

PHOTO Grade 3 students confer to figure out their next stop on the North Forest scavenger hunt



# CONTENTS THE GRYPHON | SUMMER 2017

# Articles & Features

- **04** WHERE ELSE BUT MEADOWRIDGE? Learning Math in the Headmaster's Backyard
- 08 HELPING STUDENTS "FIGURE IT OUT" Grade 4 Computational Thinking
- 12 CONGRATULATIONS TO THE CLASS OF 2017 Accomplishments and Contributions
- 14 "I HAVE AN IDEA!" Cross-Curricular Learning in Design
- **18** THE IB LEARNER PROFILE How We Live and Learn
- 20 THE ANATOMY OF A SCIENCE LAB Promoting Inquiry & Design in Science with Mrs. Rajeev
- 22 THE ANNUAL FUND Thank You to Our Generous Donors
- 24 INQUIRY ROUND-UP Inquiry-Based Learning Across the Continuum
- 26 MEET MEADOWRIDGE Mr. Al Graveson



MEADOWRIDGE SCHOOL 12224 240th Street Maple Ridge, BC V4R 1N1 Canada

# OUR NEW PLAN

• Noticed empty area of land

- House?
  - Driveway?
- Triangles
  - Learned Sine Law
    - Easier to calculate
    - AreasinAxbxc/2
    - sinB/b=sinA/a
    - 1 acre=4046.86 sq meter

926.

# Where else but Meadowridge?

MATH IN THE HEADMASTER'S BACKYARD

# If you've never heard this next phrase uttered, you're probably not a Math teacher: when will I ever use this in real life?

When will I ever use this in real life?

Mr. Scott Rinn, Math Teacher and IB Coordinator for the MYP, is well aware of this long-running fallacy; in fact, our Math Department has been working over the past two years to end its reign. The solution is clear, we need to get students using math to solve real problems, but Headmaster's wife. Ms. Boyd's email included a simple query: could Mr. Rinn's Grade 10 Math class subdivide their property?

It seemed like a simple enough request, but if you've ever been to Mr. Burke and Ms. Boyd's home you'll know that the lot isn't the cut-in-twoand-call-it-a-day type of lot.

We all agree that Math is important, but when faced with a problem we can't quite figure out, **our immediate reaction is to denounce its rightful place in the world.** 

developing these types of activities can prove tricky. Mr. Rinn started small, shaping questions for realness and integrating real-life applications where possible, and set his sights on finding broader, more involved projects. Then, early this fall, an email arrived in his inbox.

"It was perfect," Mr. Rinn now explains of that very email, whose sender was none other than Ms. Eva Boyd, our The two-acre property has lots of trees and dips, bushes and a treehouse, the home and a pond, and the lot shape is neither rectangle, nor square, nor anything close to it for that matter.

Ms. Boyd, well aware of her property's distinctive traits, realized it would make the perfect Math project after receiving a surveyor's drawings. It was

a realization Mr. Rinn would ultimately share with Ms. Boyd, explaining "when I looked at the drawing, the first thing that jumped out at me was that there was a hundred different ways the kids could solve this problem." Not only could the lot be subdivided in a myriad of ways, but students could apply an equal number of mathematical equations and concepts to get there.

After an emphatic "yes!" to Ms. Boyd's request, Mr. Rinn got to work planning the exercise. The groups were tasked with three requirements for the project: the lot had to be split exactly in two, the current home had to fit on one of the lots, and a second driveway must be added to access the second lot.

Students could use whichever concepts they saw fit—Equations, Trigonometry, Geometry, and Exponents, to name a few—as well as concepts they had learned leading up to Grade 10 Math. "Students used all types of concepts in differentiated approaches. There was no set instruction for the types of Math they had to use, which was perfect. "All the students' answers were spot on," Mr. Rinn says.



A quick once-over of some of the concepts is sure to trigger flashbacks for anyone who has survived high school math. They are important concepts, but for most they conjure up memories of being stuck at a desk, listening to a lecture for a half-hour, and then being expected to come up with the same answer, using the same approach, as thirty of your peers. drawings. Knowing that they would eventually be presenting their ideas to Mr. Burke and Ms. Boyd, students were nervous, but they were also excited, especially when they learned that their plans might actually be put to use. Students went above and beyond the initial criteria, even getting a little competitive. Mr. Rinn was surprised to see students take

# "I want students to **remember the challenge and satisfaction of using math** to solve a real problem in a way that makes sense to them."

