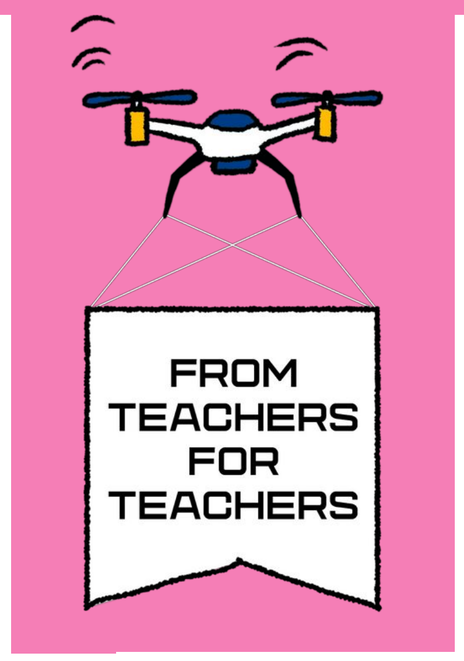
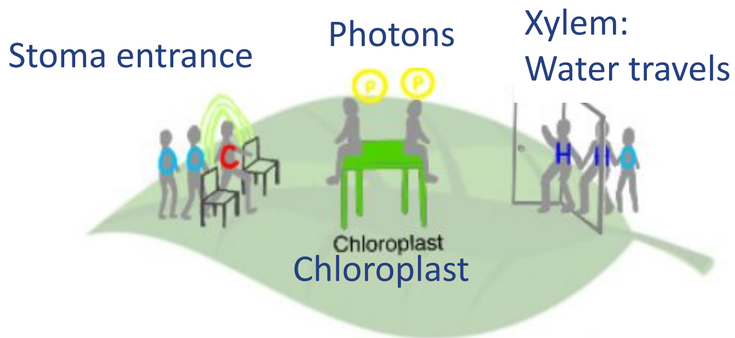


STEM WITH ARTS

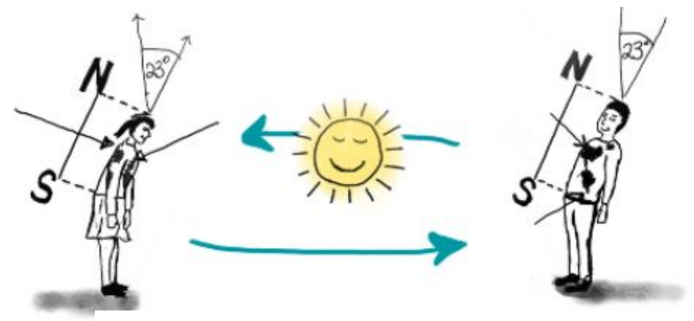
Julia Dolan | Clonkeen College | Dublin | Ireland

Dramatic Science

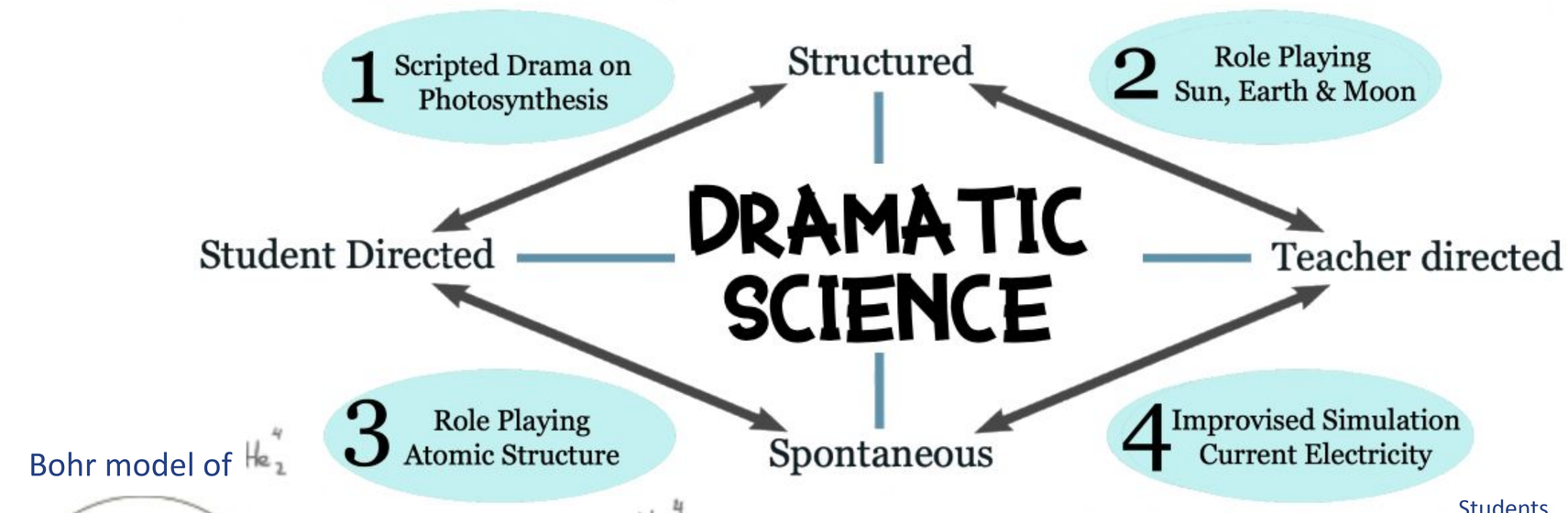
'Play is the greatest form of Research' Albert Einstein



