

# CONTACT

The Teachers' Digest

## MADE FOR LEARNING

Two teachers share how they create teaching tools to engage students.

## MORE THAN CHILD'S PLAY

Go behind the scenes of MOE Kindergartens, where children learn through play.

## STAFFROOM #SQUADGOALS

Bond with your colleagues through these fun activities.



*How teachers make learning fun.*

# Contents

02



## 02 Cover Story

### Ready... Set... Play!

Teachers share how they use fun activities to get students excited about learning.

## 06 Feature

### More than child's play

Find out how children learn through play at the MOE Kindergartens.

## 09 FYI

### Hands on, minds on

Tips and ideas to bring the maker movement into your classrooms.

## 13 My 2 Cents

### Having fun in school

## 14 Heart To Heart

### Dream big, start small

A beginning teacher charts his learning curve over his first few years of teaching.



15

## 15 Come Out To Play

### Flour power

Learn how a passion for baking helps Mr Leon Lim of Peirce Secondary become an all-round educator.

## 16 Lifestyle

### Staffroom #squadgoals

Enjoy these team bonding activities with your colleagues.

## 18 Feature

### Made for learning

Two educators share how they create do-it-yourself teaching tools and motivate students to learn with their hands.

## 20 In Focus

### Add zest with jest

### Inside Back Cover Capture Moments With Contact

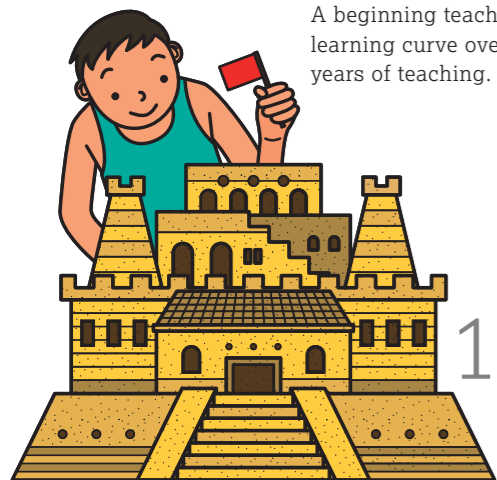
### Winning entries this issue

### Outside Back Cover Crossword

### Can you solve this?

Show us how well you read *Contact* and you may be a winner!

16



## CONTACT

Issue 22 . Apr 2016

### PUBLISHER

Design Branch,  
Communications Division,  
Ministry of Education  
1 North Buona Vista Drive  
Singapore 138675  
www.moe.gov.sg

For enquiries or feedback  
on *Contact*, please write  
to the Editorial Team at  
contact\_online@moe.edu.sg

### Editorial Advisers

Julie Hoo, Ho Hwei Ling,  
Rachel Tan

### Editor-in-chief

Lee Hong Leng

### Editors

Tan Kar Wee,  
Syahdina Hamzah

### EDITORIAL & DESIGN CONSULTANCY

Tuber Productions Pte Ltd  
284 River Valley Road  
#01-01 Singapore 238325  
Tel : 6836-4031  
Fax : 6836-4029  
info@tuber.sg  
www.tuber.sg

### PHOTOGRAPHY

Memphis West Pictures

### STOCK IMAGES

iStock

All information is correct  
at time of printing.

Printed by Ho Printing  
Singapore Pte Ltd



Grand Award  
for Most  
Improved  
Magazines,  
Journals  
& Tabloids

### A publication by



Ministry of Education  
SINGAPORE

www.moe.gov.sg

MOESpore

moesingapore

MOEsg

moesingapore

## EDITOR'S NOTE

# THIS ISSUE...

We are not kidding when we say this is a fun-packed issue of *Contact!* Playtime is not just for recess or after the school bell rings; it can help to boost learning in class too. In our cover story, educators reveal the fun activities they use to keep students of all ages engaged. We hope their stories can spark some ideas for your lessons too.

For more ideas, check out our FYI section on how the fast-growing maker culture is inspiring creative and hands-on activities for learning. And be sure to try out our tips on using humour in class in this issue's In Focus section.

The little ones at the MOE Kindergartens are not missing out on the fun either. We visited two centres to find out how these kindergartens use purposeful play to prepare students for their journey ahead.

It's not just the students and children who are having fun. Find out how a Mother Tongue teacher blends his passion for baking with teaching in "Flour power".

And for something you can do with your colleagues, we have some suggestions for a light-hearted team-bonding session in our Lifestyle section.

P.S. Thank you for the enthusiastic response to our inaugural crossword contest. Keep the entries coming! For more chances to win prizes, share your thoughts with us through Readers' Comments, My 2 Cents and Capture Moments With *Contact*.



So as we work hard towards the mid-year checkpoint, let's not forget to loosen up a little and have fun!

Happy reading!

## The Contact Team

## Readers' comments

What do you think of *Contact*? Share your thoughts at [contact\\_online@moe.edu.sg](mailto:contact_online@moe.edu.sg). Published entries will receive a Limited Edition MOE NETS FlashPay Card! Get the soft copy of the magazine at [www.moe.gov.sg/teachers-digest](http://www.moe.gov.sg/teachers-digest)



I always look forward to receiving my copy of *Contact*. It's wonderful reading the inspirational stories of my fellow educators. These stories present a whole realm of possibilities - how and what else I can do better for my class.

Ms Siti Dzhawieyah  
Teacher  
Elias Park Primary School

*Contact* is a wonderful magazine for educators to enhance our teaching and learning. It helps us reflect on current practices, or share ideas, while congratulating one another despite our busy moments. *Contact* is not an ordinary magazine. It is a great resource for educators to connect and work together for the pupils' benefit.

Mdm Zahira Abdul Majeed  
Teacher  
Angsana Primary School

I like that *Contact* is written with teachers in mind. The topics range from teacher-related activities to light-hearted tips or practical information. Every issue is filled with attractive pictures and layouts. Even on my busiest day, I will put it aside for reading at a later time. Good job by the team!

Mdm Tang Sock Kien  
Teacher  
Kranji Primary School



# Ready... Set... Play!

Play is the highest form of research, said scientist Albert Einstein. Indeed, teachers observe that students learn, remember and recall information better when having fun. *Contact* takes a look at how it is done in our schools.

## MORE ABOUT PAL

- PAL was introduced in 2009 and rolled out to a few schools at a time.
- All 170 primary schools will be on board by next year.
- Schools can use their discretion to customise the activities, with some help from the PAL team.

By 2017, all Primary 1 and 2 pupils across Singapore will spend two hours every week having scheduled fun as part of the school curriculum. They could learn an Indian dance or visit a nearby park to see and touch plants.

These activities are part of the Programme for Active Learning (PAL), which helps students to develop characteristics like curiosity, confidence and creativity, says Dr Susanna Ho, an MOE Senior Specialist in outdoor education who champions PAL. "It also gives pre-schoolers an easier transition to primary school," she adds.

Activities under the programme vary widely and are largely grouped under sports and games, outdoor education, performing arts and visual

arts. One school's PAL lesson involves pupils leading their blindfolded peers around obstacles.

"PAL is fun, but the children also understand what it's like to be interdependent and how to work together to achieve an outcome," says Dr Ho. "From the pupils' journals, we can see that they learn values like empathy and also love learning from PAL programmes in general."

Although PAL is designed only for Primary 1 and 2 pupils, Dr Ho is certain that teachers who have seen the benefits of play will use it in their lessons for older students too.

"The value of play goes beyond PAL to the rest of the curriculum," she says.

## CUSTOMISING FUN FOR CLASS

Indeed, teachers who realise that children learn best when having fun have been using such creative approaches in their classes for years.

*Contact* spoke to teachers who have customised fun activities according to the needs of their students. They say that the element of fun has helped their students to learn, remember and recall information better.

