**REINFORCEMENT ACTIVITIES**

**Subject: Technology and Computer Science Grade: 5º Period:** IV **Year:** 2023

**Suggestion**

*Each period, the teacher formulates a problematizing question or situation related to the learning goals that*

*help the student to train him/herself and get ready to prove his/her knowledge and proficiency levels in each*

*area. This process is scheduled from August 17th to August 20th. The student should consult the bibliographic references cited by the teacher and turn in three academic products for the period.*

1. **Problematizing question**

What benefits can I get from interacting with emerging technologies within my learning process?

1. **Learning objectives**

* Understand the importance of Digital Security to protect information and one's own integrity.
* Create statistical graphs from a set of numerical data to make readings and comparisons in a visual manner.
* Recognize the importance of programming, the benefits and respective steps to create a program, as well as the types of algorithms.
* Identify the purpose and characteristics of statistical graphs in a spreadsheet to illustrate numerical information
* Identify the use of variables in programming and apply procedures for their creation and use in a program
* Differentiate the types of loops in programming and perform simple programs applying the concept of loops
* Create algorithms of a qualitative nature and program quantitative algorithms in Scratch using variables, conditionals and loops.

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1. **Academic concepts developed during the period**

* Digital security: definition, importance, risks to information and personal integrity.
* Spreadsheets: definition, objectives, parts of a graph, creation, reading graphs, types and insertion. resolution of problems posed.
* Introduction to programming: definition, importance of programming, requirements for programming: algorithms and languages.
* Variables. Quantitative algorithms: variables. Examples of algorithms with variables. Application exercises: Greetings, basic calculator.
* Steps to create an algorithm. Pseudocodes: examples and exercises, creation of a calculator.
* Programming conditionals and loops. Application exercises in Scratch using conditionals and loops.
* Programming loops. Application exercises in Scratch using loops.

1. **Bibliographic references.**

* Class concepts
* [**https://scratch.mit.edu/**](https://scratch.mit.edu/)
* [**https://excelparatodos.com/hoja-de-calculo/#google\_vignette**](https://excelparatodos.com/hoja-de-calculo/#google_vignette)
* [**https://www.youtube.com/watch?v=FI4d\_EwR\_MA**](https://www.youtube.com/watch?v=FI4d_EwR_MA)