Apps and Websites Featured in Presentation

CMV.EDU
iOS App Only

desmos.com
App or website

teacher.desmos.com
Website Only

Presentation Folder:
https://bit.ly/ZombiesNCTM

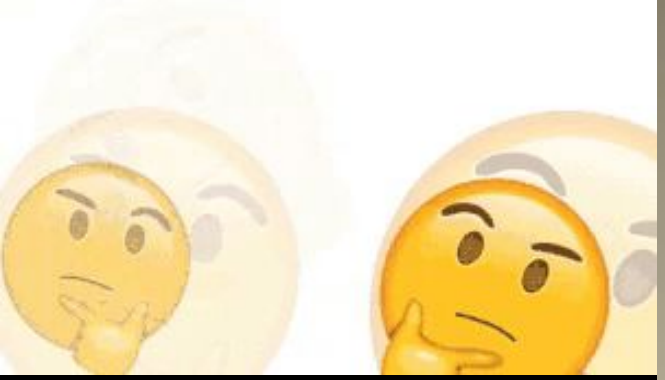
Teddy Bears, Army Men, and Zombies
The wonderful world of Algebra

David Henson

K-12 Mathematics Instructional Coach

Region 11 Education Service Center


Hello
my name is
David Henson
dhenson@esc11.net
@MinecraftMath



What do you think?

No child has ever been,
or ever will be,
deeply, personally
invested in a worksheet.

National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematical success for all.*

Writing Team: Steve Leinwand, Daniel J. Brahier, DeAnn Huinker, Robert Q. Berry III, Frederick L. Dillon, Matthew R. Larson, Miriam A. Leiva, W. Gary Martin, and Margaret S. Smith.

www.nctm.org/principlestoactions

NCTM | NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

Effective Mathematics Teaching Practices

Establish mathematics goals to focus learning. Effective teaching of mathematics establishes clear goals for the mathematics that students are learning, situates goals within learning progressions, and uses the goals to guide instructional decisions.

Implement tasks that promote reasoning and problem solving. Effective teaching of mathematics engages students in solving and discussing tasks that promote mathematical reasoning and problem solving and allow multiple entry points and varied solution strategies.

Use and connect mathematical representations. Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving.

Facilitate meaningful mathematical discourse. Effective teaching of mathematics facilitates discourse among students to build shared understanding of mathematical ideas by analyzing and comparing student approaches and arguments.

Pose purposeful questions. Effective teaching of mathematics uses purposeful questions to assess and advance students' reasoning and sense making about important mathematical ideas and relationships.

Build procedural fluency from conceptual understanding. Effective teaching of mathematics builds fluency with procedures on a foundation of conceptual understanding so that students, over time, become skillful in using procedures flexibly as they solve contextual and mathematical problems.

Support productive struggle in learning mathematics. Effective teaching of mathematics consistently provides students, individually and collectively, with opportunities and supports to engage in productive struggle as they grapple with mathematical ideas and relationships.

Elicit and use evidence of student thinking. Effective teaching of mathematics uses evidence of student thinking to assess progress toward mathematical understanding and to adjust instruction continually in ways that support and extend learning.

National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematical success for all.*

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Experience is the best teacher.
#purposefulplay


Heading to
the Stations!

Please go to your Character to start!

