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20–23 July • Orlando FL, USA



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Integrating Inquiry-Based Math Into PYP Units of Inquiry

Trevor Lindsay

Riverstone International School



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I will go from Boise to Las Vegas to San Diego to San Francisco to Portland and then back to Boise. I would be on the trip for 1 week and 4 nights.



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MY CAR!

The car that I
will choose will
be the Honda
Accent. It gets
27-36 MPG. It
can also seat 5
people.



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I AM GOING TO DRIVE IN A KOENIGSEGG CCXR
TREVITA.

IT COSTS
\$4.8 MILLION
AND IT'S
MILEAGE
IS 21 MPG.



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My Vehicle

My vehicle is a tank. It costs \$8.58 million USD. On the freeway it averages 0.6 mpg. My total cost of gas is \$132,176.00.



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Food

Breakfast-\$5.78

Lunch-\$9.65

Dinner-\$15.99

One day's food cost-\$31.42

Total food cost-\$434.88



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Tourist Attraction

Las Vegas:

Cirque du Soleil- Ka
Cost of ticket- \$292.00
Experience: sublime





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★ The Badlands Cabins!



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★ Chocolate World!





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Final Cost

Gas-\$369.55

Hotels-\$1,122.00

Attractions-\$275.00

Food-\$314.00

TOTAL-\$3,995.00



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Riverstone International School

Boise, Idaho



Inspiring the journey
through five pillars:
Academic Excellence,
Outdoor Education,
International
Understanding, Leadership
by Example and
Community and Service.



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Inquiry Rocks!

[The Blank Planner Project](#)

[Grade 5 Exhibition](#)

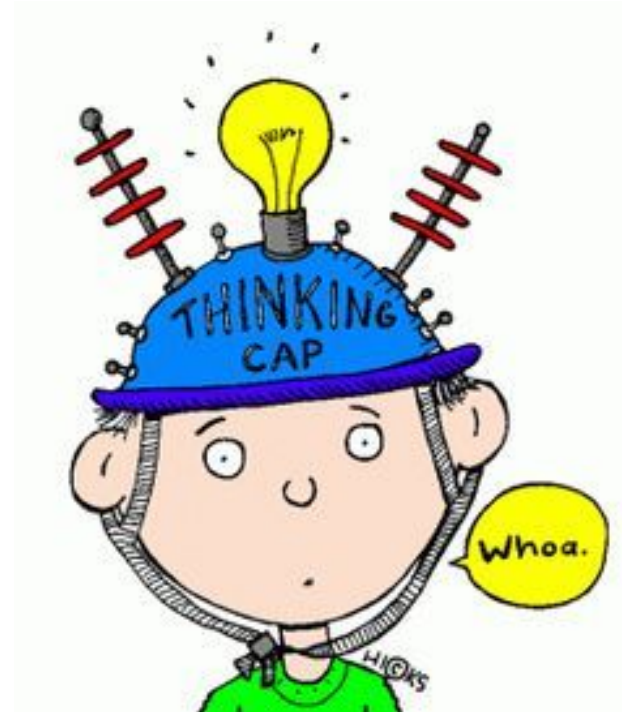
[Project Lab Template](#)

[“The Road Trip”](#)

[“Build an Eco-Friendly House”](#)

[Example Playlist](#)

[Personal Progress Reflection](#)



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Objectives for today's session:

- Model strategies for guiding students in creating and sharing inquiry-based math projects with direct ties to unit of inquiry concepts while engaging students in identifying connections between math content and real-world scenarios.
- Identify available resources to enhance traditional curriculum with differentiated, blended math instruction and construct a student-driven, individualized math program with emphasis on project-based learning.
- Model strategies for communicating with school community and parents to develop a collaborative support system for individualized learning.
- Attempt to avoid overly wordy slides.



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Get to know your neighbor!

- Connect with the person next to you. Be sure to meet someone new!
- Describe your school's math program to your partner. What do you perceive to be its strengths and weaknesses?
- Work with your partner to find a creative 100 point "Turkey Math" word!



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How do we bring math into the transdisciplinary fold?