Mdm Halimah Bte Jumaha, a Mathematics Senior Teacher at Bedok South Secondary, was thinking of new ways to help her students in the Normal (Technical) stream improve.

"They were failing Maths and were very negative. I decided to show them how Maths can be used in everyday life," she says.

With the support of the school, Mdm Halimah and her team of teachers brought the students out during school hours to a Giant hypermarket, where they did mental sums to budget for a party, and Ikea to find furniture that fit within a certain space for a lesson on metric measurements.

These learning journeys have been so successful that all N(T) students at Bedok South Secondary now go through them at least twice a year.

Other subject teachers have leveraged on the learning journeys so that students can also revise English, Mother Tongue or Science during the same outing. At Giant, for instance, students apply what they have learnt in Science about nutrition to shop for healthy foods.

The school rewards students who show the greatest improvement at the end of the year with the most exciting learning journey of all: a trip to the Universal Studios. They can enjoy rides on the roller coasters, but also have to fulfil tasks such as looking out for structures with rotational symmetry, which is a Maths topic.

"Students usually forget very easily. But because of these learning journeys, the teacher just has to say, 'Remember how we calculated speed when we went to the Sports Hub?' and it acts as a trigger," says Mdm Halimah.

Such trips have also had unexpected outcomes. For a lesson on statistics, Mdm Halimah tasked her students to note the number of shoppers arriving and leaving from different entrances at Changi City Point to practise data collection and analysis. The mall's management got wind of it and asked her for the data.

"It's a win-win situation," Mdm Halimah says with a laugh. "The students can see how their data collection which was part of a Maths lesson is useful in real life!"

## ON THE MOVE

At Da Qiao Primary, Mdm Safidah Binte Samsudin excites her Primary 6 students with sports during her Malay Language lessons, which fall during the last periods on a Friday.

"Students are tired and just want to finish school. If I lecture to them, they might only get 50% of what I'm saying. I have to use something active to engage them," says the Mother Tongue Head of Department.

**"It's a win-win situation... The students can see how their data collection which was part of a Maths lesson is useful in real life!"**



Mdm Halimah

So, she got students to change into their T-shirts and shorts to play basketball. Every time they scored, they needed to rattle off a relevant composition phrase to earn a point.

"They always ask me if we're going to play again," says Mdm Safidah. "It's good to get them moving."

She also likes to let her students take ownership of their own learning, by giving them a list of the sports-related phrases to learn before the lesson. "They can then link what they have studied to what they do during basketball," she says.

### GAME ON

Fun does not have to be confined to the outdoors. The teachers have enlivened the classroom atmosphere too through card and tabletop games. Mdm Safidah has improvised on popular games such as Snap and Jenga to create her own games to teach Malay language. Her students enjoyed matching Malay proverbs printed on cards, or removing blocks – with phrases written on them – from a wobbly Jenga tower to form complete sentences.



Ms Isabel Ho

"I find these games very powerful. After playing, students continue to use the phrases without being prompted, not only in their compositions but also in their daily conversations," she says.

Ms Isabel Ho, a History teacher at Northbrooks Secondary, lets her students play Germanopoly – a board game that she and her colleagues Ms Chee Yuan Leng and Mrs Indra Devi invented two years ago to depict life in Germany during Hitler's reign.

"Many students think that History is all about memorising. We wanted to show them that it can be fun," says Ms Ho.

The students play the board game in Secondary 3 as they study the topic and in Secondary 4 as a form of revision. About five students would huddle over a set of Germanopoly, which resembles a Monopoly game. Starting with 10 tokens each, players throw a dice to go around the board, landing on boxes that require them to do tasks or answer questions to gain tokens. Students get to revise their knowledge through questions like "What was the Enabling Act in 1933 about?" or "How did the big industrialists benefit from Hitler's rule?" as they aim to collect the highest number of tokens to win.

She has also sparked class discussions and encouraged deeper thinking through role-play. Recently, her students pretended to be representatives from different countries to argue their point of view on the Treaty of Versailles.

The jovial teacher, who is known for cracking jokes in class and joining in the teenagers' team bonding games, comes across as fun and approachable. With older students, these traits have allowed Mr Salahuddin to connect with them, understand them better and win them over.

Once, during a class camp, he took the chance to bond with a student who was previously reticent and failing Biology. Mr Salahuddin gained her trust by joining her for rapport-building games. She then confided in him that she was not trying harder in class because she was afraid to fail.

Mr Salahuddin then guided her to improve her study skills and addressed her fears by setting simple tests that she did well in to gradually build her confidence. Eventually, she excelled and went on to major in Biological Sciences in university.

"I use humour to build trust and relationships, so that I can guide my students in terms of character, values and life skills," he says.

While fun takes on different forms for students of different ages, it is clear that the benefit of using play in teaching goes beyond just entertainment.

"It's not about the activity; it's how you engage their senses, stimulate their curiosity and joy for learning," says Dr Ho. ■

**"Many students think that History is all about memorising. We wanted to show them that it can be fun."**

They also had a class debate on whether the atom bomb should have been dropped on Japan near the end of World War II.

Results of these activities have been rewarding so far. "Reading the students' essays, it's evident that they have strong and original opinions on historical events through playing Germanopoly and engaging in the debates. They are not just parroting the teacher or the textbook," says Ms Ho.

### AGE-APPROPRIATE PLAY

As children grow into teenagers, "fun" becomes more cerebral, according to Serangoon Junior College teacher Mr Muhamad Salahuddin Bin Ibrahim.

"For me, getting the students to enjoy learning is to create a collaborative environment, which is full of classroom discussions, so they can ask lots of questions and make inquiries," says the Biology Lead Teacher.

On occasion, he would get students out of their seats to act out complex concepts, such as a respiration chain that requires them to stand in a line and pass pens – which represent electrons – from one end to the other. Mr Salahuddin, in his role as an oxygen molecule, receives the pens on one end of the line. Once he steps away, however, the pens build up. Immediately, the students see that without oxygen, electrons accumulate and the respiration chain shuts down.

"Role-play helps them to visualise, internalise and understand abstract biological concepts," Mr Salahuddin says.

**"Role-play helps them to visualise, internalise and understand abstract biological concepts."**

**"If I lecture to them, they might only get 50% of what I'm saying. I have to use something active to engage them."**



Mdm Safidah



Mr Salahuddin

# More than child's play

How do MOE Kindergartens use fun activities and strong partnerships with primary schools to nurture their children? *Contact* goes behind the scenes to find out.

If you had visited Blangah Rise Primary School in May 2015, you might have been checked in by wide-eyed, walkie-talkie-toting children from the MOE Kindergarten sited in the school. Tasked with duties like handing out visitor passes and monitoring the CCTV, these pint-sized “security guards” were not at the guard post just for fun.

Instead, this was part of their Weeks of Wonder (WoW) project for the kindergarten children to explore a topic of their interest – in this case what unsung heroes around the school do and how to lend them a helping hand. Some of the children also stepped into the shoes of cleaners and other school staff.

The project gave the children a fun and authentic way to understand and appreciate the people around them, shares Ms Jesslyn Wong, Centre Head of MOE Kindergarten@Blangah Rise. To find out how they could help, the children first observed the staff in action and interviewed them about their work, before taking on the roles.

“After going through it for themselves, they realised what the staff did was really tiring,” says Ms Wong. The children also became more appreciative of others, she adds. They even made cards, paper fans and fruit salad to thank the security officers.

Such fun activities abound across the 15 MOE Kindergartens set up by the ministry in the past two years. Children are engaged in purposeful play where they learn through a variety of fun activities and games

intentionally planned to help them develop in six key learning areas in early childhood education – Language and Literacy, Motor Skills Development, Aesthetics and Creative Expression, Discovery of the World, Numeracy and Social and Emotional Development.