This is the exact practice Mr. Rinn is hoping to save students from, "I want students to remember the challenge and satisfaction of using Math to solve a real problem in a way that makes sense to them."

The project began in-class, with students working in groups to design plans based on the surveyor's action on their own accord: groups decided every member would create a plan and then opt for the best one, while others looked at local bylaws, and some of the groups even found the property on Google Earth for a strategic advantage.

"The kids were very excited," Mr. Rinn smiles.

#### **STEP ONE? MEASURE!**

What better way for students to realize the applications of math in the real world then to head into the real world... A quick trip to Mr. Burke and Ms. Boyd's house provided Mr. Rinn's classes the opportunity to get handson and use their knowledge to solve a problem. The first step to subdividing a large lot? Measuring... lots of measuring!

#### THE BEST LAID PLANS...

Prior to the visit, students were provided a surveyor's drawings of the property. Upon arrival to Mr. Burke and Ms. Boyd's house, students realized almost immediately their plans, based off of these drawings, would have to be altered. In order to keep the unique features of the property, students got to work re-working their designs. After two sessions of in-class planning, the day finally came when the students would visit the property. The excitement from class carried with our students to the property, but they would soon find out their plans wouldn't necessarily do the same.

Upon dismounting the bus, students finally got a chance to see the property in person. They saw the trees, and the home, and the treehouse, and realized that their original plans would have to be altered to keep its unique features. Even the students who thought to use Google Earth realized that the photos were outdated, and didn't account for recent yard work and home improvements. That's when it got interesting.

The groups didn't hesitate; instead, they got straight to work, measuring and re-working their plans. They were using what they learned in class on the fly. The students spent the entire period engaged and determined, and in the end every group came away with their own unique plan; in fact, not a single duplicate plan—in either design or approach—was presented to Mr. Burke and Ms. Boyd.

With the project wrapped up, Mr. Rinn is more motivated than ever by its success. Students were engaged, excited, and—most importantly using Math. With the word out, and an entire 27-acre campus to explore, the opportunities for further projects are already rolling in: Mr. Scott Spurgeon, Director of Athletics, has approached Mr. Rinn's class to help design the soon-to-be-installed shotput pitch, while Mr. James Willms, Experiential Education Coordinator, is working with the classes to help design our next installment of garden beds.

Mr. Rinn, meanwhile, is resolved "I just want them spending more time solving real problems, not just hearing from me how they could."





**GOING IN WITH A PLAN** 

Mr. Rinn provided students the opportunity to plan out their designs prior to the visit.



# Hereby the second students of the second sec

How computational thinking is preparing students for our future. Every day, across the continuum, our students inquire. They look at things from every angle, are quick to investigate and slow to judge. They learn to ask themselves "How could this be better?"

Our teachers, too, are natural inquirers. Inquiry is what sparked Mr. Diniz's exploration into computational thinking three years ago. At the time, he was teaching Grade 5—this year he has embraced change and is teaching in Grade 4 and he knew his students would be entering the Middle Years Programme (MYP) in just one year, beginning their inquiries in Design. *How could this be better*?

Mr. Diniz sought out how to best prepare his students for Design and for their years beyond, in a world that is rapidly changing and increasingly mechanized. Computational thinking was the answer.

One of Mr. Diniz's first discoveries was that there was no one definition of computational thinking out there. It's not a step-by-step strategy to achieve one thing; instead, it is a broad approach that can be applied to just about anything. "There's this misnomer that [computational thinking] is just used for programming computers, but it's not," Mr. Diniz emphasizes, "It's actually the processes which we use to solve every day problems."

The focus is on problem-solving, designing, and creating, and it's about how the students will use these skills at school—in mathematics, science, languages, arts, and across the subject groups—and at home, in everyday life.