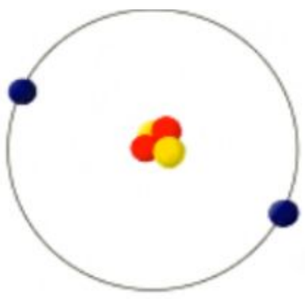
Chloroplast



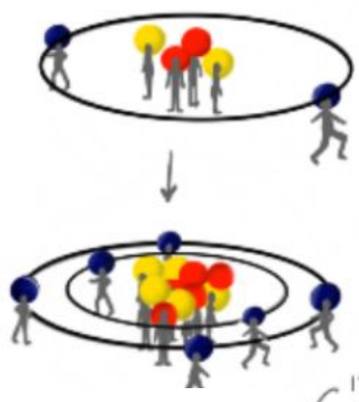
Investigating seasons of the year



Bohr model of He^4_2

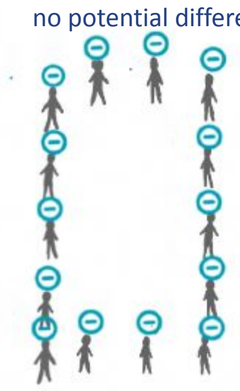


Students model of He^4_2

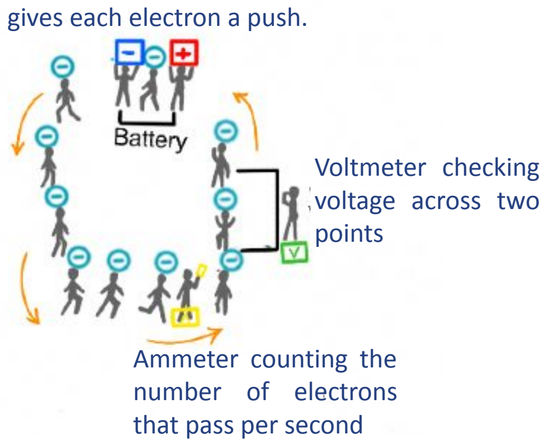


Students model of C^{12}_6

Students represent the electrons in a wire. No movement as there is no potential difference



Students move as the battery provides a potential difference and gives each electron a push.



Voltmeter checking voltage across two points

Ammeter counting the number of electrons that pass per second

Description

This project consists of a sample of science lessons which use specific drama-based pedagogies (DBP) as seen in the image above. The need for methodologies that optimise students' authority, engagement and interest in the scientific subjects has been a key goal as the traditional classroom fails to meet the needs of students today. The drama used in this project has been seen to provide a model for learning, allowing students to communicate the nature of science, advance social interaction and debating. The aim is to attract more students into the world of science, captivating their imagination and creativity.

Results

Observations of these lessons show the positive effects of drama on students' conceptual understanding of the scientific concepts.

1. Students developed models leading to a deeper understanding.
2. Students had much learner agency and took ownership for their own learning.
3. Lessons provided structure and control and improved students' social behaviour.

Conclusion: The use of drama in a well-considered manner, guided by reflective science teachers, may provide empowering learning environments for students

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