CHEMIST app

CHEMIST app is the portable chemistry lab that makes chemical reactions fun and safe. It allows to conduct chemistry experiments, explore chemistry equipment and different tools in the virtual space. Students can “make a mess” in the chemical lab and clean it with a swipe of a finger. Learners can mix chemicals by pouring them into beakers or test tubes and then use the burette with the suck-and-release action as they would in real life. They can also heat or cool the chemicals, measure the pH or put a piece of cesium into the water. The 3D stage enables the parallax effect from different angles, so students and teachers can do everything as if they are in a real lab.

Various apparatus The 17 lab apparatuses are intuitively easy to use. Teachers can help ELL students to create a graphic organizer with terminology in any given language.

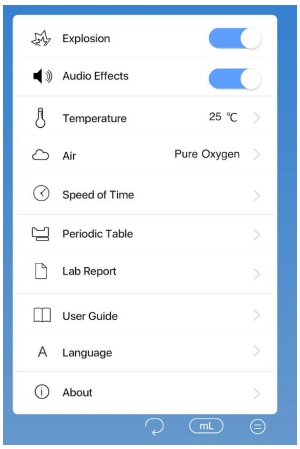
Source: CHEMIST App

Reaction formula When a reaction starts, its chemical equation will automatically show up, even the chain reactions.

Reagents 200+ built-in inorganic chemical reagents. 60+ organic chemicals cover the materials from kids science class up to college chemistry. Each compound has a nomenclature along with a datasheet of selected physical properties and characteristic chemical reactions.

Source: CHEMIST App

Realistic and risk-free simulations Pouring chemicals between beakers; mixing them with a glass rod; measuring the temperature or the pH; or heating chemicals with Bunsen burner is a simple way to pre-screen the reactions and setups before executing them in the lab. There's a realistic audio component that accompanies each manipulation. Chemistry experiments are fun but sometimes not so safe. The app facilitates the experience chemistry up close without worrying about making a mess or breaking fingers. This can be used as a safe tool for students who experience anxiety of being around chemical equipment or who are overwhelmed by smells in the chemistry lab.



Source: CHEMIST App

Deeper learning The app calculates all chemical data in the vessel in real-time allowing students to see what is going on in the beaker not only visually but also in accurate numbers.

Tools and settings At the moment (version 5.1) there are 6 tools that can be used in the experiments (pH meter, thermometer, stirrer, pipet, matches and a freezing rod). Students can also change the lab temperature, set the air composition, or even speed up the time. After each experiment, students can generate a detailed lab report and use it as an example of how to write step-by-step instructions in science. This feature is currently only available in English.

Source: CHEMIST App

Lab Report
26/7/2018

Procedures

1. Set lab to 25°C Pure Oxygen and 1x speed.
2. Place a Evaporating dish1 on the table.
3. Add 7.5g $KMnO_4$(s) to Evaporating dish1.
4. Burn the substances in Evaporating dish1.
5. Burn the substances in Evaporating dish1.
6. Burn the substances in Evaporating dish1.

Reaction in Evaporating dish1: $2KMnO_4 = K_2MnO_4 + MnO_2 + O_2$.
Reaction in Evaporating dish1: $2K_2MnO_4 = 2K_2O + 2MnO_2 + O_2$.

7. Remove all substances in Evaporating dish1.
8. Place a Busen burner1 on the table.
9. Add 3.1g $KMnO_4$(s) to Evaporating dish1.
10. Light up Busen burner1.
11. Put off Busen burner1.
12. Light up Busen burner1.
13. Burn the substances in Busen burner1.
14. Burn the substances in Evaporating dish1.

Reaction in Evaporating dish1: $2KMnO_4 = K_2MnO_4 + MnO_2 + O_2$.
Reaction in Evaporating dish1: $2K_2MnO_4 = 2K_2O + 2MnO_2 + O_2$.
Reaction in Evaporating dish1: $2KMnO_4 = K_2MnO_4 + MnO_2 + O_2$.

15. Remove Busen burner1 from table.

Source: CHEMIST App

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Bibliography

CHEMIST [Version 5.1, iOS application, $8.99]. Li Yang.

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