Teacher: \_\_ N. Adamse \_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | Class | Date | Duration |
| Biology | Bio CPI (B3) | 3/22/21-4/2/21 | 3 x 70 min. |

|  |  |
| --- | --- |
| Topic | **DNA** Remote Learning Activities  Part of the unit: **Cells and their organelles:** Nucleus |
| Grade level | 10th grade |
| Setting | Students are at home and learn remotely over Zoom |
| Standard(s) | [State/National Academic Standard(s):](https://sites.google.com/a/wgu.edu/state-specific-information/)  **Life Science Standard, level 9-12: LS 1: From molecules to Organisms: Structures and Processes**  *Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins, which carry out the essential functions of life through systems of specialized cells* |
| Lesson Objective(s) | **Explain how DNA can act as a blueprint for living organisms**  **Condition**: *Students are provided with information (video, review and lecture) about how DNA bases form the code for amino acids*  **Behavior:** *Students answer questions on the accompanying questionnaire*  **Criterion:** *Students understand that DNA codes for different amino acids by three bases (codons), they need to explain this knowledge in their answers.* |

|  |  |
| --- | --- |
| Links to previous lesson and prerequisite skills | Students have already finished a range of topics such as:  -The characteristics of Life,  -Scientific methods  -Introduction to Ecology,  -Introduction to Evolution,  -Cells and their organelles,  -Photosynthesis and Chloroplasts,  -Cell membrane and  -Biomolecules  -Students have done a pre assessment on this topic (DNA, RNA and proteins) |
| Links to future lesson | In the next class, or the in-school class, students need to make a 3D model of a DNA molecule |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lesson | Time | Teacher’s activities Students’ activities | | Resources |
| 1: Introduction  Main Activity  2: Introduction  Main activity  Closing | 5 min  65 min  5 min  65 min  30 min  40 min | Teacher:  -Explains the assignment on Zoom  -Stays connected on Zoom to help and guide students  -Explains the assignment on Zoom  -Stays connected on Zoom to help and guide students  -Gives immediate (written) feedback when students submit their work  -Discusses the answers to both assignments with all students remotely.  -Gives students time to revise their answers and resubmit their work  -Stays on Zoom to help with their revisions  -Posts the answers (after all students have revised their work) on Google Classroom | Students:  -Listen and read the assignment with the teacher  -Watch the video clip and answer the accompanying questions  -Draw illustrative diagrams with paper and pencil or with Sketchbook or Google Drawing (digital drawing programs)  -Submit the assignment on the due date (last day of the week at 2 pm) on Google Classroom  Listen and read the assignment with the teacher  -Watch the video clip and answer the accompanying questions  -Draw illustrative diagrams with paper and pencil or with Sketchbook or Google Drawing (digital drawing programs)  -Submit the assignment on the due date (last day of the week at 2 pm) on Google Classroom  -Listen to the discussion  -Participate in the discussion  -Revise their work and  -Re-submit it on Google Classroom | *-Lap top*  *-Internet connection*  *-Zoom meet*  *-Google Classroom*  *- Weekly schedule with interactive links to assignments*  *- Assignments with interactive link to video clips*  *-Paper and pencil*  *-or digital drawing programs*  *-Photo-Booth (for submitting hand-drawn diagrams)* |

|  |  |
| --- | --- |
| Differentiation Strategies | -Written information as well as visual (and animated) information is given  - Students work with a writing program that enables them to check their writing and grammar  - Students illustrate their writing with drawings  -Students have one week per assignment, they can take more time if needed  -Students receive help over Zoom when needed |
| Formative assessments | The assignments with the questions are the formative assessments.  Students are allowed and encouraged to revise their answers after the teacher’s timely feedback and discussion |
|  |  |