## LEARNING THROUGH PLAY

Over at MOE Kindergarten@Punggol View, the little ones are running, jumping, and throwing beanbags at the play area behind their classrooms.

Apart from engaging the children’s motor skills, these daily outdoor play sessions are also designed to meet learning goals such as teamwork and numeracy, shares Senior Teacher Ms Sharifah Nooraishah. The children have to throw a beanbag at the card with the largest number on it to earn a point, for instance. Even as the children’s giggles and squeals of excitement fill the air, they are building up their knowledge and skills.

According to Ms Lim Meow Hwee, Senior Specialist from the Pre-School Education Branch, “play is children’s natural way of learning about themselves and the world around them”.

## MAKING PLAY MEANINGFUL

The teachers in the MOE Kindergartens would observe the children as they play and talk to one another with their friends. The teachers would then reinforce and extend their learning with prompts and questions.



02



03

Even as the children’s giggles and squeals of excitement fill the air, they are building up their knowledge and skills.

For example, the children in MK@Punggol View get to role-play as doctors or cooks after reading a book on occupations. Ms Aishah would join her little “chefs” in the learning centre set up as a kitchen and ask them “Where are your vegetables?” or “Is fried chicken healthy?” The questions were a way to guide children to remember the components of a healthy and balanced meal.

“They are playing all the time; it’s about how we facilitate the activity to make it meaningful,” says Ms Aishah, who also gets her children to sing songs about numbers as they skip to the toilet, or learn about different ethnic groups through dance.

At MK@Blangah Rise, a corner of the classroom has been transformed into a “clinic” stocked with stethoscopes, colourful medicine bottles, X-rays and first-aid kits. Children use words they have learnt such as “stomachache”, while picking up social skills and values such as patience and empathy as they queue for their turn with the “doctor”.

This is in line with the MOE Kindergartens’ aim to “nurture the children holistically, so that they are confident with strong social skills, and have a good foundation in literacy and numeracy,” says Ms Lim.

## TEAMING UP WITH PRIMARY SCHOOLS

Although the MOE Kindergartens are not affiliated to their host primary schools, the proximity and partnership between the two allow the children to explore beyond the kindergarten space.

The children, in their blue polo tees and khaki bottoms, are a common sight in the primary schools. Other than walking by the canteen or general office daily, they would join the primary school students for events such as Chinese New Year celebrations or sports day.

01 Ms Sharifah Nooraishah captures her students’ attention with a vivid storytelling session.

02 Daily outdoor play sessions engage children’s motor skills and help them to learn teamwork and numeracy in a fun way.

03 Two kindergarten children learn what it is like to be cooks through role play.

“Through such joint activities, our kindergarten children learn to interact with older children,” says Ms Lim. “They also become more accustomed to a primary school setting.”

The kindergarten children benefit from using various primary school facilities during their classes too. At MK@Blangah Rise, after reading about the five senses, the kindergarten children headed down to the primary school’s garden where they observed little chillies and limes with a magnifying glass, touch and smell the leaves, and listened to the birds chirping in the trees.

“It’s a privilege to be in a primary school setting because we get to share the facilities. Most other pre-school centres don’t have the benefit of this kind of partnership,” says Ms Wong.

Likewise, children from MK@Punggol View gather at the primary school’s indoor basketball court every Friday for their mass aerobic exercise, and visit the school’s gardens to observe caterpillars and butterflies when they were learning about the life cycle of the butterfly.

**PASSING THE BATON**

Other than giving kindergarten children opportunities to sit in for Primary 1 lessons, MK@Punggol View also lets their teachers observe primary school classes.

Earlier in 2016, Ms Aishah spent a week shadowing a Primary 1 teacher. This helped her understand the learning and social environment her children will be exposed to when they enter Primary 1. She also took the chance to share about the MOE Kindergarten curriculum with her primary school counterparts to give them a better understanding of pre-school education.



04

**They observed little chillies and limes with a magnifying glass, touch and smell the leaves, and listened to the birds chirping in the trees.**

Similarly, MK@Blangah Rise holds networking sessions where primary school teachers are invited to visit the kindergarten classrooms to see the curriculum in action.

**A STRONG START TO SCHOOL**

In January 2016, the first batch of MOE Kindergarten children entered primary school. They are adapting well, according to both centres that *Contact* spoke to. Parents, too, see the benefits. In a recent survey conducted by MOE’s Pre-School Education Branch, 90% of the parent respondents agreed that MOE Kindergarten children have the confidence and social skills to adapt to their new primary schools.

For Ms Wong, it is heart-warming to know that the children are well-prepared for primary school after going through two years of the MOE Kindergarten experience. “We are glad to hear from parents and teachers that the kids are confident and well-behaved,” she says with a smile.

Photos from Ministry of Education, Singapore



05

- 04 A child unleashes his imagination with chalk art.
- 05 Teachers observe the children when they play and talk with their friends, and reinforce their learning with prompts and questions.



**HANDS ON, MINDS ON**

Bring the maker movement into your classrooms.

?

WHAT IS THE MAKER MOVEMENT?

It is a do-it-yourself (DIY) revolution where people create products using various physical or digital resources.

Making isn’t about fancy technology like 3-D printers or microcontrollers. Create products using Lego, plasticine, or even materials like wood or plastic.

Hands-on activities can spark students’ creativity, engage them and help them learn in a fun way.

bit.ly/maker\_edu



**PICK THE BRAINS OF OTHER MAKERS**

Head down to these places for inspiration or organise a class trip there to get your students sold on all things DIY.

**MEET & MAKE**

Aspiring craftsmen and designers will enjoy the diverse classes held at the Prototyping Lab in the National Design Centre. From woodworking to 3-D printing and digital design, these courses are organised by the OneMaker Group, an association of six maker companies. Meet tinkerers from all walks of life and try out resources from conventional tools to digital fabrication gadgets. Those with a spark, but are a little stuck, can seek advice at the weekly Maker Clinic sessions.

onemakergroup.sg

**HACKERS UNITE**

While you will not learn any actual hacking, HackerspaceSG is perfect for computer and tech geeks. A co-working area for tech start-ups by day, it doubles up as a hang-out for tech seminars, workshops and meet-ups by night. Talks and forums range from programming and coding, to music technology and home-brewing. This could be the place where students can learn more about making and the tech community.

hackerspace.sg

**Cool LIBRARY HANGOUTS**

Keen to create a talking robot? Visit the IDA Labs on the second floor of Jurong Regional Library, which is stocked with gadgets such as 3-D printers and Arduino microcontrollers. Draw inspiration from a 2.7m storytelling robot made by students using cardboard and microcontrollers and circuits, or attend programming workshops and technology talks. Foodies can look forward to trying cookbook recipes at Tampines Town Hub’s upcoming library, which will be fitted with a culinary studio.

bit.ly/labsnlb

# OH WHAT FUN!

Looking for ways to make learning hands-on and enjoyable? Follow this chart for activities you can try with your students for a good time!

## 1 TERRARIUM-MAKING WORKSHOP



Let students realise the importance of nature through creating mini greenhouses. They can choose their favourite bottles, plants and decorative items before creating their glass gardens together in class. Terrariums can add greenery to the classroom in a fuss-free way as they do not need to be watered often.

