**LESSON PLAN**

**Lesson**: **Measurement of CO2.*Comparing the amount of carbon dioxide in the inhaled and exhaled air***
**Teacher**: Rasa Ručienė
**Time**: 50 minutes
**Level**: intermediate
**Topic:** environmental problems, climate change, carbon dioxide, measurement of carbon dioxide
**Objectives**: to learn to measure the amount of CO2 using a sensor, to deal with effect of CO2,

 to deal with problems and suggest solutions, to develop reading and speaking skills,
**Key words:** environment, global warming, carbon dioxide, pollution
**Outcomes:** Students will be able to realise the effect of CO2 to climate change ,learn to measure level of CO2 in the air
**Languge skills**: answering questions, expressing opinion, agreeing, disagreeing
**Required materials and equipment:** balloons, bottles, handouts for students with the tasks, every student needs a mobile phone.
**Literature**: the Internet

 1. <https://issuu.com/einsteinworld/docs/amount_of_co2_exhaled_in_human_resp> (2019)

 2. <https://sciencing.com/carbon-dioxide-affect-environment-8583965.html> (2019)

 3. <http://www.uigi.com/carbondioxide.html> (2019)
**Cross curricular element**: chemistry
**Student grouping**: groups of students -(4-6 students in each group)

 **Process of the lesson**

1. The teacher discusses together with students what do they know about CO2 gas, about its effect to climate change, to human’s health, about its benefits.
2. The teacher shares students into 4 groups of 4-5 students and give them worksheets.
3. Students measure of level of CO2 with a sensor in the classroom air and the results obtained convert to percent. They should split the data from 10000. They fill the results data in the table.

4. Students share balloons.

5. Students choose in each group students who will do sport activities and students who will not do sport activities. These students have to inbreathe deeply and exhale air into the balloon. Then other students have to do squads for one minute then breathe deeply and exhale air into the balloon.

6. Students measure quantity of CO2 in each bottle and the results obtained fill in the table.

7. Students convert the results obtained from the sensor of CO2 to percent and split from 10 000. Write the data in the table.

8. Students compare the results obtained, answer the questions and make conclusions of the research.

9. Students play a kahoot. They do a questionnaire about the lesson and evaluate themselves. <https://create.kahoot.it/kahoots/shared>