**Script: Energy Needed for Life**

**SCENARIO**

Just as a car needs a specific type of fuel to run smoothly and go wherever we want it to, we also need regular "energy supply" to live and, as in your case, also grow and mature.

**Question:** Consider where humans derive their energy for life from?

*N. supplements the statements:*

The energy humans use comes from their food.

The energy value, also known as the "caloric content" of a product, is one of the first pieces of information we see on the label of a food product and it is the amount of energy released from a given food during the reaction that occurs in our bodies. The energy value is expressed in kilocalories.

The term - One kilocalorie is the amount of heat needed to raise the temperature of 1 gram of water by 1 degree Celsius.

What exactly do we need the energy we receive for? Most of the energy is simply needed for life, i.e., it is mainly used for physiological processes such as:

* breathing
* maintaining a constant body temperature
* cell repair and growth
* heart function

The energy allocated to the above processes is called Basal Metabolic Rate.

The remaining energy is used for our daily physical activity - here we have the spontaneous activities, such as the activities of daily living\*:

* sitting
* standing
* walking
* cooking
* cleaning
* gesturing (waving hands)
* body movements while sitting
* blinking

\*Sleeping, eating, and planned sports activities are not included here.

Fun fact - spontaneous physical activity is referred to by the acronym NEAT - non-exercise activity thermogenesis.

and physical training activity, like any specific and planned sports training, e.g.,

* yoga
* running
* swimming
* rollerblading
* various fitness activities

The total amount of energy needed for the processes occurring in the body (referred to as basal metabolic rate) and the energy associated with our daily physical activity allows us to determine our total metabolic rate, i.e., the amount of energy we need to supply to our body.

You will learn how to calculate your total metabolic rate from the homework.

In today's world, a sedentary lifestyle is very popular, but at the same time detrimental to health. If we ask a person who is not very physically active why this is the case, we may hear that it is due to lack of free time and excessive daily responsibilities.

It's hard not to agree with the opinion that each of us often does have a lot of time-consuming responsibilities, so it's even more worth paying attention to non-exercise activity.

Take a look at the infographic and you'll learn why.



*Comment on the infographic:*

Our level of NEAT (non-exercise activity thermogenesis) mainly depends on:

* the type of work performed in adults
* the course of the day and lesson plan in children and adolescents and the way we spend our free time.

By increasing our NEAT activity / spontaneous activity, we burn more energy, so it plays a very important role in maintaining a healthy body weight. It's worth knowing this because taking care of our health is not just about practicing a specific sport. To maintain a healthy figure, it's worth paying attention to making the right choices - for example, choosing stairs instead of an elevator, helping parents take the dog for a walk, or helping clean up after the evening family meal.

**Classroom Task**

Now it's time to complete the task. On the sheet, there are descriptions of two individuals who report on one day in their lives. Read these two notes carefully and answer the questions at the end of the text. After completing the task, I invite you to answer the following questions.

*N: What answers did you give to the following questions:*

1. Which person do you think is more physically active?
2. What aspects did you pay particular attention to regarding the way these people spend their time and why?
3. Which of these people uses more energy and why?
4. If you had to choose, which description is similar to your way of spending time?
5. Is there enough spontaneous physical activity in your life? If not, how could you increase its amount?

**Summary and Homework**

Today's lesson on energy has shown us that we have control over how much energy we use throughout the day. As part of your homework, which has a particularly mathematical character, you have the opportunity to discover exactly what your energy needs are.