**Learning opportunity:** Students can learn about the water cycle from observing how drops of condensation form on the glass in the enclosed environment before “raining” on the plants.  
Instructions and pictures: [bit.ly/terrarium\\_learn](http://bit.ly/terrarium_learn)

## START

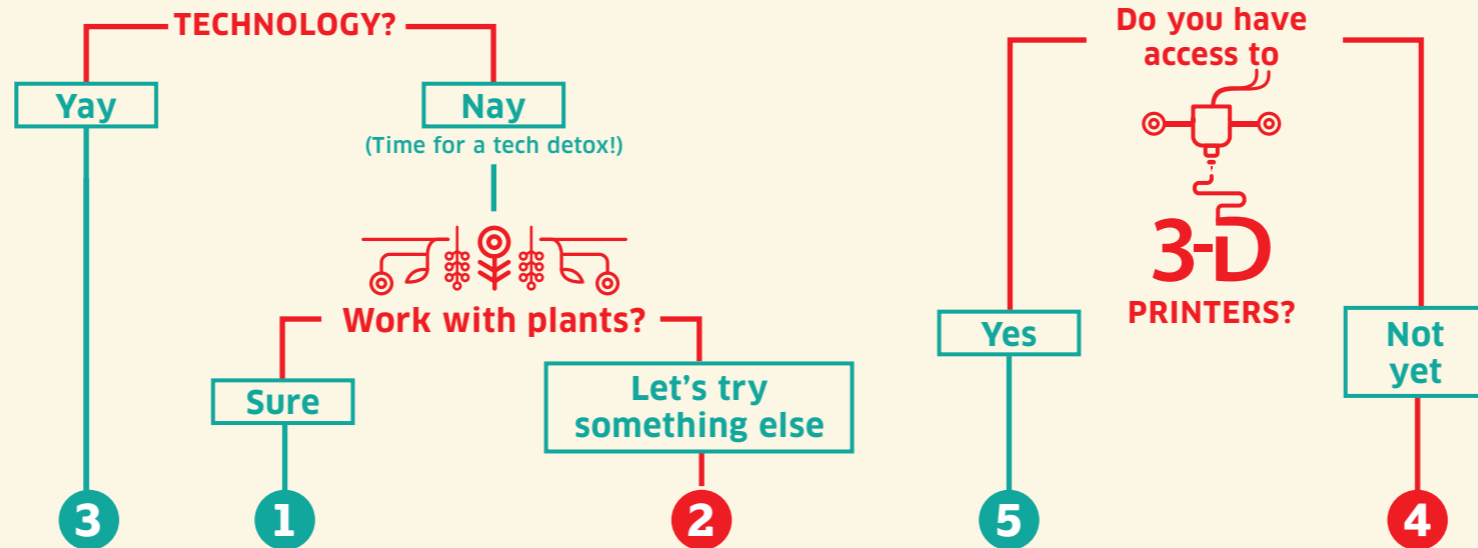
PLENTY  
OF TIME



HOW MUCH  
TIME  
DO YOU HAVE?



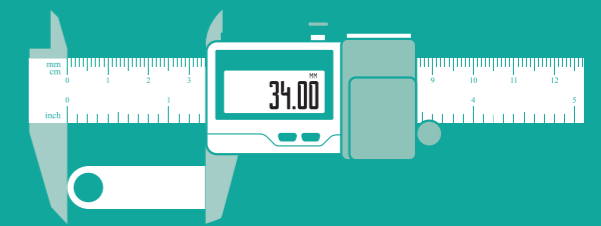
AROUND  
1  
HOUR



## 5 PRINT YOUR OWN USB CASE

This is a simple activity to help your students (and yourself) get the hang of 3-D printing while designing a unique casing for their USB or flash drives. Even if you have never done any 3-D designs, you can start by modifying this template: [bit.ly/usbttemplate](http://bit.ly/usbttemplate)

**Learning opportunity:** Students learn both conventional (e.g., using vernier calipers to measure dimensions) and modern techniques (e.g., digital modelling and using a 3-D printer).

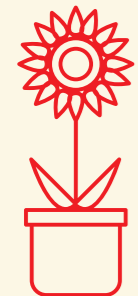


Instructions and pictures: [bit.ly/printusbcase](http://bit.ly/printusbcase)

### TRIVIA

#### PRINTING REVOLUTION

Want to share the real-world benefits of 3-D printing with your students? Show them how a Chinese construction company printed 10 houses in a day ([bit.ly/printmyhouse](http://bit.ly/printmyhouse)) and how 3-D printed prosthetics help those in need ([bit.ly/printahand](http://bit.ly/printahand)).



## 2 PSYCH 'EM UP TO UPCYCLE

Turning unwanted materials (think used bottles or old clothes) into products of greater value exemplifies the DIY spirit. Invite environmentalists and makers to share upcycling tips. Then, organise a scavenger hunt at junkyards – try the Sungei Kadut area – and task students to transform trash into treasures.

**Learning opportunity:** Highlight the differences between upcycling and recycling, and discuss the importance of reducing waste.

Reach out to these experts:  
- Ms Agatha Lee, green advocate ([bit.ly/agathalee](http://bit.ly/agathalee))  
- Sustainable Living Lab, a social enterprise that uses making to create sustainable change ([bit.ly/sl2\\_sq](http://bit.ly/sl2_sq))



## 3 CLASSROOM MAKE-A-THON

A make-a-thon, or a making marathon, is where individuals put their heads and hands together to design solutions. Get students to work in teams to address a local issue (think sedentary working adults or lack of inter-generational communication). They first design and create a prototype, before presenting their solutions. You can provide 3-D printers and maker kits, or stick with computers and basic craft tools. Remember to do prior research about the topic so that you can address students' queries.

**Learning opportunity:** This activity hones problem-solving, creative thinking and teamwork all at once.

Check out Design Singapore's designathon: [bit.ly/dsgtools](http://bit.ly/dsgtools)

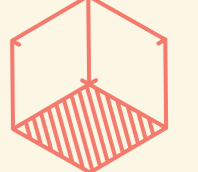
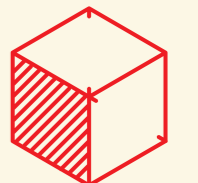


## 4 DIY LED POP-UP CARDS

Put textbook Physics into practice by putting a shine on handmade cards. Students may encounter a few technical bumps along the way, like not being able to light up their creations even though the circuit looks in order. Not to worry, trial and error is part of making something after all. Let students figure out what went wrong, instead of offering the solution.

**Learning opportunity:** Challenge students to create their own circuits and LED displays once they are familiar with the basic principles.

Instructions and pictures: [bit.ly/ledpopup](http://bit.ly/ledpopup)



# DIY REVOLUTIONS HERE AND ABROAD

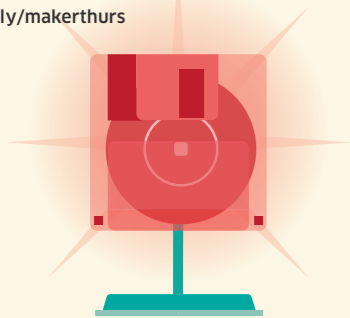
Be inspired by examples of how making unlocks learning.

## SINGAPORE

### HANDS-ON THURSDAYS

Teachers and students at Commonwealth Secondary School can enjoy three-hour workshops, ranging from 3-D printing to sewing, during “Maker Time” every Thursday. Students have also created moodlamps out of their old toys and floppy discs, and helped members of the public fix broken appliances such as electric fans through “repair kopitiam”.

[bit.ly/makerthurs](http://bit.ly/makerthurs)



## AUSTRALIA

### LEARNING BEYOND BOOKS

The library at St Aidan’s Anglican Girls’ School in Brisbane becomes the setting for a “book hunt”, where students scour through reads in the non-fiction section for ideas to invent and build. Popular book-inspired projects include those related to knitting and crafting. Parents and grandparents have also been roped in to teach sewing and crocheting at lunchtime. The library also houses Lego Storystarter software kits that students can use to build and tell stories.

