**Where can studying Mathematics take you?**

Mathematics plays a part in many aspects of our lives: at the most unexpected times, from everyday life to most professions. Therefore it is an important part of math acquisition to prepare people to be able to solve practical math problems since we need to on many occasions in our everyday lives.

For example, whenever we go shopping we should be familiar with basic functions and cost/value ratio in order not to be cheated, to notice if we were short changed and to be able to recognise the percentage value of discounts. On the topic of shopping we can even use Mathematics when planning our route since if we know that the shortest path between two points is a straight line than we will save time.

When planning the family budget we need to be aware of how much our salary is and how much of it can we spend to have enough left to pay the bills. When taking out a loan it is also important to know about interest rates.

During internal renovations should we want to get new floor carpeting we must be able to determine the surface area of the room whether the width of the chosen carpet is 3 or 4 meters. We also need calculations when painting a room, to buy the appropriate amount of paint. But for example if we wish to build a little house for our pet (we built one for our quarrelling guinea pigs this summer) we will need to take measurements for the house to fit into the cage and for the pig to fit into the house.

In the daily news during analyses we often see statistics, tables and graphs. In order to successfully understand them recognise if the truth is being distorted or the explanations are misleading.

Even something simple as cooking requires knowledge of Mathematics in order to understand the recipes and to make accurate measurements of the ingredients and sometimes even to convert units. When sewing we need to be able to measure distance and use geometry to successfully follow the dress pattern. When planning a route for a trip in order to know how much fuel we will use we also need to use Mathematics.

This subject is very often not favoured by students though they also use it day by day. From the very simple act of knowing how much time is left until they have to wake up, how much change they are supposed to get in the snack shop to calculating the average of their math grades. We could list many other examples from playing board games to counting sheep at night. So we can see that Mathematics plays an integral part of our lives even when we don’t even notice.

In the acquisition of logic skills – the skills we use in problem solving, recognising causal relations, making decisions and discerning whether or not we are being played – it is again Mathematics that helps us. The curriculum of the subject is designed in such a way to make possible the development of this skill. We should also remark that it is a skill that can be developed and one that needs a many problems to be solved in practice in order to make the recognition of patterns, symmetries, rules better.

Mathematician Eduardo Sáenz de Cabezón had this to answer for the question “What is the meaning of Mathematics?”: “Science, all science gains meaning by helping us better understand the world in which we live. Thus helping in avoiding the traps of this painful world … Some sciences help directly. For example oncology, and there are fundamental sciences which we watch in wonder from a distance and cheer them on. It is on these – Mathematics being one of them – that all other sciences are built. This is what makes science, science. The discipline of Mathematics, the discipline that makes its laws eternal. You all must have been told that diamonds are eternal. Well that depends on what the definition of “eternal” is. A Mathematical law – that is eternal! The law of Pythagoras is still true even if he himself is long dead I assure you that the law holds true. Even if the world ends the Law of Pythagoras will still be true. Every time the legs of a triangle meet its hypotenuse the Law of Pythagoras comes into effect. Immediately.

Mathematics is the language of nature. It is an international language which is spoken by everyone and used on some level independent of culture, religion or gender. Therefore studying Mathematics takes us to learning this natural language which helps us understand the world around us on a mental level and on a practical level it helps us getting by and living our lives.

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