There is no fancy equipment used, no teaching experts to bring in, and no additional, unrelated things to learn. Computational thinking is simply another method of inquiry, and its focus is on the future; "It is driven by societal needs and demands," Mr. Diniz explains. "There's a drive for more jobs that will incorporate design, robotics, coding... our kids should think critically, and be better prepared to embrace the future."

About once every two weeks, Mr. Diniz hosts a computational thinking morning. Students take part in two types of activities: plugged—using computers and tablets—and unplugged. Unplugged activities include solving crosswords and Sudoku puzzles, decoding cryptograms, or figuring out the shortest path to a destination. During plugged activities, students might get hands-on in Scratch, an app to program their own stories, games, and animations.

## Students can handle complexity; it's what keeps them engaged.

"Students can handle levels of complexity which I did not envision before," Mr. Diniz explains, "They were thoroughly engaged in every single discussion, wanting to figure things out for themselves."



# Students want to take learning risks.

Computational thinking encourages students to take greater risks. While working on a virtual project the feedback is immediate and in real time. If a student is working in Scratch and something isn't working, they simply tweak it: "It doesn't matter if the tweak is right or wrong," Mr. Diniz explains, "they can keep tweaking it until they find the solution."

# HERE IS WHAT MR. DINIZ HAS LEARNED (SO FAR!)

# Students are the experts.

When working on an activity, students want to figure things out, and they want to figure it out for themselves. "There's this strong sense of "I can," and they all work together and collaborate," Mr. Diniz shares. "I'm not the expert in the room, the students are," he nods, "there's a lot of collaborative work."





Whatever the activity, the focus is the same. Students are creating, they're solving, they're doing; and, most importantly, they're making choices about how they will do it. Students choose the medium, the method, and the modifications. If there's a problem, work of teachers-as-learners must always continue.

Truly a lifelong learner, Mr. Diniz inquires alongside his students, observing and assessing his approach.

"Students can handle levels of complexity which I did not envision before," Mr. Diniz explains, "they were thoroughly engaged in every single discussion, wanting to figure things out for themselves."

students are the ones to solve it. Computational thinking brings the Meadowridge Vision to life, ensuring our students "control technology, and are not controlled by it."

Mr. Diniz himself is bringing our Vision to life, too. This inquiry recognizes not only students' need for constructive learning, but teachers' as well. The The success of the program has Mr. Diniz already looking to the future, figuring out what's next—not only for his own classes, but for the entire Primary Years Programme (PYP). "I just want to help kids for the future," he smiles.

#### **ASK A FRIEND**

There's no better way to support student collaboration than by tasking an entire class with the same challenge. As students work towards finding a solution, they rely on their peers to help them along the way. As a result, students learn not only to collaborate, but their learning is deeper and their sense of accomplishments stronger.

# UNPLUGGED ACTIVITIES

NUMBER SEARCH CROSSWORDS AND SUDOKU SHORTEST PATH ~ TO A DESTINATION

SPOT THE - DIFFERENCE STEP - BY - STEPINSTRUCTIONS: RECIPES 🗹 HOW-TO'S 🗸 TASKS 🗸

> DESIGN INVENTIONS NAPIER WORD A D D E R S

# PLUGGED ACTIVITIES PRINTING 3)

USING DOCUMENT



CREATING APPS AND ONLINE GAMES CREATING IN ROCK BAND

TOP MOTION ANI MAT ION













Kendra Reid Brindlev





Camryn Kathleen Farnworth



**Richard Laurie** 

Devyani McLaren



Nadine Hezam





Jack Ebne



Berrender Johal



Olivia Maddigan



Gurmehar Riar





















Nikhil Vanukuru

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Azynah Panju Sharda



GuanYu (Bill) Wang





Eric Hong













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# "Thave an ideal"

# These four words are pretty common in the Design Lab.

With access to all sorts of tools and technologies to bring students' plans to life, ideas are not only encouraged, they're fulfilled.

Students are equipped to answer all of their design queries: how can I do this? can it be measured? how can I make it better, quicker, more efficient? The search for an answer inspires and motivates.

