**O3.2\_CLIL plan for a skeletal system**

**Age group/class:** 14-15 years old/year 9

**Lesson title:** Skeletal system of a human

**School Discipline:** Biology

**Key concepts:** anatomy, skeleton, skeletal system

**Aims:**

* Experience the importance of skeleton and the ways to keep them strong/healthy
* Get the basic knowledge of the skeletal system
* Be able to distinguish the different bones

**Skills developed**: observation, description, analysis, research, collaboration

**Materials/Equipment needed**:

* VR headset
* VR video link ([https://eloquent-ramanujan-887aa5.netlify.app/biology.html](https://l.facebook.com/l.php?u=https%3A%2F%2Feloquent-ramanujan-887aa5.netlify.app%2Fbiology.html%3Ffbclid%3DIwAR2f5AgDnv9kdmKHT2fOc4k-FknJBmEG6nBsBxoyAj4Kl3iKa5_YaAXLRRs&h=AT0LWEYN3KeRTqrSYRGif0fHaxDl1JhgpUu3X-OZEG_d0EiRT1LChjRfkomWLrhww7OuIWV5oJBbRZ70aKbpqOUQqbwz8VzLQFwlw3fkkfErmbo36U0qM7RecG14ozRfouXE))
* <https://www.youtube.com/watch?v=_hyqlKVm2ks>

*“What If We Didn’t Have Bones. What Would Happen*?”   (the video may be shown in the introductory activity to activate the previous knowledge)

* Handouts: a picture of a skeleton (https://www.pinterest.com/pin/278097345720540302/), worksheets for the skeletal system (https://www.pinterest.co.uk/pin/161707442851580337/)

**Lesson plan:**

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| **Stages** | **Description of activity** | **Time** |
| **Preparation before the lesson** | If this is a first VR experience for students – go through the safety rules:   * Learners are to sit down whilst using the VR glasses and not hold anything in   their hands, unless the experience is of such a nature that it requires you  standing, in which case, ensure enough space is allowed around all students.   * Learners must not use the headset when they are: tired, need sleep, under emotional stress or anxiety, when suffering from cold, flu, headaches,   migraines as this can worsen their susceptibility to adverse reactions.   * Learners should be given the choice to opt out of using VR. |  |
| **Introduction** | * **Warm up by asking students:** * -What do you know about the skeletal system? * -How many bones do you think we have in our body? * The teacher shows the YouTube clip “What If We Didn’t Have Bones—What Would Happen?” * ask the students if their predictions were right or not. * Show the Picture (or a model) of a skeleton and explain it in depth. Say why the skeleton is important. The name and location of the major bones in the body; explain the term *bone marrow.*   Introduce the phrases :***consist of, is formed by, is made up of, contains(*** while presenting the information on the skeleton system, emphasise these phrases).   * Ask the students if they know how to keep the bones strong and healthy. | 2 min  4 min  1 min  15 min  1 min |
| **Initial Immersive Experience** | Say that they are going to see a short video on the **VR headsets.**  Learners put on the **VR headsets** and explore the video at their own pace.  Turn the headsets off and bring students back into the classroom.  Ask the learners to tell what they have just seen. | 2 min  1 min |
| **Guided Immersive Experience** | Tell the students that in pairs they have a task to write the four ways to keep bones strong and healthy. Before starting to collaborate in pairs, ask to put on the VR headsets again and dive back into the immersive experience, but this time with the aim to find the information for the task. The students may explore for 2-3 min. Learners spend time thinking of the ways that keep bones strong and healthy.  Ask the students to say their ideas, write them on the board. | 4 min  2 min |
| **Follow up** | **Deepening knowledge** about the skeleton system using the phrases ***consist of, is formed by, is made up of, contains.***  Give the worksheets with skeleton. Ask in groups of four to find the bones given in the wordlist (source: https://www.pinterest.co.uk/pin/161707442851580337/) | 8 min |
| **Formative Assessment** | The teacher opens the worksheet on the white board and asks the groups to tell the answers. Each group has a task using the phrases to tell the bones of different parts of the skeleton (i.e head, arm, leg...)  The teacher ensures that the answers and the pronunciation of the terms are right. | 5 min |