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creativity decision making
issues research problem-solving construct
attitudes purposeful skill development
roles gathering information thinking
investigation life-long learner
engaging processes reflecting
authentic ownership active engaged questions
action

Inquiry



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Project Lab:

Inquiry-based,
student designed
projects that
connect UOI and
math content,
concepts and
strands.



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Step One: Identify math concepts



What math concepts will you highlight in your project? Look at the PYP Math Strands and Common Core standards to help you brainstorm ideas!



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Step Two: Connect math to UOI content

What content from our Units of Inquiry will you incorporate into your project? It could be a subject we've studied, like media, city planning or PLTW, or could be based on a key concept like perspective, change or function. You could even build your project around an attitude or Learner Profile word!



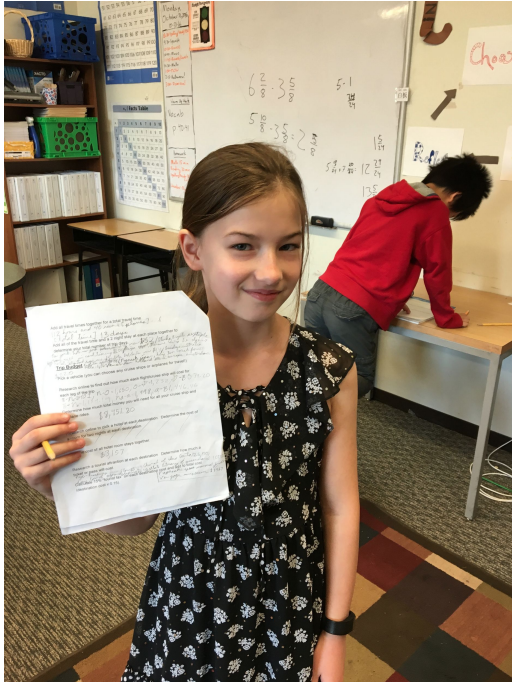
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Step Three: Identify real-world connections



What “real-life” connections can you make within your project to make the math more meaningful to other students who will complete your project?



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Step Four: Look completely overwhelmed and helpless



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Create, Evaluate and Publish

- Students create the basic framework for projects, then test them by completing the project themselves.
- Students evaluate projects, identifying what worked, what was too hard, too easy, etc., and then make adjustments to their draft plan.
- Finally, students publish their projects using Google Classroom, making their projects available for other students to complete.



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Project Lab Goals:

Short Term:

- Students are actively making connections between math and UOI concepts, creating and then completing each other's student-initiated work

Long Term:

- Seamless integration of student-created math projects into our UOI planners for each of our Grade 5 units, creating a truly transdisciplinary POI, including math



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Your Turn!

Brainstorm connections
between math and UOI
concepts within your
Programme of Inquiry (on
page 3 of your packet).

Think outside the box!



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Individualized, Blended Math Instruction



The ultimate in differentiation
is individualization!



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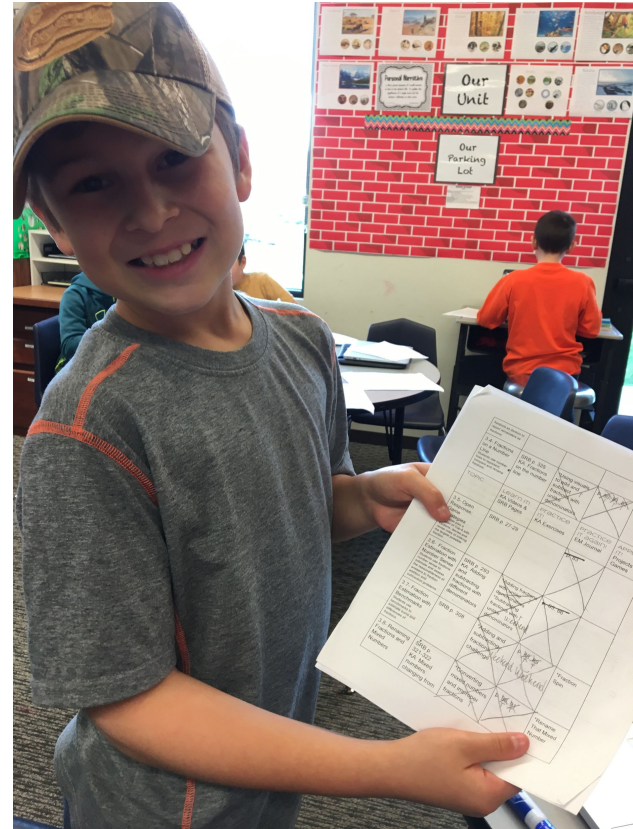
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Playlists

