measure a wide variety of objects.

2. Micrometer Screw Gauge:

As a physics student, you will likely use a micrometer screw gauge at some point in your studies. This one of the simple physical lab instruments is used to measure small distances, and is composed of two main parts: the thimble and the anvil.

The thimble is attached to a screw, which is used to turn the thimble and move the anvil closer or further away from it. There are markings on the thimble that indicate how much it has been turned, so that precise measurements can be taken.

To use the micrometer screw gauge, simply place the object you wish to measure between the anvil and the thimble. Turn the screw until the anvil is touching the object, then read the measurement on the thimble. For example, if the thimble reads 2.5 cm, this means that the object being measured is 2.5 cm long.

The micrometer screw gauge is a useful tool for taking precise measurements, and is an essential piece in physics lab instruments.

3. Measuring Tape:

A ruler is the most basic tool in any physics lab instruments, and a measuring tape is an essential part of any ruler. Measuring tapes come in various sizes, but most school physics labs will have a standard size of about 30 cm.

A measuring tape can be used to measure the length of an object, the width of an object, or the thickness of an object. It can also be used to measure the circumference of an object.

4. Bar Magnets:

Bar magnets are one of the most common physics lab instruments found in schools. They are used to demonstrate the principles of magnetism and can be used in a variety of experiments.

One popular experiment is to measure the magnetic field strength of a bar magnet. This can be done by placing the magnet on a balance and measuring the force it exerts on another magnetic object.

Another common experiment is to use bar magnets to levitate small objects. This is done by suspending the magnet from a string and then placing the object on top of it. The object will be attracted to the magnet and will float in the air.

Bar magnets can also be used to create electric currents. This is done by passing a current through a coil of wire that is wrapped around the magnet. The magnetic field will cause the electrons in the wire to flow and create an electric current.

Bar magnets are a versatile tool that can be used to teach a variety of physics concepts. They are an essential part of any physics lab instruments and are sure to provide hours of fun and learning!

5. Iron Fillings:

Iron is a common element in the universe, and it has been used by humans for centuries. Iron is strong and durable, making it an ideal material for many applications. In the field of physics, iron is used in a variety of ways.

One common use of iron in physics is in ferromagnetism. Ferromagnetism is the basis for technologies like magnetic resonance imaging (MRI) and magnetic data storage. Iron is also used in electromagnetism, where it is used to make electromagnets.

In addition to its use in magnetism, iron is also used in thermodynamics and mechanics. For example, iron is often used as a material for constructing steam boilers. The high melting point of iron makes it useful for creating alloys with other metals.

Iron fillings are a common material included in list of school physics lab instruments. They are cheap and easy to obtain, making them perfect for use in experiments.

6. Lenses:

Lenses are one of the most important in physics lab instruments. They allow us to focus light and magnify objects. Lenses are used in a variety of physics experiments, from studying the properties of light to investigating the behavior of particles.

There are many different types of lenses, including concave lenses, which make objects appear smaller, and convex lenses, which make them appear larger. Lenses can also be made from a variety of materials, including glass and plastic.

No matter what type of lens you need, you're sure to find it on this complete list of physics lab instruments!

7. Prism:

A prism is a transparent optical element with flat, polished surfaces that refract light. Prisms are used in optical physics lab instruments to disperse light and create spectra. They can also be used to reflect light or to direct light through a beam path.

Prisms are named for their geometric shape; the most common type is the triangular prism. Other types of prisms include the rectangular prism, the pentagonal prism, and the hexagonal prism. The size and shape of a prism determine its dispersive power, which is the ability to spread out light into its component colors (the spectral colors).

Prism glasses are often used in spectrometers and binoculars. A right-angle prism can be used to reflect light at a 90-degree angle, while a dovetail prism can split a beam of light into two separate beams.

8. Magnifier Tripod:

The list of physics lab instruments are incomplete without a magnifier tripod. This one of the essential physics lab instrument used to enlarge objects so that they can be studied more closely. It is an important tool for investigating the world around us.

A magnifier tripod is a three-legged stand that supports a magnifying glass. The glass is usually attached to the tripod with a clamp. Magnifier tripods are also known as optical benches.

Most magnifier tripods have adjustable legs so that they can be set up on uneven surfaces. They also have a platform on which objects can be placed. This makes it easier to examine small objects. Magnifier tripods are available in different sizes and styles. Some have a single magnifying glass while others have multiple glasses. The size of the glass varies from small to large.

9. Laboratory Spherometer:

A laboratory spherometer is one of the physics lab instruments used to measure the curvature of lenses and other curved surfaces. It consists of a needle, a glass plate, and a measuring scale. The needle is placed on the glass plate and the surface to be measured is placed under the glass plate. The reading on the scale is then used to calculate the curvature of the surface.

Laboratory spherometers are used in physics labs to measure the curvature of lenses and other curved surfaces. They are essential for experiments involving optics and light. Without a laboratory spherometer, it would be very difficult to accurately measure the curvature of lenses and other curved surfaces.

If you are setting up physics lab instruments, make sure to include a laboratory spherometer on your list of equipment. It is an essential tool for many experiments.

10. Helical Spring:

A helical spring is a type of spring that is typically included in physics labs instruments. It is made of a coil of metal that is wrapped around a central rod. The coils are typically made of steel, but can also be made of other materials such as copper or brass.

Helical springs are used to create a force that can be applied to an object. They are often used in experiments to measure the effects of gravity on an object.

11. Large Pulley Demonstration Set:

In a high school physics lab instruments, students can learn about the basics of mechanical advantage with a large pulley demonstration set. This type of equipment is commonly used to demonstrate how a machine can reduce the amount of force needed to lift an object.

With this set, students can see how the size and number of pulleys affects the amount of force required to lift a load.

Conclusion

This concludes our list of physics lab instruments that are commonly found in schools. While this is not an exhaustive list, it does cover the most essential pieces of equipment that students will need to carry out their experiments successfully.

This is a complete list of physics lab instruments that are commonly used in schools. We hope that this article has been helpful in providing you with a better understanding of the different types of instruments that are available and how they can be used in physics labs.