[bit.ly/staidan](http://bit.ly/staidan)

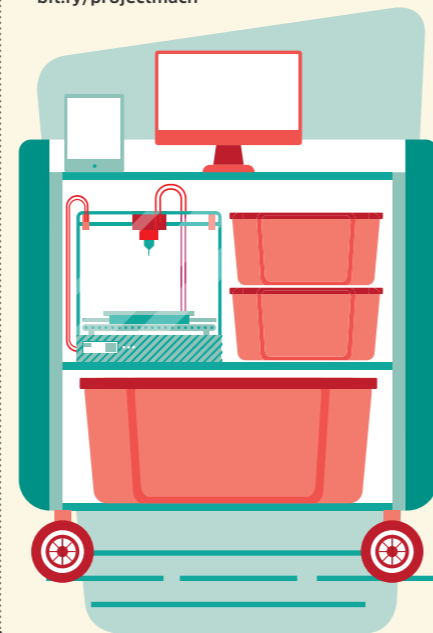


## USA

### MAKERS ON WHEELS

Ask patients at Nashville’s Monroe Carell Jr. Children’s Hospital what brightens up their stay and they might mention Project M@CH (Makerspace at Children’s Hospital) – a cart loaded with Play-Doh, Lego, Arduino microcontrollers and other tools. The roaming facility, which can be rolled to any patient’s bedside, was created by a learning scientist to help sick children have fun and innovate. Patients have created gadgets to improve their stay, from mood necklaces to show nurses how they feel, to nightlights and doorbells for their rooms.

[bit.ly/projectmach](http://bit.ly/projectmach)

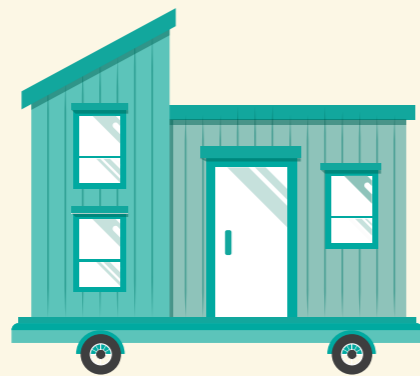


## USA

### BUILDING FOR THE PEOPLE

Unafraid of getting their hands dirty, students aged 12 to 18 create social transformation through Studio H – a design-and-build class at REALM Charter School in Berkeley, California. Their mission? To construct structures that benefit the community. Previous projects include container classrooms for more learning space, trailer homes to house the homeless and a 185sqm farmer’s pavilion to help residents share fresh produce.

[bit.ly/project\\_h](http://bit.ly/project_h)



## TRIVIA

### MAKE AND SHARE

Makers bounce ideas off one another through Maker Faires – dubbed “the greatest show-and-tell on earth” – and sites like makezine.com. Get your students to build on their classmates’ ideas. Take a cue from 14-year-old “Super Awesome” Sylvia, who has been sharing DIY projects on YouTube since she was eight.

▶ [bit.ly/sylviashow](http://bit.ly/sylviashow)

**“We learn by making [and] doing things... Learning through discovery, curiosity-driven tinkering [and] experimentation will be something that will stay with the students for life.”**

– Science Centre Singapore’s Chief Executive Lim Tit Meng, at the launch of the centre’s new Tinkering Studio (January 22, 2016)



# Having fun in school

We ask teachers how they make their jobs enjoyable.



### ★★ Best entry ★★

**Miss Kalaivani D/o Ilango**  
Teacher  
Sengkang Secondary School

Various things make work and school really enjoyable. I bond with my students by making lunch appointments with a small group of them to chit-chat and listen to their problems and worries. I also hold handball, captain’s ball or soccer matches with my graduating class for us to unwind. I always look forward to playing with them – this makes my job enjoyable in spite of any stress and worries. Lastly, I have lunch or tea with my colleagues outside school, where we would talk about anything.

**Mdm Shamsulbadariah Bte Hussein**  
Senior Teacher (CCE)  
Edgefield Primary School

What keeps my work enjoyable is the reminder that as an educator, I am not just putting in “hard work”, but also “heart work” for my students. As English poet John Donne eloquently said, “No man is an island, entire of itself; every man is a piece of the continent, a part of the main.” So through the plethora of “roles” I take on as an educator, the most enjoyable times are when I have “small talk” with my students during recess and lunch breaks to get to know them better. My students will share their personal stories about friends, families and school or tell me about their weekends, holidays, the latest movies and other areas of interest. Fridays are also enjoyable as I get to play a game of Scrabble or badminton with them!

**Miss Ang Huei Minn**  
Teacher  
Northoaks Primary School

The theme for our Primary 2 Programme for Active Learning (PAL) lessons this term is sports and games. As our PAL lessons are conducted by both the Form and Co-form teachers, my colleague and I would join our students in the games and immerse ourselves in the excitement. This really brings back memories of my own school days. I get to have fun while guiding my pupils and that is just awesome!

## Next Issue

### IT TIPS FOR TEACHERS

Do you have a useful IT tip that you use for teaching or saves you time at work? Share your tip with us!

### EACH PUBLISHED ENTRY WINS A PRIZE!

Please send your submission to [contact\\_online@moe.edu.sg](mailto:contact_online@moe.edu.sg) by 20 May 2016. Submissions should be no more than 150 words, and these may be edited for length or clarity. Please include your name, designation, school, NRIC and contact number.



# Dream **big,** start **small**

Mr Tan Shao Xun, a 27-year-old beginning teacher from Ang Mo Kio Secondary School, charts his learning curve over his first few years of teaching.



## DEAR COLLEAGUES,

**“What’s important is that I do my best to support them, in every little way I can.”**

Two years ago, fresh from NIE, I stepped into my first Physics class. Armed with detailed lesson plans and ICT tools, I had big dreams of conducting lessons that would see my students enjoy learning.

To my dismay, the response fell short of my expectations. I did not manage to excite the 15- and 16-year-olds, who often had blank stares on their faces. Later on in the term, some students who failed their class test revealed that they could not fully understand my lessons.

## BACK TO THE DRAWING BOARD

Though disappointed, I started reflecting on ways to improve. I talked to my students and realised that I had misjudged how much information they could absorb in one sitting.

Keen to make my lessons easier to digest, I asked my colleagues for help. They advised me to break chapters into smaller sections and give students chances to apply what they have learnt.

In that vein, I started to include relevant “challenges” with every topic. To teach inertia, I would ask students to remove a two-dollar note placed below a stack of coins without toppling it. Such activities help students see the relevance of abstract concepts in a fun way.

Conversing with students also gave me a better sense of the obstacles they faced. One of my Secondary 3 students had worked really hard but did poorly for tests. He confided in me that he was discouraged by the subject’s difficulty and felt like giving up because he would not be able to do well, no matter what he tried.

To help him overcome his stigma of failure, I encouraged him to see mistakes as opportunities to improve. For a term, I addressed his misconceptions and clarified difficult concepts with him after class. I told him: “I am spending

time with you because I believe you can do much better, as long as you don’t give up.”

It was heartening to see him gaining confidence. He started coining his own acronyms – similar to the mnemonics I had introduced in class – to remember Physics concepts. Eventually, it all paid off and he aced a test. He came to me after and said, “Thanks for not giving up on me.” I remember this encounter vividly as it was the first time a student had thanked me for my care.

This experience also reminds me that although I am sometimes unsure of my abilities as a novice teacher, I can still make a difference to my students. What’s important is that I do my best to support them, in every little way I can.

## MENTORING MY MENTORS

While I had expected to learn a lot from my older colleagues about teaching and engaging students, I did not envision the tables to be turned – with me advising them on ICT matters.

When I was first given the role of ICT mentor – which involves sharing new apps and gadgets for teaching with my department – I was excited, yet intimidated. I was unsure if my recommendations would be useful to veteran teachers.

To my relief, they were interested in the tools I had to share and even started to approach me for suggestions of ICT teaching resources. This boosted my confidence as a teacher and helped me to recognise the importance of being humble and open to learning from anyone. I am truly grateful for these nurturing colleagues.