Ms. Anne Bolyard, MYP Design and Science teacher, carries this approach—that aha! moment mentality—to her teaching. When an idea strikes, she runs with it... right to fellow educators, her peers. Together, they create learning opportunities for deeper curricular learning in Design.

"I'll walk in and announce it... I have an idea!" Ms. Bolyard smiles, "then we'll sit down and figure it out; okay, this is how Science, or Math, or Art fits in."

Interdisciplinary learning is commonplace in the International Baccalaureate (IB) program, but it comes to life at Meadowridge.

Our teachers collaborate to ensure learning happens in real, meaningful ways. For Ms. Bolyard, it means she'll work with other teachers to ensure



what they are teaching, no matter the discipline or topic, can be created or carried out through Design. It's all state of inquiry. Not only are students making connections between subjects, they're all-the-while

**Things are not divided like they can be in school.** You don't just learn or apply one discipline to any given situation. It's an ever-changing combination of everything we know.

about getting students to do "stuff". The more hands-on, the better. "The mind will not forget what the hands have learned," Ms. Bolyard explains, "if you can touch it, do it, sense it... you'll remember it." The more senses involved, the better.

By creating, fiddling, and figuring things out, students are in a constant

employing the design cycle. "It's what design allows," Ms. Bolyard explains, "Design is figuring things out, inquiring, and analysing... what's the problem? Did I solve it? How could I have done better?"

The more our students interact with a concept, the deeper the learning. There's something else, too:

#### THE DESIGN CYCLE IN ACTION

By experiencing a complete design cycle, students apply practical and creative thinking skills to solve design problems, explore the role of design historically and contemporarily, and consider their responsibility as designer when making decisions and taking action.

At Meadowridge, Design is learned by all students in grades 6 through 9.





interdisciplinary learning is a gentle nudge into the realities of life. Things are not divided like they can be in school. You don't just learn or apply one discipline to any given situation; instead, it's an ever-changing combination of everything we know. Ms. Bolyard hopes continued, crosscourse learning will put an end to this misconception.

Everything is connected, and the more this becomes apparent, the better. What we learn is what we apply

# Our teachers collaborate to ensure learning in real, meaningful ways.

It's one of the top things Ms. Bolyard hears on any given day: "This is Science, not English!" a student will refute upon receiving a lab with grammar or spelling errors circled. to every day life, and it's all applicable. "Teaching this way shows how everything comes together. There is transference, and learning that is critical." HERE ARE JUST SOME EXAMPLES: CROSS-CURRICULAR LEARNING IN DESIGN



Math + Design Students apply concepts and calculations from math—graphing, using shapes, calculating area and volume—to draft blueprints and create small-scale models of inclusion playgrounds. Students first researched how to increase the playability of playgrounds for all children, modifying traditional equipment and designs for children of all abilities. After coming up with their own ideas about what would work, students measured playground equipment for reference and transferred the data to scale on graph paper. Once everything was drawn out, students did their calculations to figure out the area—how much area was needed for a picnic table, or a bench, or a slide—and the volume.

#### Societies and Literature + Design

Students explored all-things castles in Societies and Literature: how to build, outfit, and siege them. In Design, students worked in groups to research castles, taking note of what was required inside of them—places for food, livestock, and people, say and the best layout for its many necessities. The groups then built large scale models of their castles from popsicle sticks; and, after their hours of crafting and perfecting them, designed a Medieval launching device to destroy them.

**Science + Math** Students have the opportunity to solve the volume of cylinders in two ways. In Math, students learn how to calculate the volume of cylinders with the appropriate equations. In Science, students learn to use water displacement to solve a cylinder's volume.





**Science + Design** Following an inquiry into magnetism, students added a generator to the popsicle stick windmills they designed and built. Students first assembled the generator kits, and then tested how different factors—how much wire, how tightly wrung—affect how much electricity is produced. Students also had to design and build the blades for the windmill: some used cardboard, some used aluminum, and some used more popsicle sticks.

Next year, students will also be able to test the stability of their structures on a shaker table.





