



LESSON PLAN

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App:



LESSON NAME: CLOUD CHAMBER

DURATION: 3 x 60min

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OVERVIEW

This lesson plan aims to demonstrate the usefulness of the media in understanding difficult concepts of science. We will use the cloud-based platform GoAnimate to create and distribute animated videos. Goanimate is a handy and attractive tool. The issues to be hawkered with it are inexhaustible , but we'll focus on cosmic rays and cloud chamber .

LEARNING OUTCOMES

The students will be able to:

- recognize the use of GoAnimate as a tool for understanding difficult concepts of science
- find attractive ways to express their opinion to gain other's attention
- distinguish the elements that make the final product more attractive
- explore difficult fields of science
- develop modern capabilities creating animation and publish it online
- learn in a funny way
- have fun and come closer to each other
- communicate, collaborate, inspire, imagine, create, innovate to achieve their goal
- investigate and learn how to focus on the important information



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PREPARATION AND MATERIALS

REQUIRED SKILLS

- Good knowledge of English language
- Basic Computer Knowledge
- Ability to follow GoAnimate tutorials

CLASSROOM REQUIREMENTS

- Wall projector
- One computer (or laptop) per group
- Internet connection

PREPARATION

- Students are divided into Groups (4-5 students)
- At least one of each group can speak English language.
- At least one from each group has basic computer knowledge
- One of each group will make a login at the goanimate platform

PROCEDURE

1. We spark their interest with a video:
<https://www.youtube.com/watch?v=SnKvtzt5So> . We explain that what we see is a video of a cloud chamber in which the cosmic rays particles become visible.
2. Announce and write on the blackboard the scientific questions a) what are the cosmic rays? b) how does the cloud chamber work?
3. Discuss that today we will try a different way to learn. We ask them to make an attractive short animation with dialogues that a) will respond to scientific questions b) will influence others opinions to vote their video. Maximum duration of the animation is 2 minutes. 5min
4. Ask the students to access the GoAnimate platform and watch the tutorial video. Next, ask them to take roles in the group (director, computer operator, writer, researcher, voices). 10min
5. It's time for scientific research. To shorten the process give them help in



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their initial research (links below). Tell them that it would be useful to make notes and come up with ideas while watching. There is time limit to work.

<https://www.youtube.com/watch?v=400xfGmSlqQ>

http://palmera.pntic.mec.es/~fbarrada/cloud_chamber_english.pdf

<https://www.youtube.com/watch?v=E8AvfXar9zs>

<http://www2.physics.ox.ac.uk/accelerate/resources/demonstrations/cloud-chamber>

30min

- 6. Preparation of the dialogue. Creating the animation. The final animation must be up to 2 min. There is time limit to work.

50min

- 7. Ask the groups to publish their final animation, then watch the videos of other groups and vote for the best.
- 8. Evaluation of the process. Give the students a questionnaire.

QUESTIONNAIRE TO EVALUATE THE PROCESS

- 1. Did you enjoy the process? value 1 to 5 (1 not enjoy at all - 5 very much)

1	2	3	4	5

- 2. Did you find the process easy? value 1 to 5 (1 not easy at all - 5 very much)

1	2	3	4	5

- 3. Do you think that you were helped in-depth understanding of the science subject? value 1 to 5 (1 not helped at all – 5 very much)

1	2	3	4	5

- 4. Would you repeat this procedure in the future with a different topic? Yes or No

yes	no

- 5. In case you repeat this procedure, what would you change at the creation of the animation?

- 6. Are you willing to share your animation to social network? Yes or No

yes	no

- 7. Some animations received many votes. What do you think were the elements that made these animations more attractive?



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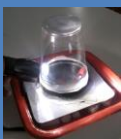
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TEACHER PAGE

Sometimes it is difficult to teach some science concepts. But certainly true what Confucius says that:

I hear and I forget
I see and I remember
I do and I understand

In this lesson we are trying to achieve two things:

- a) Students have to understand what cosmic rays are and explain how a cloud chamber works. After this students will be ready to do the experiment in the laboratory. The experiment described in this link: <https://www.youtube.com/watch?v=400xfGmSlqQ> OH yes it works! So this lesson prepares students for the laboratory.
- b) Recognize the role of media in shaping opinion. Do we matter how you present something in our decision to see it and learn from it? What is the right way to present it? Should it be funny or have nice colors, or props? Should it be youthful, friendly, talking in the language of young people, in our hearts? Should it be scientific and how much?

Our young students are invited to advertise their knowledge!

In particular we will use the cloud-based platform GoAnimate to create and distribute animated videos. It allows users to develop both narrative videos, in which characters speak with lip-sync and move around, and video presentations, in which a voice-over narrator speaks over images and props, which may also move around.

See an example of an animation with GoAnimate in the following link:

<http://goanimate.com/videos/0lxDK2diSTyg>

The Public URL for this WebQuest:

<http://zunal.com/webquest.php?w=284322>

Credits: I would like to thank Paloma Alameda – Melendez and Francisco Barradas – Solas whose cartoon „making particles“ real has been the inspiration for the lesson plan.



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EVALUATION

	sufficient	good	very good	excellent	Score
Search and evaluation of information	Medium coverage of the issue with a wealth of information with no assessment of the most essential	Cover the subject with enough information but not full	Highly coverage of the subject, with meaningful information	Full coverage of the subject, with meaningful information	35
Consistency on the needs and time limits, teamwork	It took repeated corrections and help to comply with the requirements of the job and / or compliance with the time limits and there was no teamwork.	Needed help to be consistent with the requirements and / or schedule. The team collaboration was adequate, but had to coordinate.	With proper correction has responded to the demands on schedule. The team collaboration was sufficient.	Consistent. No correction and delivered within the timetable required. Cooperation of the team was excellent.	30
Creativity and presentation	Mere information. Not so clear and powerful speech, but in the time available and match the use of support materials.	Worked imagination and creativity. Clean and powerful speech, but outside the slot and mismatch in the use of support materials.	Worked imagination and creativity. Clean and powerful speech, but out of the slot or mismatch in the use of support materials.	Worked imagination and creativity. Clean and powerful speech, within the time available and match the use of support materials.	35
Total Score: 100					