SINGAPORE INTERNATIONAL SCHOOL

STEM

Science • Technology • Engineering • Math

NEWSLETTER

SIS @ CAN THO APRIL 2021

How can STEM help students?

STEM education around the world is increasing in popularity—more schools are implementing STEM learning into their curriculum and making it an integral part of what they teach. There are eight reasons why STEM is essential at Singapore International School:

1) Fosters ingenuity and creativity:
Ingenuity and creativity can pair with STEM and lead to new ideas and innovations. Without ingenuity and creativity, the recent developments in artificial intelligence or digital learning would not be possible. These technologies were created by people who learned that if the human mind can conceive it, the human mind can achieve it. No doubt they had a great K-12 STEM education teacher.

2) Builds resilience:
During STEM education activities, students learn in a safe environment that allows them to fall and try again. STEM education stresses the value of failure as a learning exercise, which will enable students to embrace mistakes as part of the learning process. This allows students to build confidence and resilience, which will enable them to keep going when the going gets rough. After all, failure is part of a process that ultimately leads to success.

3) Encourages experimentation:
Without a little risk-taking, and experimentation, many of the technological advancements that have occurred in the last couple of decades would not be possible. Many of these innovations were created by people who were told that their ideas wouldn't work and their response was, "Let's try it and see." This type of attitude can be encouraged with STEM learning during the K-12 years. How can you accomplish this? By allowing students to experiment and take risks during learning activities.

4) Encourages teamwork:
STEM education can be taught to students of all ability levels. Students of varying levels of ability can work together in teams to find solutions to problems, record data, write reports, give presentations, etc. The end result is students who understand how to collaborate with others and thrive in a team-oriented environment.

5) Encourages knowledge application:
In STEM education, students are taught skills that they can use in the real world. This motivates students to learn, as they know that the skills that they acquire can be utilized immediately, and in ways that positively impact them and their loved ones. The ability to apply their knowledge to new and novel tasks will bode well for them when they enter the workforce.

6) Encourages tech use:
STEM learning teaches kids about the power of technology and innovation. So, when students encounter new technologies, they will be prepared to embrace them, instead of being hesitant or fearful. This will give them the upper hand in the global landscape, as the world is becoming increasingly tech-centered.

7 Teaches problem-solving:
STEM education teaches students how to solve problems by using their critical thinking skills. By engaging in STEM learn experiences, students learn how to examine problems and then create a plan to solve them.

8) Encourages adaption:
To succeed in life, students have to be able to apply what they have learned to a variety of scenarios. STEM education teaches them to adapt the concepts that they learn to various iterations of a problem or issue.

My Boat Floats. What about Yours?



With basic materials such as polystyrene, scissors, straws, plastic bottle caps, balloons and snap blade knives (used with extreme caution), Year 5 students carved their own boats. After coloring their boats and designing them in line with their personal preferences, they discovered how potential energy is converted into kinetic energy. The entire process was pretty straightforward and after the project was complete, all that was left for students was to enjoy the moment and their creation. So what was next?

Primary students participated in a wonderful STEM contest on March 12: a water boat contest using recycled products. Students developed an understanding about the concepts of buoyancy and water displacement to design a watercraft that also incorporated the scientific principles of force and motion with engineering design and mathematics. Various applications of power ranged from rubber bands to balloons. This year's winner was the Year 5 class. Second place went to Year 4, and Year 1 took third place honors. Best design was awarded to Year 2. Congratulations to everyone.




A Visit to the Farm

Students from Year 1 to Year 5 visited Bao Gia Farm Camping. This facility was constructed by a team of agricultural engineers developing means to overcome many difficulties and challenges from harsh weather, pests, soil and water pollution. Students learned about high quality agricultural products, rich in nutrients, and safe without using harmful fertilizers, chemicals, and pesticides. Sightseeing activities included information about the cultivation process and gaining an understanding that Vietnam is fully capable of developing into an advanced agricultural power.

Team Creativity

The challenge for Term 3 was a student favorite. With craft sticks, cardboards, scissors and glue, Year 5 students created a game that they could enjoy playing thoroughly during break times. The best thing about the activity was that it required a team effort. The students skilled in drawing took part in the design aspect of the project, while the others carefully measured and cut the craft sticks so that finishing the maze was not a piece of cake. The students are noticeably getting better at teamwork and at bringing about a creative design.

Float, sink, and grow time

K2 students had so much fun with their FLOAT or SINK experiment in the classroom in which they went around the classroom finding objects to put in the water to learn a useful lesson about floatation. Then, they all went out to see the floating paper boats. The kids were so surprised, and they laughed so loudly. Also, they visited their school's organic garden and the greenhouse to see the development of different plants.

Up, up, and away!

Although it was the 3rd annual Water Bottle Rockets Challenge, SIS Can Tho introduced the first competition of the HOUSE system instead of classes.

Four houses – namely, Griffin, Kraken, Basilisk, and Phoenix – worked hard to transform recycled bottles into contestable rockets. Each house, dividing as primary and secondary teams designed two rockets to compete against the other houses on the pitch. SIS students experimented with their practical skills in the field by reusing the old materials and their imagination. Aside from the competitive spirit, the atmosphere of friendship, support, and motivation between the houses presented much fun.

Winners of this year's water rocket competition went to the House of Basilisk. Second place was tied between the House of Kraken and the House of Phoenix. Third place went to the House of Griffin.

And…down, down, it goes!

The third annual egg drop contest was a fun, engaging activity that encouraged hands-on work and out-of-the-box thinking in the areas of science and engineering. Forbidding the use of any balloons, boxes, parachutes, and – yes - drones, SIS students displayed their talents to use recyclable products and design a contraption to protect their raw egg when tossed off from several floors. Students explored objects in free fall and learned to assess their *egg drop* contraption at impact.

under the sun

Secondary and high school students ventured to the Ong De Ecological Tourism Village, located about seven kilometers from Can Tho. With a beautiful landscape of green trees and grass as well as animals such as eagles, hawks, horses and iguanas, students took note of the ecosystem as well as had fun playing game and enjoying spectacular water activities.

And of course, Can Tho is always proud of its

Organic Garden