Lección 1: Motivación y fundamentos de inteligencia artificial y robótica (AIR)

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# Preparación de la lección.

Los instructores llegaran 20 minutos antes de la lección para preparar el material de la lección, las hojas de retroalimentación para sus ayudantes y checar que las instalaciones estén en orden y limpias para recibir a los participantes 5 minutos antes de la lección. La duración de la lección es de 60 minutos con 30 minutos extra en caso de que algunas actividades tomen más tiempo.

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| **Activity** | **Time** | **Material** | **Skill /competence** | **Development** |
| --- | --- | --- | --- | --- |
| The robot game (Icebreaker) [TODOS] | 10 min | Little ball | Interpersonal skills  Creating connections | 1. The teacher will start introducing him/herself  * Say your name * Favourite food * Superpower * What kind of robot will you be? i.e. if I am a robot my skill will be able to communicate in different languages  1. Through the ball to each child and they will answer the same questions. |
| Why AI?  [TODOS] | 10 min |  | Develop curiosity | 1. The teacher will start a discussion: have you ever heard about AI? What do you think AI stands for? 2. Explain the concept 3. Everyday Example   Examples of AI application   * Videojuegos [TON~O] * Recognisitiento de voz con celulares [DONATO] * Perros y gatos [DIEGO] * helping doctors to identify of diseases using medical images [todos] * recommendation of product when you buy online [todos]   Slides para material de ayuda. [LINK](https://docs.google.com/presentation/u/0/d/1-m51PKHW8d325Un_EZdMh3RAxH2METubwb9dXLGe6sU/edit) |
| B R E A K | | | | |

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| --- | --- | --- | --- | --- |
| Simon says  [DIEGO] | 5 min |  | Follow instructions | “Simon says”: Children will follow instruction.  Touch your nose, raise your left hand, jump 3 times etc.  Last command will touch your head, how does it feel? Does it feel soft or hard? that’s your skull and your brain is inside. |
| Your amazing brain [DONATO]  a) Colour matching brain parts  The teacher will show parts of the brain (Appendix A) with colours. The children will colour each part accordingly.  b) Brain maize (advance activity)  Appendix B   1. Relationship Brain & AI - [DONATO] | 10 min | Brain anatomy image (Appendix A and B)  Neuron image | Interconnection with other areas- biology/anatomy  Learn the basics of Artificial Intelligence | Teacher will discuss:   1. Brain anatomy   Group Discussion  What do you think your brain is made of?  Introduce the concept of neuron and its anatomy. How they look, work,  Teacher will discuss the similarities between the functions of our brain and AI by using the examples of networks (in everyday life, branches of a tree, neural networks). Then using the analogy of brain networks, children will associate terminology of input, output, weights and how the modern computers use these concepts to identify for example a cat and dog.  Slides para material de ayuda. [LINK](https://docs.google.com/presentation/u/0/d/1-m51PKHW8d325Un_EZdMh3RAxH2METubwb9dXLGe6sU/edit) |
| The Neuro Game  Have all the children stand up and make a line. Each one of them represent a neuron. | 7 min |  |  | * The teacher will be at the beginning of the line and will send “ the message” , by holding the hand of the first “ neuro-child” and squeezed his/her hand twice. * The next child in line will keep holding the teacher’s hand and use his/her other hand to pass the same message to the next person ( squeezed his/her hand twice) * Each neuron-child has to pass the same message to the next in line without talking. * By the end all the class should be holding hands. You can repeat the game and send a new message. |

# Cierre de la lección

| Clean up time |  |  | Create good habits | Clean up time |
| --- | --- | --- | --- | --- |
| Individual activity  (Follow up) [ANTONIO] |  |  | Reflective thinking | Do you understand the different areas of the brain? Can you mention them?  Do you understand what a neuron is? |
| Closing |  |  |  | Give some clues of the main topic you will cover next time. This helps to engage the children and look forward to coming to their next session |

Actividades adicionales

| What is a robot? | 10 min |  | Collaboration | Discuss potential scenarios where they can use AI to solve a problem in their everyday life (for instance, identify when the fridge is empty and there is no milk, clean the rubbish in the house, etc.)  Each student will draw their own “dream” robot   * What characteristics will it have? Size, shape, functions, material |
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