Today, I still hold the same hopes and dreams for all students, albeit with a better idea of how I might achieve them. As the saying goes, “Dream big, start small” – the key is to continue one step at a time. I look forward to making bigger dreams come true for my students. **C**



# Flour power

Learn how a passion for baking helps Mr Leon Lim of Peirce Secondary become an all-round educator.

**It is 3am and Mr Leon Lim** is wide awake in his kitchen, baking his 20th molten lava cake. He pays attention to every detail, from freezing the chocolate mix batter to its eight-minute stay in the oven.

This was one of those nights that the Peirce Secondary Chinese language teacher gets so engrossed in his baking that he stays up all night, churning out batches of cakes. Not that he minds – he once spent over 10 hours creating 500 sets of his signature mini lemon cheesecakes and brownies, which he later sold to raise funds for the Singapore Children’s Society.

Spurred on by a sweet tooth and a desire to try out and adapt online recipes, the self-taught baker always seeks to improve his creations – tweaking the ingredients or baking conditions

whenever he fails. In fact, it took four years before he was satisfied that he had mastered the basic cheesecake.

In class, the 27-year-old uses his baking adventures to encourage students to persevere. “Sometimes, it’s about trying and improving along the way. You never know what you can make or bake!” he says with a laugh.

Mr Lim also loves sharing his bakes with students and colleagues. Eventually, his mentor recommended that he should lead a culinary interest group in school, where he now teaches colleagues to create goodies, from walnut cookies to mooncakes, once every semester. Participants often share their creations with friends and colleagues, to good reviews.

“Just as much as I enjoy teaching my students, it is also satisfying to share my culinary knowledge with my peers,” says Mr Lim.

Apart from giving him chances to teach beyond the classroom, Mr Lim’s passion has also helped him improve as an educator.

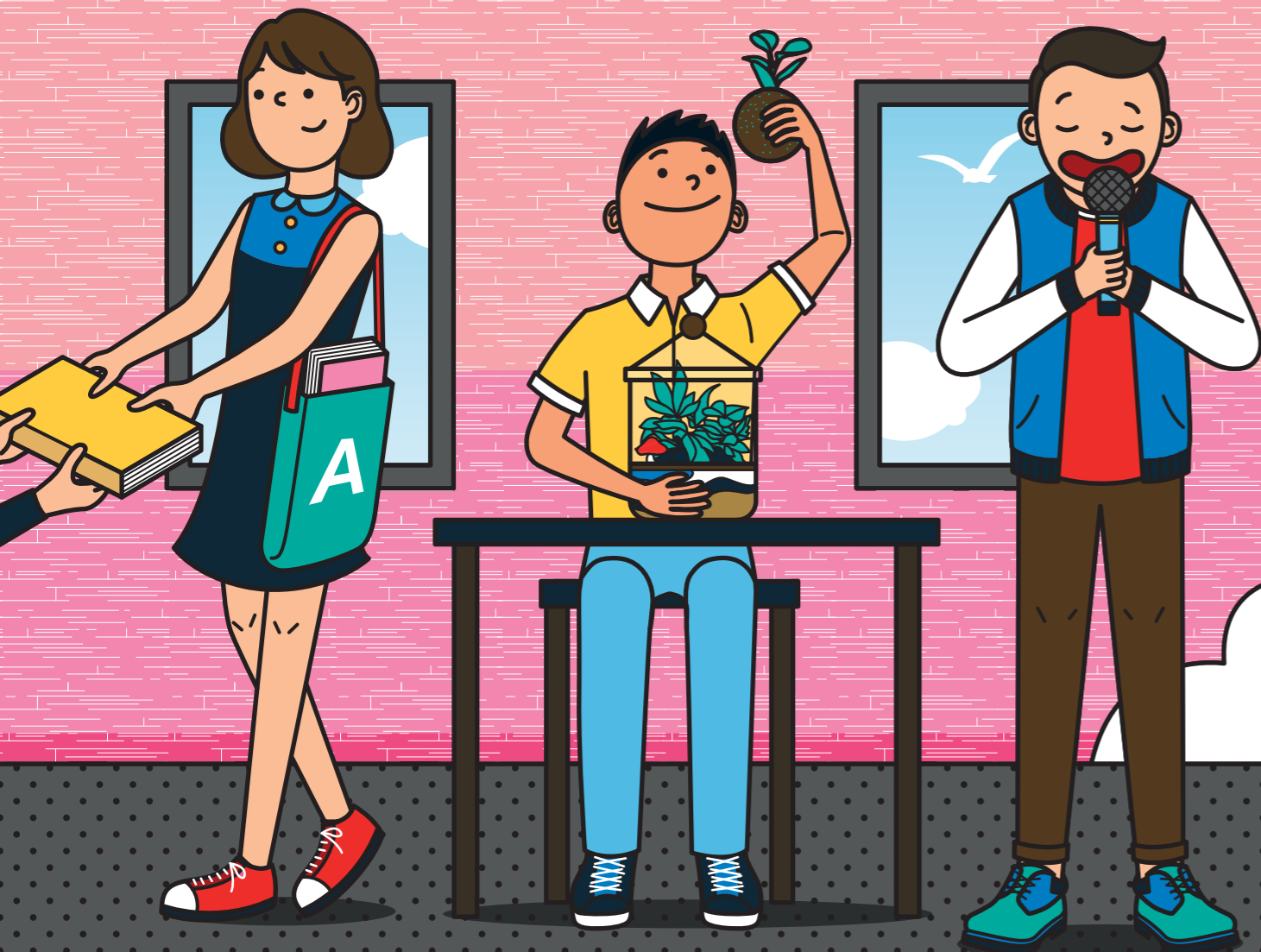
“I am grateful for baking because it allows me to realise flexibility,” shares the jovial teacher. “If you are missing an ingredient, you can replace it with another or make changes to your recipe. Similarly for teaching, if one method doesn’t work, I could tweak my lesson to suit my students.” **C**

**“Sometimes, it’s about trying and improving along the way. You never know what you can make or bake!”**



# Staffroom #squadgoals

Looking for team bonding activities to enjoy with your colleagues?  
Contact's got you covered, whether you prefer keeping fit or relaxing indoors.



LIFESTYLE



## TALKING BOOKS

Get to know your colleagues better through their favourite reads. Bring three to five books each and trade them with one another. Who knows? You might discover a common interest, or a new author or series to enjoy. When conversations start flowing, you can give recommendations based on each other's preferences, or highlight titles that might be useful for lessons. This is also a good way to share books on pedagogy or professional development and learn as a team.

## GARDENS BY THE STAFFROOM

Exercise those green fingers for an informal gardening project. Make intricate terrariums or kokedamas - both of which can thrive indoors. The former is a glass container where plants can grow, while the latter is a cute, low-maintenance plant growing from a moss ball. Visit a nursery with colleagues to choose the plants, then come together and go crazy with your creations. Arrange your plants in a common area and voila, you have a new indoor garden for all to enjoy.

▶ [bit.ly/koke\\_dama](https://bit.ly/koke_dama), [bit.ly/terra\\_rium](https://bit.ly/terra_rium) (or check out FYI (page 10) for more on terrariums)

## SCHOOL GRAMMYS

Turn a karaoke session into a fun "competition" with awards such as "Most authentic rap", "Most soulful delivery", "Best lip-syncing", or "Best air guitar strumming". Take turns to choose your favourite songs and you are sure to have a repertoire of hits spanning different genres and eras. If you are shy about singing in front of everyone, pretend you are teaching in class - engage that diaphragm, project your voice and belt away. Pair with a colleague to perform a duet - nothing like harmonising to boost your camaraderie!