Image from looneytunes.wikia.com

Image from spongebobandfriendsadventures.wikia.com

Image from looneytunes.wikia.com

Image from parody.wikia.com


Station 1
7:00

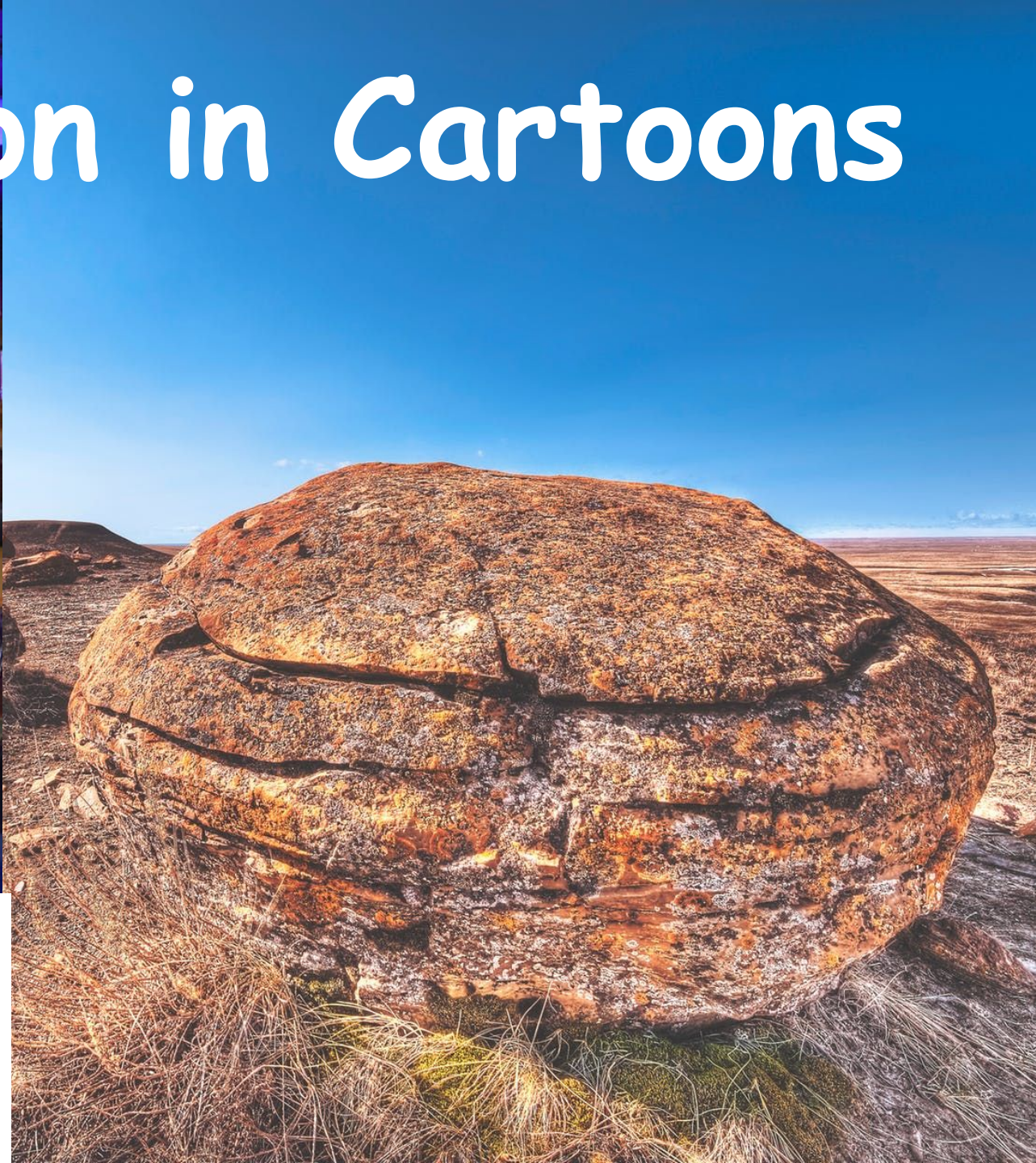
Station 2

Station 3

Station 4

Images from gravityroad.com

Data Collection in Cartoons



Augmented Google Doc

http://bit.ly/Datacartoons

Please take a hard copy

Falling Teddy Bears

watch video and complete document

Augmented Google Doc

http://bit.ly/Fallingbears