# The Learner Profile Learning to Live Well, With others and for others

# **Open-Minded**

We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

# Knowledgeable

We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

# Caring

We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

# Thinkers

We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

# **Risk-Takers**

We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

# Communicators

We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

# Balanced

We understand the importance of balancing different aspects of our lives— intellectual, physical, and emotional— to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

# Principled

We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

# Reflective

We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

# Inquirers

We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

# anatomy of a science lab

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Promoting Inquiry & Design in Science with Mrs. Rajeev

## Letting students inquire.

Mrs. Rajeev provides students with an overall question—what types of variables affect Vitamin C levels, say—and students take it from there. Rather than students reading step-by-step instructions to all come to the same conclusion, each student designs and completes their own lab. So, while some students test how steaming a vegetable affects Vitamin C levels, others inquired into how Vitamin C levels fare over the shelf-life of orange juice.

Students are provided the scientific knowledge required to form, test, and re-imagine their own hypothesis: "[the students] came up with so many different ideas; they came up with their own question, what they were going to change, keep the same, and measure," Mrs. Rajeev explains. Students must even come up with their own materials list for the lab.



# Letting students fail... unless it's going to blow up the lab.

We're going to let you in on a secret: Mrs. Rajeev won't stop students from failing. If a lab is bound for failure, she lets it, and will only intervene when students realize they've hit a deadend. Even then, it's not to save them, it's to guide them to figure out what went wrong. In doing so, students realize scientific discoveries don't happen overnight. People fail. Experiments fail. Sometimes, those failures lead to greater realizations, and lay the groundwork for future discoveries. Sometimes, they don't.



# Letting other scientists take lead.

When Mrs. Rajeev is hoping to relay an important lesson—why students should write down their observations or why it's okay to fail—she'll let other scientists do the talking. Through video, she invites in famed scientists such as Madame Curie and Rosalind Franklin to show students the importance of all sorts of scientific concepts. "Rosalind Franklin's observations helped lead to the discovery of DNA; she shared her ideas, and others built from it," Mrs. Rajeev offers as example.

In every Unit, Mrs. Rajeev highlights a scientist whose research influenced the concept they're looking into. For her classes, it's not just about putting a name to a concept, it's about honouring the scientist and science itself. "Any student who leaves my class knows who Rosalind Franklin is."



## Letting learning happen.

After students plan, design, and perform their labs, the learning isn't over. Mrs. Rajeev stresses to students that what they do after the lab is just as important as what they do leading up to it. All data is good data, even if it doesn't prove what you had hoped. After the lab is over, data must be charted, analysed, and mapped. The data should then be re-analyzed, and students should look for trends and come to conclusions.

Mrs. Rajeev explains, "The IB allow you to think, and to come up with things to investigate: I'll ask students, can you identify what's changing, are you keeping your variables and controls the same?"

# Letting science speak for itself.

When Mrs. Rajeev introduces a concept, she designs her lesson to inspire. When it comes to introducing the concept of energy, she doesn't just talk about energy. Mrs. Rajeev talks about the Industrial Revolution, and the part energy played. She talks about how energy influenced an entire nation. Students learn how, through just the creation of steam engines, a society was forever changed. Then, with interests piqued, she delves into the science behind it.

"You must give students a context; give them something to hook into. Talking about the core concepts doesn't mean that you can't approach things from a different angle," Mrs. Rajeev smiles.

-000. Mr. Hugh Burke & Ms. Eva Boyd Anonymous ŝ5. Mr. & Mrs. Sunil & Yamini Gandesha Mr. Robert Gill & Mrs. Diana Carwithen Greg Moore Foundation Circl Mr. Yanchuan Guo & Ms. Yun Wei Mr. Haibin Ji & Mrs. Xiuyan Li Mr. & Mrs. Bruce & Judy Johnston S Mr. Ron Le Boutillier ster' Mr. Lance Leger & Ms. Sarah Ward Mr. Weiqun Liu & Ms. Wei Wang Mr. John McLaughlin & Ms. Cheryl David ma Meadowridge Parent Guild Ms. Penny Pan ਰ Mr. Rick Pan & Mrs. Shirley Xu ead Dr. & Mrs. Mathew & Masumi Smith Ms. Yulian Wang Т Mr. Min Zhang & Ms. Ruoqi Zheng

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Meadowridge School gratefully acknowledges all donors. This report recognizes all gifts and pledges to the Annual Fund from July 1, 2016 to July 1, 2017.