For each unit of our “in-house” math program, Everyday Mathematics, students complete a playlist:

- Pre-Test
- EM lessons
- EM games and activities
- KA exercises
- Post-Test

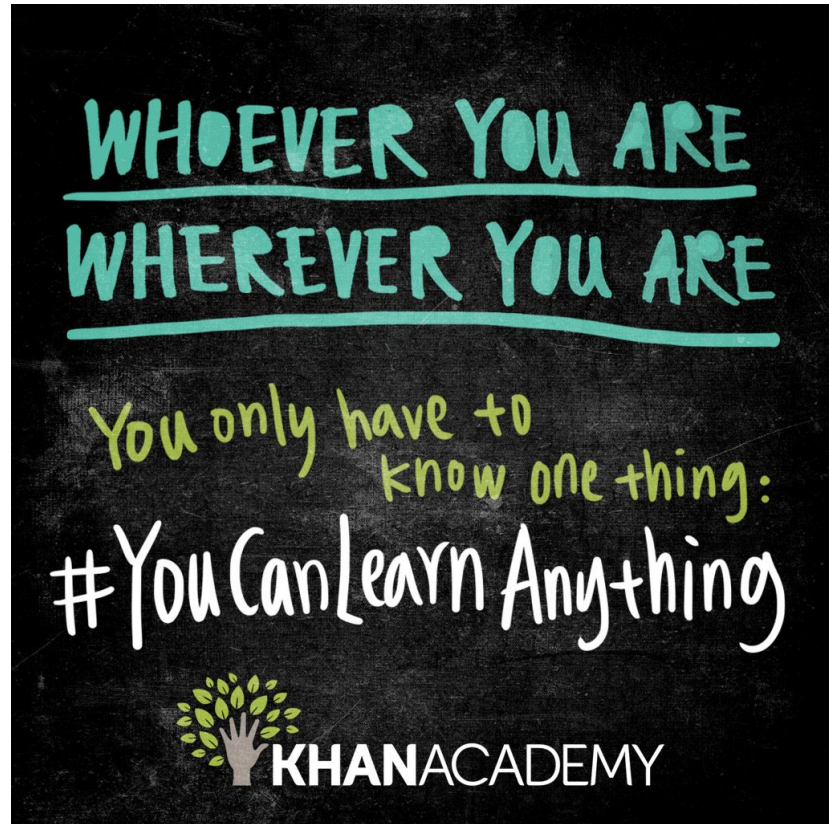


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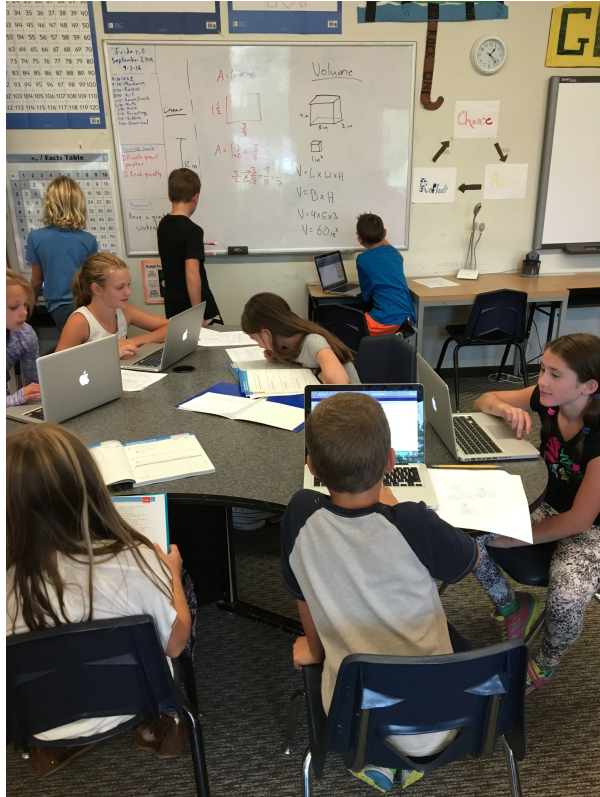
Khan Academy



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Off and Running!