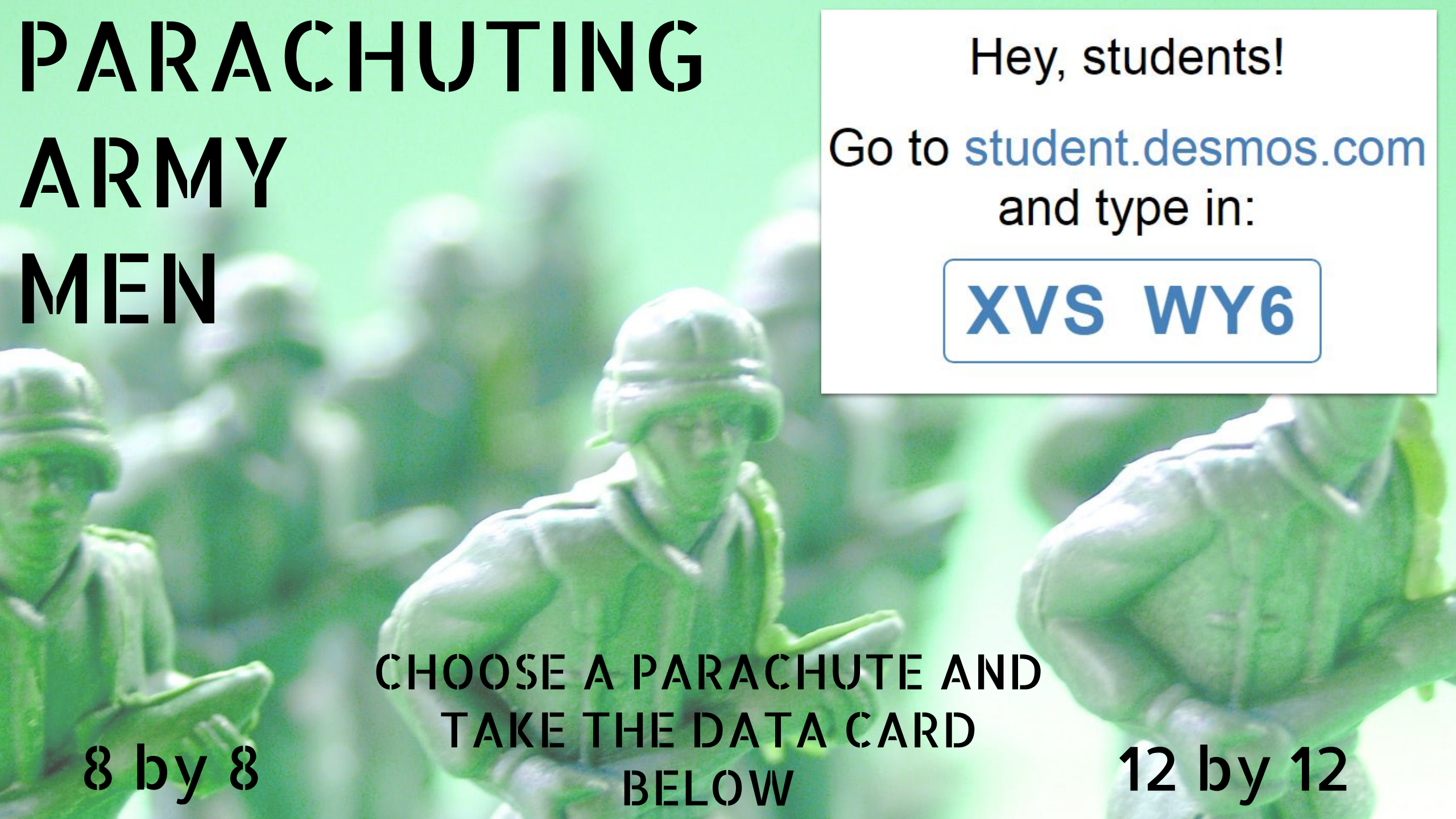
Please take a hard copy

PARACHUTING ARMY MEN

Hey, students!

Go to student.desmos.com and type in:

XVS WY6



CHOOSE A PARACHUTE AND TAKE THE DATA CARD BELOW

8 by 8

12 by 12

PARACHUTING ARMY MEN DESMOS ACTIVITIES

8 by 8

Army Men in Parachutes: 8 by 8

by David Henson Created by you

Mobile Tablet Laptop

12 by 12

Army Men in Parachutes: 12 by 12

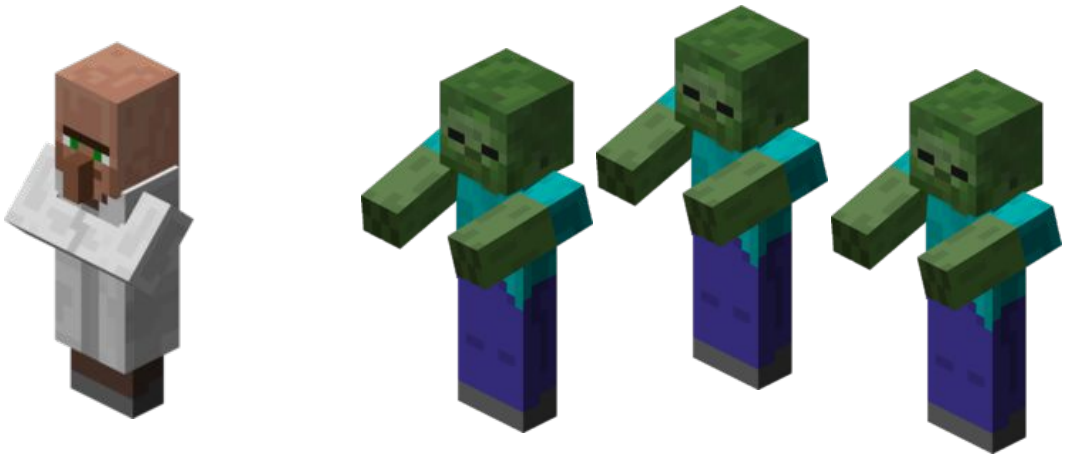
by David Henson Created by you

Mobile Tablet Laptop

Hey, students!