Every effort has been made to ensure the accuracy of this report. If, however, any errors or omissions have occurred, please accept our apologies and advise the Advancement Office so that corrections can be made.





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Mr. Donald Lockhart Mr. Min Luo & Ms. Jie Zhena Ms Mary Ma Mr. Jamie Marriott Mr. Gareth Mason & Ms. Carolyn Treger Ms. Jennifer Mavnes Ms. Sherrie Metz Dr. Donafena Mi & Mrs. Jina Chen Misson of Care Association Mr. & Mrs. Andrew & Heather Nicholson Mr. & Mrs. Patrick & Barbara Niwa Ms. Danielle Noël Ms. Lindsay Oneil Ms. Angela Pallister Mr. Steven Parewyck & Mrs. Anita Parewyck-Bonnarens Mr. Jason Parker & Dr. Nancy Vertel Mr. & Mrs. Terrance & Moira Passley Drs Piotr & Elzbieta Pater Ms. Marie Pavne '00 Mr. & Mrs. Philip & Nicola Pitzey Mr. & Mrs. Igor & Katerina Pogrebinsky Mr. Dave Polmanter Mr. Cheng Qi & Mrs. Fang Ma Mr. Han Qian & Ms. Sha Tao Mr. Hang Oin & Mrs. Jing Xu Mrs. Deepti Rajeev Mr. & Mrs. Sheetal & Seema Rawal Mr. Guang Ren & Mrs. Ting Ting Hua RHB Group LP Mr. Scott Rinn Mr. Richard Rosenthal Mr. & Mrs. Aaron & Pamela Schultz-Lessing Mr. & Mrs. Michael & Chantal Schutz Dr. & Mrs. Allen & Rosemarie Shen Mr & Ms Justin & Jennifer Simpson Dr. & Mrs. Sithamparanathan & Pathmini Skanthan Mr. Trov Sobotka & Ms. Andrea Frisby Mrs. Norma-Jean Spika Mr. & Mrs. Scott & Yoshimi Spurgeon Mr. & Mrs. Ryan & Christal Storgaard Dr. Lun Wei Su & Mrs. Tian Liang Ms. Nadine Sugden Mr. & Mrs. Jianmin & Jingzhao Sun Mr. Kevin Sun & Ms. Helen Li Mr. Kefei Tan & Mrs. Hanfang Guo Telus Ms. Michelle Vally Ms. Joyce Villadiego Mr. Dong Wang & Ms. Linda Li Mr. Jian Wang & Mrs. Xu Zheng Mr. Peizhi Wang & Ms. Yan Zhou Ms Tamara Warner Drs. Qasim & Tehmina Wasti Dr. & Mrs. Lawrence & Tracev Welsh Mr & Mrs Paul & Kalie Whitaker Mr. & Mrs. James & Leslie Willms Wind and Tide Preschools I td Mr. William Wong & Ms. Tina Lee Mr. Fena Xu & Ms. Shuo Chen Mr. Jiaxue Yang & Ms. Weijie Chong Mr. Shuo Yang & Ms. Jia Xu Mr. Zitao Ye & Mrs. Jenny Lu Mr. Yong Zhang & Ms. Wenging Chen Mr. Baoming Zhang & Ms. Hui Cui Mr. Jianmin Zhang & Ms. Shenghong Han Mr. Yong Shun Zhang & Ms. Dan Dan Hu Mr. Yeyan Zhang & Ms. Lixing Liu Mr. Ronald Zhang & Mrs. Anita Sheng Mr. Yongiun Zhang & Mrs. Yvonne Wei Mr. Haifeng Zhao & Mrs. Kechun Zhang Mr. Jian Hong Zhang & Ms. Beiying Zhou Ms. Gilda Zivec Mr. Lianjie Zu & Ms. Bo Han Mr Li 7uo & Mrs Ann Yi He

# LEARNING THROUGH IMAGINATION, EMOTION, & COMMUNITY BUILDING

#### JUNIOR KINDERGARTEN Sharing Our Planet

Students visit with a quest from the Northwest Preservation Society, who brings furs, feathers, and whatever else might help our Junior Kindergartens learn about wild animals: antlers, stuffed eagles and birds, animal skulls, and more. This year, the class ventured into the gardens where they examined owl pellets in the wild (don't worry, Mom and Dad, they washed their hands after!). Students are reminded over the course of the afternoon of their responsibility to share the planet with these animals, encouraging environmentalism and empathy. Students inquire by asking lots of questions, take risks by touching new things, and are principled by listening to the rules for touching these delicate items.