Mastery-Based

Individual Pacing

The Sky's the Limit!



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Teacher as Facilitator, not



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Results Speak for Themselves!

Anecdotal:

- Complete change of culture in the classroom: everyone is a “math person”
- High flyers get to soar
- Others build skills and build confidence
- Support for high achieving younger students

Objective:

- MAP Growth: 170% of projected growth met; 84th percentile median conditional growth; mean RIT score growth +19
- MAP Scores: mean RIT score 243; 91st percentile nationally
- ISA Scores: mean score 544; ~90th percentile internationally



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LearnStorm

 KHANACADEMY

[Home](#)

[Rules](#)

[Prizes](#)

[Resources](#)

[Supporters](#)

Khan Academy LearnStorm
builds growth mindsets and
personalizes learning through
a fun six-week challenge.

Sign up opens on August 15!



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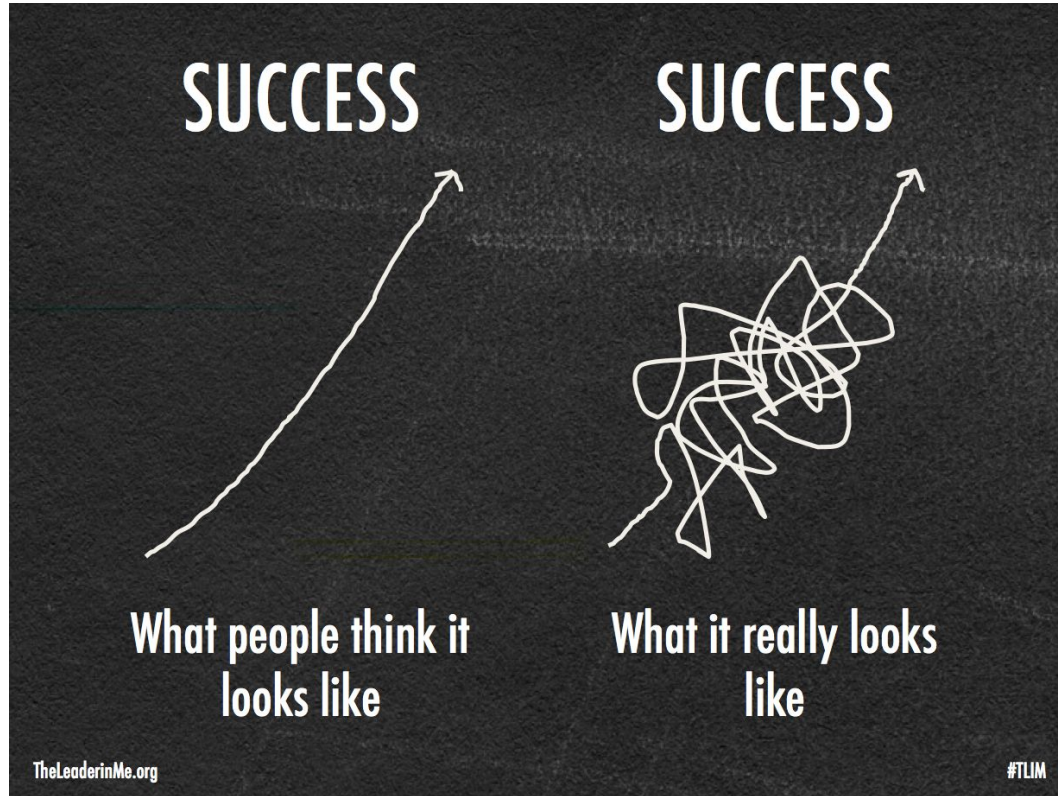


