A Green "Peel" on STEAM Education

An innovative and sustainable education scheme integrating STEAM and environmental education

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Background

The curriculum of STEAM in China is partial to IT and Internet

The resources put on environmental education are minute

STEAM education cannot be practiced systematically in China.

The environmental awareness in China is very weak

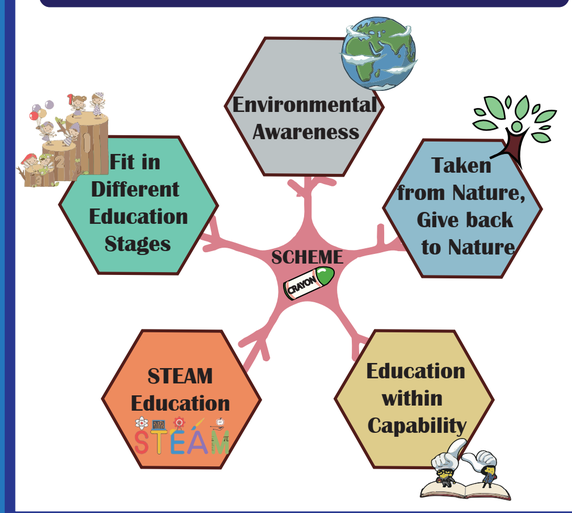
A brand new and sustainable education scheme

Our Design

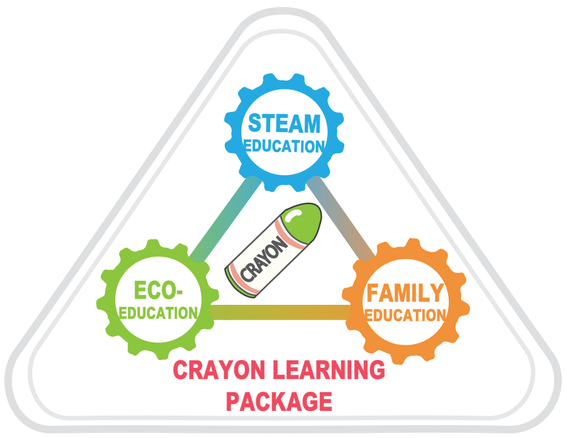
Data Analysis

- Statistical differences between control group and treatment groups obtained → t-test
- Values: *P<0.05, **P<0.01, ***P<0.001

Discussion

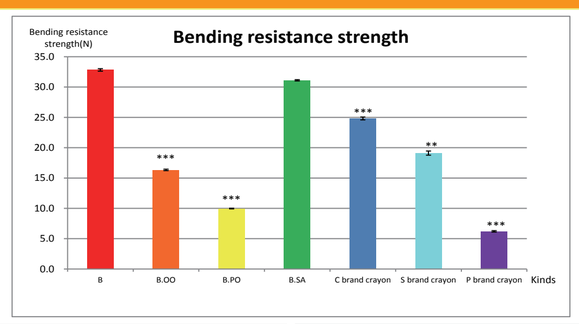


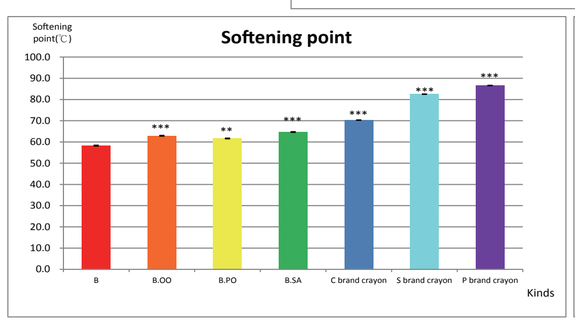
Hypothesis

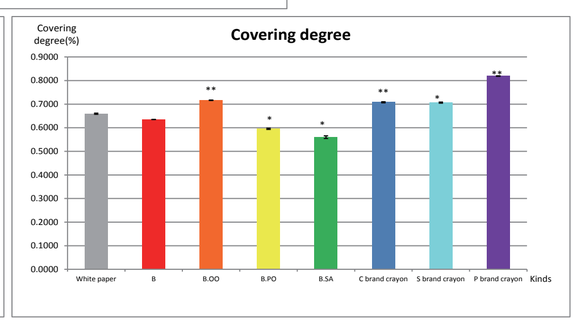


Results

Performance Test



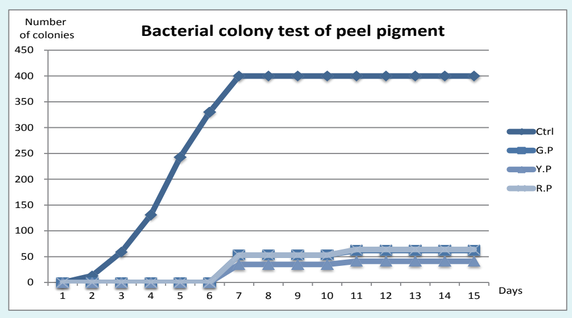


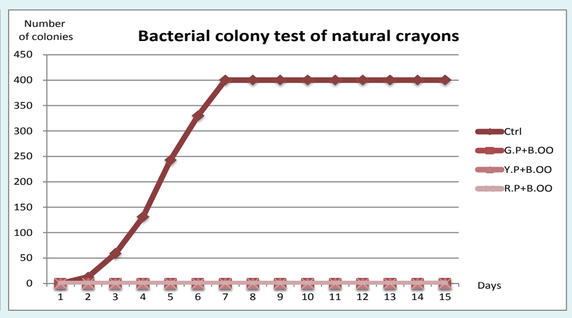


Materials of different formula:
White paper | B : beeswax | B.OO : beeswax+olive oil | B.PO : beeswax+peanut oil | B.SA : beeswax+stearic acid | C brand crayons | S brand crayons | P brand crayons

Standard: China's national light industry of crayons

Bacterial Colony Test





Materials of different formula:
Ctrl : water | G.P : green pigment | Y.P : yellow pigment | R.P : red pigment
Ctrl : B.OO | G.P+B.OO | Y.P+B.OO | R.P+B.OO

Our Learning Package

Each experiment → three times All data expressed → MEAN±SD analyzed → Microsoft Excel

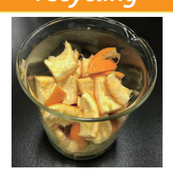
*All the photos and graphs are prepared by the researchers.

Conclusion

Methods

There are 5 stages in our crayon learning package:

Peel wastes recycling



Turning peel wastes into peel pulp

Mold choosing

Formation and painting

Pulp pouring

Outlook

- Explore more raw materials in the production of "green" paints.
- Develop more education models to make our learning package more diverse.
- Apply the learning package in different aspects.

What we learned

- Select the useful references
- Design a scientific experiment
- Do the data analyses better
- Improve presentation skills
- Strengthen our self-confidence

Acknowledges

教育暨青年局 Direcção dos Serviços de Educação e Juventude
科學技術發展基金 FDCT
澳門科學技術協進會 Associação Promotora das Ciências e Tecnologias de Macau The Association for Promotion of Science and Technology of Macau
澳門霍英東基金會

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