#### **GRADE 2** How the World Works

Students are provided the instructions and materials to complete the notorious Coke and Mentos experiment (combining the two for an explosion). Students then create an iMovie to document the entire experiment, from making their own hypothesis, noting their observations, and then providing an explanation.

#### **GRADE 7 SCIENCE** Adaptations & Evolution

Students were split into groups and assigned a painted background. Each group's background featured a different terrain: the desert, a rain forest, the savannah, an alien planet, and more. Students jotted down notes and considered what type of animal-and what types of features of that animal-would survive in their appointed terrain. After creating their animal, they molded it out of plasticine and switched stations. Each group then assessed the animal the group prior had created and adapted that animal in some way, noting their justifications for the adaptation. This process continued until each group returned to their original animal, where they explored how and why it evolved. Ms. Hook documented each organism's evolution so groups could see the progression of their animal.

## GRADES 5 & 12 Biology

Grade 12 Biology students hosted the Grade 5 classes for a live lab: a cow's heart dissection! Grade 12 students explained the respiratory and circulatory systems, as well as answered all types of questions from our younger learners who were tasked to fill out accurate diagrams.

#### **GRADE 11** Spanish

Students learn how to cook Columbian cuisine, with instruction from a Columbian native, Juliana Guerrero. The cooking class is provided entirely in Spanish, so students not only learn more about the culture of Columbia, but also practice speaking and listening in Spanish. Ms. Guerrero also highlights the new, more foreign ingredients used in traditional Columbian cuisine. After the culinary immersion, students relax and enjoy a sit-down lunch, tasting the foods they cooked up.

#### **GRADE 5** Garden Box Blunder

After learning about energy transfer and simple machines, Grade 5 students were tasked with an important challenge: moving three heavy, incorrectlyplaced garden beds to the right location. Ms. Bolyard met with the classes to develop a plan of action. After the plans were developed, students worked together to pick the best option. Equipped with a plan, students then went into the gardens and used pulleys, wheels, axles, levels, rollers, screws, and incline plains to move the beds.

#### **GRADE 1** Investigation into Communities

Students created their own classroom community and made important decisions about the shops and services within it. After planning out the locations, roles, and responsibilities of each of the shops and services, students applied for work at one of the places, providing the reasons why they should work there. As a group, students built their shops using cardboard and all types of supplies to create a realistic setting. The groups also created goals that they would work towards and reflected on them afterwards.

#### **GRADE 1** Learning about Butterflies

Each student received their own small butterfly larva (a caterpillar) to observe as it grew and changed, recording their observations along the way. Students also nurtured the caterpillar by treating it carefully and making sure it was well-fed. Students learned about butterflies, and how helpful the butterfly can be, and all about their life cycle. Once their butterfly was fully grown and had emerged from its chrysalis, students released it into nature so it could go forth and pollinate.

#### **GRADE 4** Investigation into Influential People

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Students explored the impact of influential people, including Malala Yousafzai, Martin Luther King, and Rosa Parks, and how they have made a difference in the lives of others around the world. Students then worked in groups to decide on a way they could also make a difference by helping an organization. They chose groups such as the Red Cross, SPCA, and Amnesty International, and then took action to inform others by creating books, videos, and posters. One group collected toys and food that they donated to Pacific Assistance Dogs Society (PADS).

## **GRADE 4** Exploring Electricity

Students explored the many forms of energy, and how it can be transferred from one object to another. In order to examine different forms of energy, how energy is conserved, and what types of devices transform energy, students used balloons and combs to explore static electricity. They used static electricity to make pop cans move, rice jump, and hair stick out. Students used wires and batteries to create closed circuits that lit up a light bulb or made a motor run.