## LET THE ARROWS FLY

Be like Katniss or Legolas and pick up a bow in a game of archery tag. First, you learn how to hold a bow properly and the correct firing stance. Then everyone splits into teams to shoot at the targets while avoiding getting hit. To win, knock out all the targets or eliminate opponents with your arrows. Remember to provide cover for your teammates too. The foam-tipped arrows will not hurt, but getting eliminated from the game might bruise some egos.

▶ [bit.ly/archery\\_tag](https://bit.ly/archery_tag)

## BUILD CASTLES IN THE SAND

Hit the beach for the upsized version of the scoop-and-bucket sandcastles you built as a child. Build stronger bonds with your colleagues as you work together to plan the design, build a strong foundation and then decorate the large and impressive sand sculptures. Share your photos with students, or organise a similar activity for your class to enjoy the sand, sun and sea.

▶ [bit.ly/sand\\_castles](https://bit.ly/sand_castles)

## SKATE NIGHT

Take the team out for a little adventure and explore Singapore on skates during Skateline's monthly night events. Alternatively, hold your own event and explore the areas near your school so you can tell your students about the neighbourhood at night. Skating is a great cardiovascular workout that is also easy on the joints. Learn from more experienced colleagues and bond over a prata supper after.

▶ [bit.ly/skate\\_night](https://bit.ly/skate_night)

# Made for learning

How two teachers use their passion for do-it-yourself to create teaching tools and motivate students to learn.

**The lights are off in** Mdm Teou Lay Yen's Science classroom at Punggol Primary but her students are far from sleepy or bored. Instead, they gather around curved plastic structures with tiny light bulbs attached along the arc. They take turns to switch on the bulbs, one at a time, before measuring the length of shadows cast by objects under the set-ups.

These specially-created "light kits" help students to experience the topic of light beyond their textbooks. But these are not any off-the-shelf product – they are Mdm Teou's personal creations.

## THE LEARNING CURVE

Mdm Teou proudly calls the light kits her "babies" – they were born in 2010, when she was brainstorming for ideas to help students learn better. Back then, she was teaching at Greendale Primary.

"Previously, students had to hold a torch and shine it at different positions to measure an object's shadow," says the Head of Department of Science. This manual process affected the accuracy of the results as students found it difficult to maintain the torch at a fixed distance from the object, she explains.

A solution came to her when she was looking at her newborn baby's arc-shaped crib mobile. "Why not place light bulbs along an arc to simulate the sun's position in the sky at various times of the day?" she thought.



"I can see that students are more eager and appreciate what the tools do... Sometimes, that's all it takes to ignite an enjoyment of learning."

Mdm Teou shared her idea with her colleagues. They started experimenting by using a cane to make the arc, before working with a vendor to create a prototype.

Later, the Singapore Science Centre heard about the idea and was interested to work with Mdm Teou and her team to produce a refined version. The result? the STaR (Science Teaching and Resource) kit is now sold by the Science Centre to help students across Singapore learn about light.

With this tool, Mdm Teou observed that students not only completed the experiment faster, but were engaged to stay on task the whole time.

## ALL WIRED UP

Cedar Primary's School Staff Developer, Mr Zaki Jalil, is also passionate about using creative tools to engage students.

He encourages students to play a "fruits piano", which he created using a Makey Makey circuit board that allows one to turn virtually anything – in this case, fruits – into a keyboard and mouse. The students' faces light up when they trigger musical notes from a computer by touching the fruits, but there is also a lesson to be learnt here, adds Mr Zaki.

"Besides keeping them entertained, I use the piano to demonstrate what a closed circuit is and to generate interest in Science," says the Science teacher.



"They ask more questions, learn how to assess situations and come up with their own solutions."


"I'm always asking myself what my students struggle to learn. Then, I try to find ways to make those abstract concepts easier for them to understand by using real objects," she says.

## SEEING STUDENTS FLOURISH

While handmade teaching tools can be simple at times, the educators are glad that students benefit from the hands-on learning. "I can see that students are more eager and appreciate what the tools do," says Mdm Teou. "Sometimes, that's all it takes to ignite an enjoyment of learning."

Tinkering has helped students become more inquiring and confident, according to Mr Zaki. "They ask more questions, learn how to assess situations and come up with their own solutions."

This year, Mr Zaki and his team intend to roll out more workshops and set up a tinkering studio stocked with maker tools for students to explore. Meanwhile, the inventive teacher continues to dream up creations, even for subjects beyond Science.

"I've used Makey Makey to create a dance machine (much like the arcade variety) which, hopefully, could end up in our Physical Education classes one day," he says with a laugh. 

Mr Zaki, who is part of the team that runs Cedar Primary's Creative and Inventive Thinking Applied Learning Programme, believes strongly in engaging students through tinkering, or creating. His team has conducted a series of workshops to pique the students' interest in making things, while reinforcing their understanding of scientific concepts.

He has taught students to create "scribble machines" – motorised contraptions that use pens to trace the path of the device's movements – to learn about electric motors. He has also used Strawbees, a construction kit that allows one to build by connecting straws.

"It was amazing to see what the kids came up with. Two of them built a solid bridge and we ended up running experiments to test how much weight it could take," he says. "Another student made a tower in class and we used it to learn about gravity and energy conversion by pushing objects off the tower."

## INSPIRATION FROM OTHERS

Mr Zaki often draws inspiration from maker culture for fun activities to introduce. For example, he started exploring ways to engage students with Strawbees after seeing it in action at last year's Maker Faire. The scribble machines and fruits piano came about from an online course on tinkering that he signed up for.

When it comes to finding fresh ideas for teaching tools, Mdm Teou keeps her eyes peeled everywhere she goes, whether at home or out shopping. Her mechanical engineer husband is also a trusted advisor.

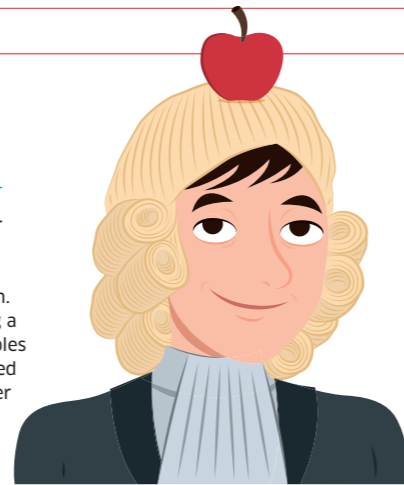
"If I see something that could be useful in my science lessons, I would sometimes discuss with him about how to design it as a teaching resource," she says. The resourceful teacher has created an electrical circuit box with a toolbox as well as a homemade catapult – created by fixing two nails to a small wooden block – to help students learn about force and energy.

# Add zest with jest

Get your students laughing while learning with these side-splitting ideas.

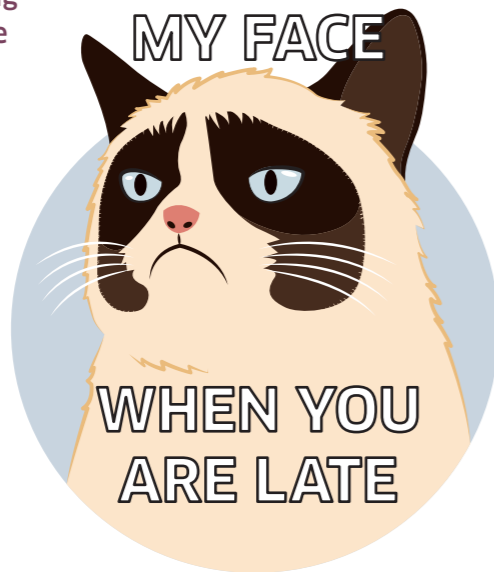
### COSPLAY IN CLASS →

Dress up as a historical figure for lessons – think Isaac Newton for Science, Shakespeare for English Literature, or Pythagoras for Math. You can trigger giggles by donning a wig and using simple props like apples to complement your newly-acquired accent. Stay in character, no matter what your students do, to create an unforgettable lesson.



