**Учебная дисциплина:** Английский язык 1 курс

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**Прочитайте текст, предварительно уточнив в словаре перевести следующиу слова: pure, oppose, key, aeronautics, circle, invariably, situation, continually.**

Translational motion is movement of an object without a change in its orientation relative to a fixed point, as opposed to rotational motion, in which the object is turning about an axis. In other words, an arrow painted on an object undergoing pure translational motion would continue pointing in the same direction; any rotation would cause the arrow to change direction. In the real world, most movement is a combination of the two. In space, for example, objects such as stars, planets and asteroids are constantly changing position relative to one another, but are also invariably rotating. An understanding of translational motion plays a key role in basic physics and in comprehending the behavior of moving objects in general, from atoms to galaxies. In theory, pure translational motion need not involve traveling in a straight line. It is possible for an object to move in a curved path without changing its orientation; however, in most real-life situations, a change in direction would involve turning on an axis, in other words, rotation. In aeronautics, translational motion means movement along a straight line, forwards or backwards, left or right and up or down. When an airplane is circling an airport, it is continually changing its orientation and undergoing some degree of rotation. The motion of a car speeding in a straight line is translational in relation to the road 41

**1. Прочитайте предложения, выбирая один из вариантов.**

1. In translational motion an object doesn’t change its orientation relative to another moving object / the Earth / a fixed point.

2. Rotational / Linear / Curvilinear motion means turning of an object about an axis.

3. The motion of all objects in the world can be explained by the force of gravity / their nature / translational motion.

4. Translational motion always involves / need not involve / never involves travelling in a straight line.

5. In most real-life situations change in direction means rotation / moving up and down / moving left or right.

6. Most movement is a combination of translational and oscillating / oscillating and rotational / translational and rotational motions.

**2. Используя фразы согласия / несогласия, к следующим фактам**:

1. The motion where the body moves but not rotates from one point to another is called translational motion. 2. In translational motion all the points of a moving body are in the same direction. 3. Rotational motion is one of the types of translational motion. 4. In the real world any movement of any object is only one type of motion. 5. Both atoms and galaxies move according to the same nature of motion. 6. Translational movement of anybody can occur along a curved path or along a straight line. 7. A line around which every point in the body moves in a circular path is called a degree of rotation.

**3. Просмотрите текст еще раз и ответьте на вопросы**.

1. What is translational motion? 2. Can you give any examples of something that usually undergoes only translational motion? 3. What is rotational motion? 4. What are examples of objects that undergo only rotational motion? 5. In real-life situations any movement is usually a combination of both types of motion, isn’t it? 6. Can you name something that commonly undergoes both translational and rotational motion simultaneously?

**4. Письменно переведите предложения на английский язык**.

1. Поступательное движение тела – это движение, при котором любая прямая, связанная с телом при его движении, остается параллельной своему начальному положению. 2. При поступательном движении объекта траектории, скорости и ускорения точек объекта одинаковы. 3. Вращательное движение – это движение тела вокруг некоторой оси. При таком движении все точки тела совершают движение по окружностям, центром которых является эта ось. 4. Давайте рассмотрим движение автомобиля по дороге. Кузов автомобиля (a car body) совершает поступательное движение относительно дороги. А колеса автомобиля совершают вращательное движение вокруг своих осей. При этом эти колеса совершают поступательное движение вместе с кузовом автомобиля. 5. Поступательное и вращательное движения – самые простые виды механического движения. В реальной жизни мы наблюдаем эти два вида движения одновременно