# People of inquiryedition Meadowridge

# Mr. Alan Graveson

**WHERE YOU'LL FIND MR. GRAVESON** helping our students figure out what they want to be when they grow up and how to get there **SINCE** 1991

#### Two years ago, you picked-up and decided to work in China. Why?

I started teaching at Meadowridge in 1991: that's a long time in one place. I have had the good fortune on two other occasions to live and teach in another country: 1996 London, England, and 2000 Brisbane, Australia. While shaking things up is sometimes difficult, the rewards are worth it. You definitely get a change of perspective when you live in someone else's culture. You get to meet new people, see what works in other schools, and just a get change of pace. Maple Ridge is great, but the world is a big place. We thought we would make it a trifecta and go to Shanghai, China. Well it wasn't as simple as picking a spot on the map.

My wife and I went to London, England for an international recruiting fair: speed dating for teachers. Only half of the 300 participants came away from the fair with a firm offer. We were lucky enough to be considered for schools in Panama, Belgium, and China. Shanghai American School welcomed us with open arms. The staff greeted us at the airport with an envelope full of start-up Renminbi and a bus ride to our furnished apartment. As 50 new hires arriving in from around the globe in matching t-shirts we all soon became fast friends. If the bus ride wasn't enough to bond us, the group medical examination sealed the deal.

#### What surprised you the most when you made the move?

One of the biggest surprises for us was how safe and friendly Shanghai is. When you think of a city with 24 million people, you tend to think the worst: overcrowding, crime, poverty. That wasn't our experience at all. Okay, there were times on the subway when I felt like I was slow dancing in sync with hundreds of strangers, but even that had a strangely hypnotic and poetic quality. The Middle Kingdom's fascinating history, minority cultures, and most recent economic revolution make China one of the most enigmatic and interesting places in the world to spend a couple of years. My biggest regret was not making more headway on Mandarin.

It seemed like such a daunting task, but as in any culture, language is the key to greater understanding and integration. Ni hao and Xie Xie only go so far. On a professional level at Shanghai Amercian School, I loved the synergy of working on a team with counsellors, administrators, and learning support teachers. It was also interesting to me as a counsellor to work in a school large enough to support three curricula: IB, AP, and American curriculum. Finding the best combination of courses for students was a really rewarding part of the job. I also learned tons about the American admissions process, as a majority of our students applied back to the U.S. All the surprises were good ones.

#### What role does inquiry play in the post-secondary search?

Once you change the question from, "Which university is the best? to "Which university is the best fit for me?" you naturally migrate to an inquiry based approach to university selection. In fact, if we take one step back and ask, "Why do I want to go to university?" we can begin to question many of the assumptions about the role of higher education and what values and aspirations are important to a student. Degree of fit in post-secondary studies has more to do with a student's learning style, living preferences, and philosophical alignment with a post-secondary's mission than with a reputational ranking.

Helping students and their families formulate the right questions is the most important part of a counsellor's role. Inquiry is about being an active agent in what you learn and how you learn. Nowhere is this relationship of agency to knowledge more important than in taking the first steps out onto the path of higher learning. Because there are so many options of programs, types of institutions, geographic locations, careers, GAP experiences, and Majors, inquiry is essential to good decision making. What would bring you back to China?

A desire to return to the land of dragons, ancient mists, legendary warriors, and soup dumplings.

While traveling, what do you miss most from home?

Clean air, family, and beef.

One person you would like to sit down with, living or deceased?

Mark Twain. I love his insight, sense of humour, historical period, and location.

#### Spring or fall?

# Fall is more dramatic. It stirs the most profound emotions.

What's something people would be surprised to find out about you?

I used to be a DJ. Yeah I did! Pre-CD. I mixed on cassettes.

#### Favourite Meadowridge memory?

First day of JK for Shauna. Emma singing at graduation. The alligator lockdown. Band Meetings (Staff code for Billy Miner Fridays). Taking the whole student body up Alouette Mountain.

One piece of advice you would give to 13-year-old you?

Take more risks. YOLO. "Live in the now!" Garth Algar Invest in Apple.