### MEMES READER →

Youths today often think in memes – short jokes spread online, often using images from pop culture. Boost students' recall of learning points or classroom rules with funny memes of adorable animals (just look at chemistry cat) or your students' favourite shows. Create your own memes with sites like memegenerator.net.



### STAMP OUT BAD WORK ↑

Customise a rubber stamp to make a faux "emperor's seal", complete with a caricature of yourself. Tease students to gun for a top score if they want your "Official seal of approval". Or enlist the help of Gandalf with a "You shall not pass" stamp to lighten up the situation when students receive a poor grade.

### IT'S A MAD, MAD WORLD ↓

Show students the perils of real-life adventures in carelessness through grammar horror stories. Amuse their minds while illustrating why errors such as a sign that says "No smoking aloud" or a tattoo reminding its bearer to "Never except defeat" are best to be avoided. Follow these pages for more inspiration: [bit.ly/madworld1](http://bit.ly/madworld1), [bit.ly/madworld2](http://bit.ly/madworld2)

*Why was six afraid of seven?  
Because seven ate nine.*

### COMEDY CENTRAL →

Jokes are not just great belly workouts; they engage more areas of the brain than simple listening. Start your lesson with an on-topic joke or riddle: share the disastrous consequences of drinking "H<sub>2</sub>O too" during Chemistry class, or get students to ponder why six is afraid of seven for Maths lesson. True, the students might groan in mock pain at the jokes, but you can be sure you have got their attention.



## LET'S EAT TEACHER



Winning entries this issue

## Snap and play



Our favourite game is powerball. Nothing like hitting the cones and sweating it out together after a hard day's work in the classroom!

Ms Siti Nur'aini  
Abdul Rashid  
Teacher  
Hillgrove Secondary School



With my team-mate by my side, I had a blast at Evergreen Secondary's EVG Road Run. We even placed in the top 10!

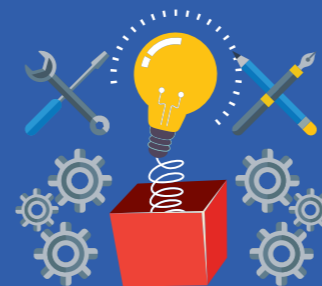
Miss Nurfarha  
bte Abdul Rauf  
AED (Teaching and Learning)  
Evergreen Secondary School



Seeing our students bond and enjoy themselves during the level games is certainly a great start to the year.

Miss Chia Meiyi  
Teacher  
First Toa Payoh Primary School

Thank you for sharing your photos!  
Each published photo wins a \$30 voucher!



NEXT ISSUE

### MY VERY OWN TEACHING TOOL

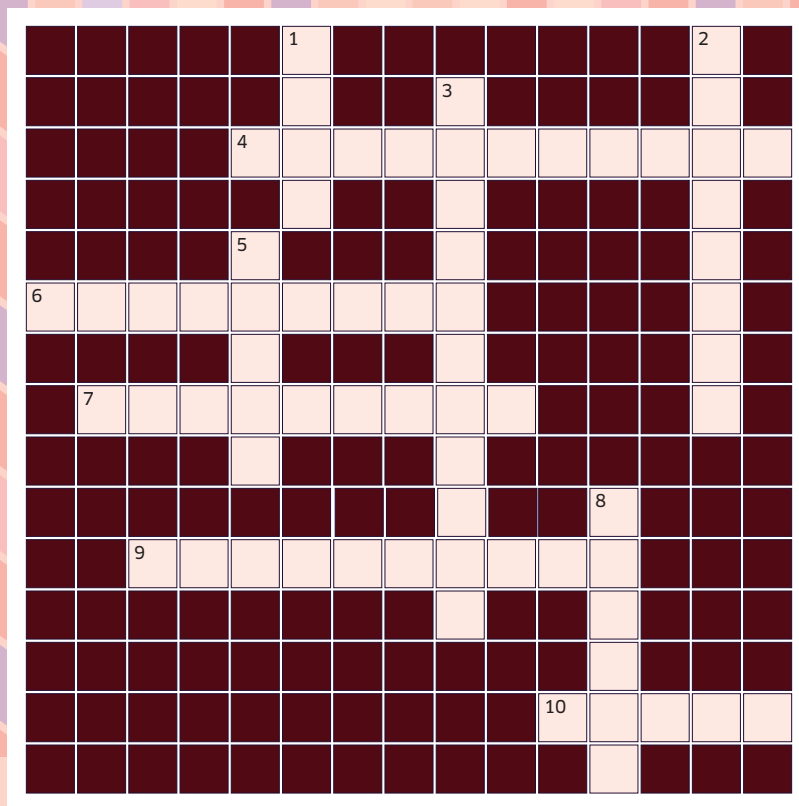
Have you ever made anything to help you teach better? Share with us a creation you're proud of and how it makes a difference.

- The competition is only open to staff of Ministry of Education (MOE) Singapore.
- Each participant is allowed only one entry. The photo entry must be original and unpublished. The staff must be the original author and sole owner of his/her photo entry.
- The photo should be in high resolution, JPEG format.
- Submit the photo with your full name, institution, designation, email, NRIC and contact number, failing which the entry will be rendered void.
- Provide a caption (max 25 words), explaining what the photo is about and how it reflects the theme. Captions may be edited for length, flow and clarity.
- Send both photo and caption to [contact\\_online@moe.edu.sg](mailto:contact_online@moe.edu.sg) by 20 May 2016.
- The photo entry will be judged based on relevance to theme, creativity and originality. The judges' decision is final.
- Three winners will each receive an attractive prize. *Contact* reserves the right to change or replace the prize with another of equal or greater value should the featured prize become unavailable.
- Prizes are not exchangeable for cash.
- All winners will be notified by email. Prizes not collected within two weeks will be forfeited.
- The copyright of all entries shall remain with the photographer. However, *Contact* reserves the right to use and modify the selected entry as well as other suitable ones, with full acknowledgement to the copyright owners, for future use.

ANSWER & WIN!

# Can you solve this?

Show us how well you read *Contact* by tackling this puzzle (answers can be found within the magazine). The first three correct entries will receive an attractive prize each!



## ACROSS →

- Northbrooks Secondary teacher Isabel Ho created \_\_\_\_\_ to help students learn about life in Germany during Hitler's reign.
- What role does Mr Tan Shao Xun from Ang Mo Kio Secondary play in his department?
- What do you call plants that grow from a moss ball?
- MOE Kindergartens use a "\_\_\_\_\_play" approach to get children learning while having fun.
- Mdm Teou Lay Yen from Punggol Primary created a \_\_\_\_\_ kit to teach Science.

## DOWN ↓

- Bedok South Secondary's Mdm Halimah Bte Jumaha has conducted her Maths lessons at Giant and \_\_\_\_\_.
- What type of interest group does Mr Leon Lim lead in Pierce Secondary?
- \_\_\_\_\_ are known as "the greatest show-and-tell on earth".
- Short jokes that spread like wildfire on the Internet are called \_\_\_\_\_.
- Maker \_\_\_\_\_ sessions are held weekly at the National Design Centre's Prototyping Lab.

## Winners from last issue's puzzle



**Mr Abdul Wahid Bin Abdul Wahab**  
Teacher  
Meridian Primary School

**Mr Jackson Kek**  
HOD for ICT/MRL  
North Spring Primary School

**Mrs Natasha Teo-Wong Liru**  
Teacher  
Westwood Secondary School

**Congratulations!**

**THINK YOU HAVE THE ANSWERS?**

Send a clear photo of your completed entry to [contact\\_online@moe.edu.sg](mailto:contact_online@moe.edu.sg) by 20 May 2016. Please include your full name, institution, designation, NRIC and contact number in your email.