Go to student.desmos.com
and type in:

YQN B76



Please take a hard copy of
the recording sheet
http://bit.ly/Justrun

ZOMBIE APOCALYPSE

Villagers

Trial 2

Zombies

VS

Scenario 1

2 Zombies
Vs. 10 Villagers
Large Area

http://bit.ly/2lQ2RxF

Zombie Apocalypses: Trial 2

by David Henson Created by you

Mobile Tablet Laptop

Scenario 2

3 Zombies
Vs. 15 Villagers
Large Area

http://bit.ly/2mBb0EL

Zombie Apocalypses: Trial 3

by David Henson Created by you

Mobile Tablet Laptop

Scenario 3

4 Zombies
Vs. 20 Villagers
Large Area

http://bit.ly/2mBbcDP

Zombie Apocalypses: Trial 4

by David Henson Created by you

Mobile Tablet Laptop

Everything can be studied as a curve relationship!!!

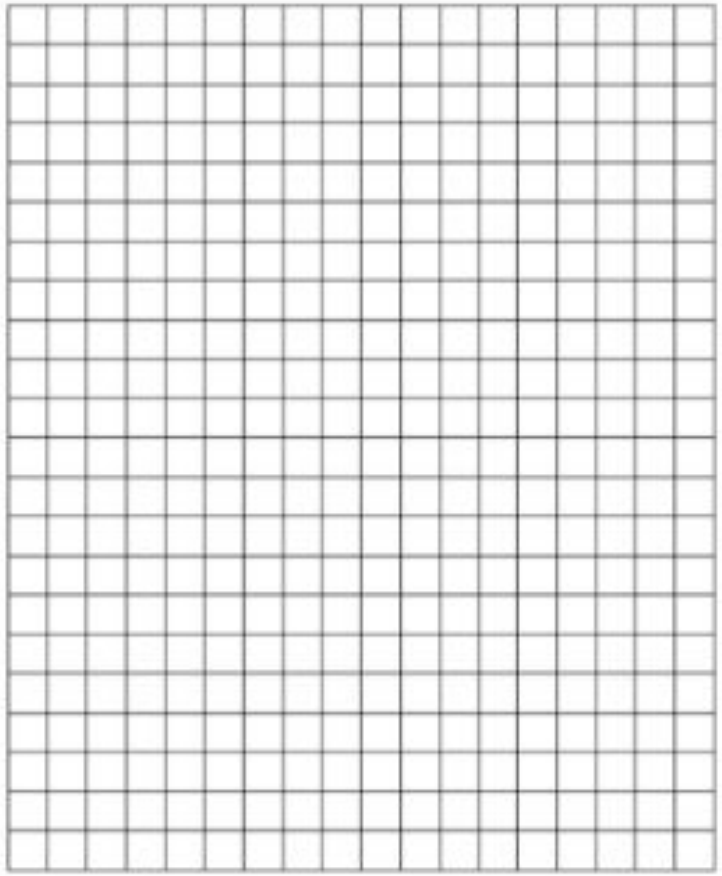
Linear Activities	Quadratic Activities	Exponential Activities
Army Man Parachute Lab	**Stuffed Animal Drop**	**Minecraft Zombies Vs Villagers**
Height Vs Arm Span	Airplane Lab	M & M Lab
Water Drain Lab	Rocket Lab 1	Rice Grain Problem
Laser Pointer Lab 1 (DV)	Angry Birds Lab	Paper Folding
Cheerios Lab	Soccer Ball Kick	
Marbles in a Jar		

Generic Curve Discussion Form

Generic Curve Discussion Form

Table

Graph



Questions:

1) What is the Domain of the situation?

2) What is the Range of the Situation?

3) Is this situation a discrete or continuous situation? Justify.

4) Is the relationship functional? Why?

5) Which curve best describes this relation?

6) What is the regression equation?

7) What are the coefficients of the regression equation?

8) What are the key attributes that are evident in this relation?

9) What do the key attributes mean in the situation?

10) Predict 3 future values in context of the problem.

Image from twitter.com/allthefreebies

Links to Free Resources

Presentation Folder: http://bit.ly/ZombiesNCTM

Generic Curve Discussion Form:
http://bit.ly/GenericDF

Data Collection in Cartoons: http://bit.ly/Datacartoons

Falling Teddy Bear Discussion Form :
http://bit.ly/Fallingbears

Teacher.desmos.com Activities:

Parachuting Army Men

Parachuting Army Men

Parachuting Army Men: 8x8

Parachuting Army Men: 12x12

Questions:

dhenson@esc11.net email

@MinecraftMath Twitter

Now lets Play!!