



# Engineering for Sustainable Communities

الهندسة للمجتمعات المستدامة

[engineeriam.org](http://engineeriam.org)



MARSAL FAMILY  
SCHOOL OF EDUCATION  
UNIVERSITY OF MICHIGAN

FEB 12  
**Building  
Community**

FEB 13  
**Building  
Community**

FEB 14  
**Building  
Community**

FEB 15  
**Building  
Community**

FEB 16  
**Building  
Community**

FEB 19  
**No School**

FEB 20  
**Sustainable  
Community**



FEB 21  
**Electric  
Circuits**

FEB 22  
**Renewable  
Energy**

FEB 23  
**Community  
problems/  
needs**

FEB 26  
**Community  
Survey**

FEB 27  
**No School**

FEB 28  
**Project  
Designing**

FEB 29  
**Project  
Designing**

MAR 1  
**Project  
Designing**

MAR 4  
**Project  
Designing**

MAR 5  
**Project  
Designing**

MAR 6  
**Project  
Designing**

MAR 7  
**Assessment**

MAR 8  
**Showcase**

**Mar 11-15 Interview**

FEB 20

# Engineering for Sustainable Communities

الهندسة للمجتمعات المستدامة

# AGENDA - جدول أعمال

- High/low point in science
- Sustainable Community poster activity
- Engineering Design Cycle (video + worksheet)
- Engineer for sustainable communities in your life



I-engineering to Make Our Lives Better!

الهندسة تجعل حياتنا أفضل!

Justice

عدل

Healthy

صحة

Happy

سعادة

What does sustainable community  
mean to us?

ماذا يعني المجتمع المستدام بالنسبة لنا؟



I-engineering to Make Our Lives Better!

الهندسة تجعل حياتنا أفضل!

Just عدل

Clean

Healthy  
صحة

Happy  
سعادة

What does sustainable community  
mean to us?

ماذا يعني المجتمع المستدام بالنسبة لنا؟

*Smiling in  
your brother's  
face is an act  
of charity*

الابتسامة في وجه أخيك صدقة



High point  
in science!



**Stories about our science experiences**

قصص عن تجاربنا في العلوم

Low point  
in science!

# Engineering Design Cycle دورة التصميم الهندسي





# Mood Board Video - فيديو لوحة المزاج

## + Sage's Mood Board worksheet

- ⊙ What **problem** did Sage identify?
- ⊙ Why was the problem important, and what **evidence** did she have?
- ⊙ What was her **solution**, including how and why she made it the way she did?
- ⊙ What was the **purpose** of the solution?

# Mood Board Video - فيديو لوحة المزاج

- What problem did Sage identify?

(1) Students in classroom/school have **no way to express their feelings**.

(2) They do **not feel comfortable** expressing their feelings.

- Why was the problem important, and what **evidence** did she have?

Having **good** communications & **safe** space to share emotions  
⇒ improve **mental** health and build a **happier** community

(1) **Observation** in the classroom & the school

(2) **Survey** - for the schoolmates & adults

# Mood Board Video - فيديو لوحة المزاج

- What was her solution, including how and why she made it the way she did?

**Designing a Moodboard** ⇒ an easy way to express feelings

*\* Materials: Board, copper tape, hand crank, colorful lights, circuit, battery, mood words, etc*

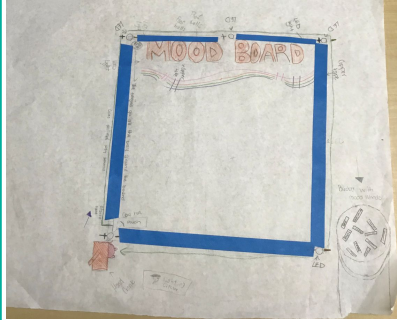
- What was the purpose of the solution?

(1) To help people express their feelings

(2) To have more sustainable (**healthier, happier, more just**) community.

# Engineering Design Cycle دورة التصميم الهندسي

“We wanted to find a way for students to express their feelings”



Students can put their hand in the box and pick a mood that fits how they are feeling. Then they put it on the board. If students want to light up the board, all they have to do is turn the hand crank.



*“The problem we investigated was overall classroom happiness.”*