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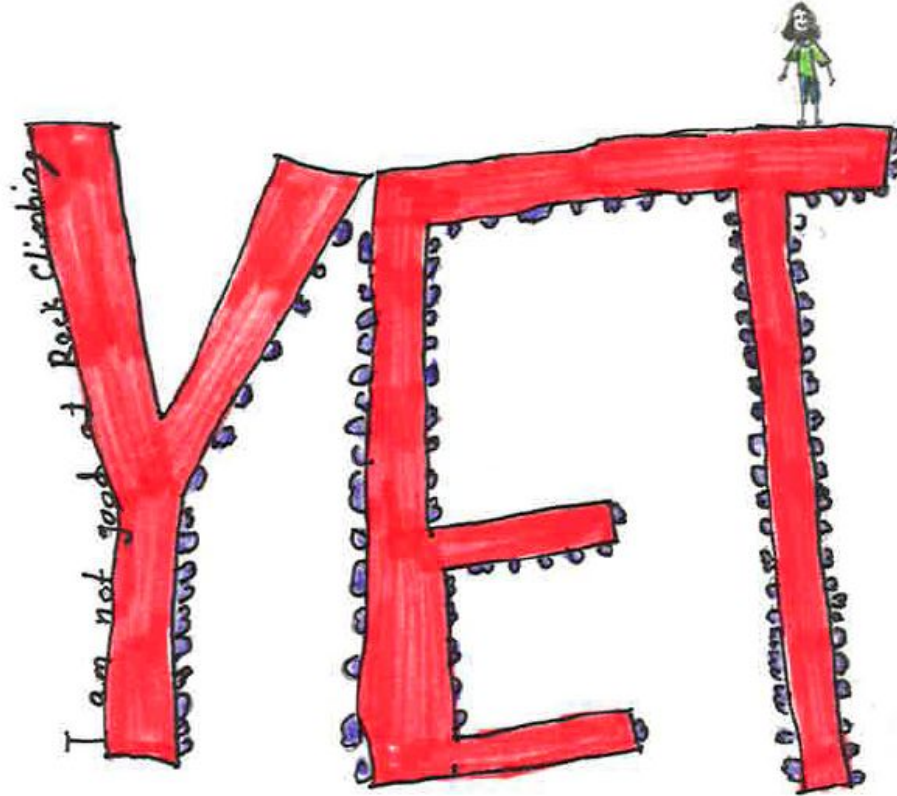
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... YET!



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I'm not really
a control freak
BUT...
can I show you
the right way
to do that?

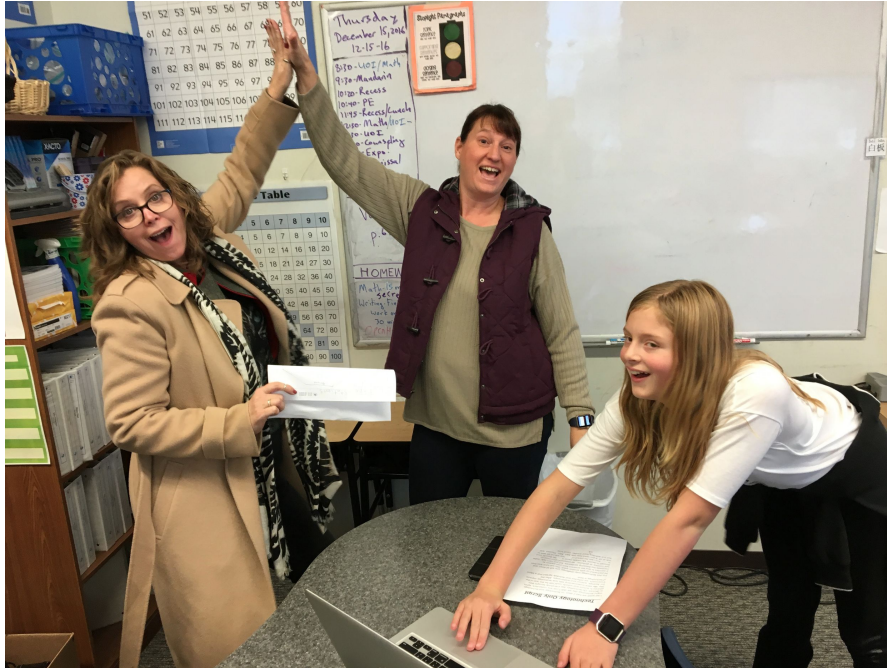


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Personal Progress Reflection



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Now, it's your turn to take action!



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Questions?



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Thank You!

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