**Прочитайте текст , сделайте аудиозапись**

Any measurements – for example, of temperature, distance, time or weight – is based on units. A unit is a fixed quantity. In ancient times, body parts were used to measure length. (The Greeks used the finger as a basic unit of length, with 16 fingers equaling one foot). Measurement of weight was originally based on how much a man could lift. These imprecise measurements developed into a system of common units.

The related movements of the Earth, the moon, and the sun provide us with our marks of time. A full day and night (24 hours) is the time taken for the Earth to complete one turn on its axis The time taken for the moon to orbit (circle) the Earth is one month. Our calendar months vary between 28 and 31 days, but a lunar (moon) month is exactly 29 ½ days. Twelve calendar months make up one year, or 365 days, which is roughly how long it takes for the Earth to orbit the sun. Every fourth year is a leap year that has an extra day.

The Egyptians were the first people to measure time, about 5,000 years ago. They divided their days into two periods of twelve equal hours, as we do today. The first timepieces included sundials and other clock forms that measured the changes in levels of water or sand. These were inaccurate, and it was not until the 1600s that the more reliable pendulum clock was invented by the Dutch scientist Christian Huygens (1629–1695).

Your weight is the force that you exert on the Earth. It is a result of gravity acting on your body. Weight differs from mass: your mass is constant whatever the force of gravity. Scientists measure mass in kilograms (kg). This indicates the amount of matter in your body. Scientists measure weight in newtons (N), and 1 kg equals a force of 9. 81 N. On the Moon your weight will be much less than it is on Earth because of the less gravity.

The push or pull that starts an object moving is a force. Forces not only make things move, they can also speed up or slow down a moving object, make it change direction, or even distort its shape. Generally, the stronger the force, the greater the effect it has on an object.

You put pressure on something when you apply a force to it. The amount of pressure depends on two things: the size of the force, and, more importantly, the size of the area on which it is applied. The smaller the area, the greater the pressure. This principle explains why thin stiletto heels sink into wooden floors and damage them. It also explains why a camel's large, flat feet prevent it from sinking into the sand in the desert.

Everything in the world is in motion. Some forms of motion we can see clearly, such as the flight of an airplane. But even objects that seem still, such as rocks and buildings, contain atoms (tiny particles) that move minutely, or vibrate. The Earth itself is moving around the sun, and the entire universe is expanding. All motion requires force to start, to change speed or direction, or to stop.

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|  | ***Сопоставьте правую и левую колонку***   |  |  | | --- | --- | | ***A*** | ***B*** | | 1. measurement | a. маятник | | 2. weight | b. вращаться | | 3. motion | c. толкать | | 4. ancient | d. замедлять | | 5. axis | e. определять | | 6. leap | f. равный | | 7. circle | g. измерение | | 8. exactly | h. ускорять | | 9. equal | i. оказывать влияние | | 10. pendulum | j. относительный | | 11. exert | k. движение | | 12. indicate | l. високосный | | 13. push | m. космический корабль | | 14. speed up | n. площадь | | 15. distort | o. требоваться | | 16. area | p. точно | | 17. spaceship | q. ось | | 18. relative | r. искажать | | 19. slow down | s. древний | | 20. require | t. вес |   ***2. допишите предложения***  1. A unit is  2. To measure length ancient people used  3. Measurements of weight was originally based on  4. We are provided by marks of time by  5. Leap year has  6. About 5,000 years ago the Egyptians were the first people to measure and divide their days into.  7. The Dutch scientist Christian Huygens invented  8. The force that you exert on the Earth is called  9. Scientists measure mass in and weight in.  10. Force is  11. You apply a force on something when you  12. The greater the force, the smaller  13. When travelling in a spaceship … is quite a meaningless term.  14. All motion requires force to  ***3. Ответьте на вопросы***  1. What measurements are there in physics?  2. What did the Greeks use as a basic unit of length?  3. Why does a full day and night on the Earth consist of 24 hours?  4. How many days are there in a lunar month?  5. Why does the Earth year contain 365 days?  6. What did the first timepieces include?  7. What is weight the result of?  8. What is the difference between weight and mass?  9. What does the mass indicate?  10. How can the force influence objects?  11. What does the amount of pressure depend on?  12. How can we get the idea of our speed?  13. What did the German physicist Albert Einstein prove?  14. Why are still objects constantly in motion? |  |