

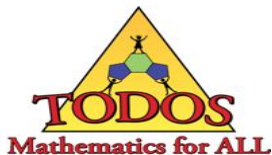
ENGAGING ALL LEARNERS *through* PROJECT BASED SOCIAL JUSTICE MATHEMATICS

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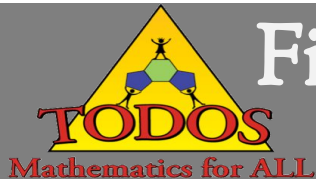
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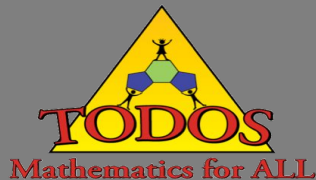
Mathematics for ALL



Five Good Reasons to Become a TODOS Member!

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TODOS 2018 Conference

Save the Date!

Next year!

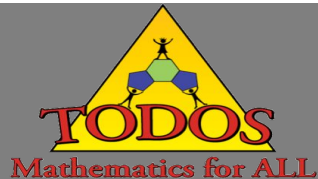
June 21 -23, 2018



It's ALL about ALL Students
Learning Quality Mathematics:
Advocating for Equity and Social Justice

TODOS: Mathematics for ALL

Scottsdale Plaza Resort, Phoenix Metropolitan Area



EXHIBIT

Visit the TODOS Exhibit
Booth 648

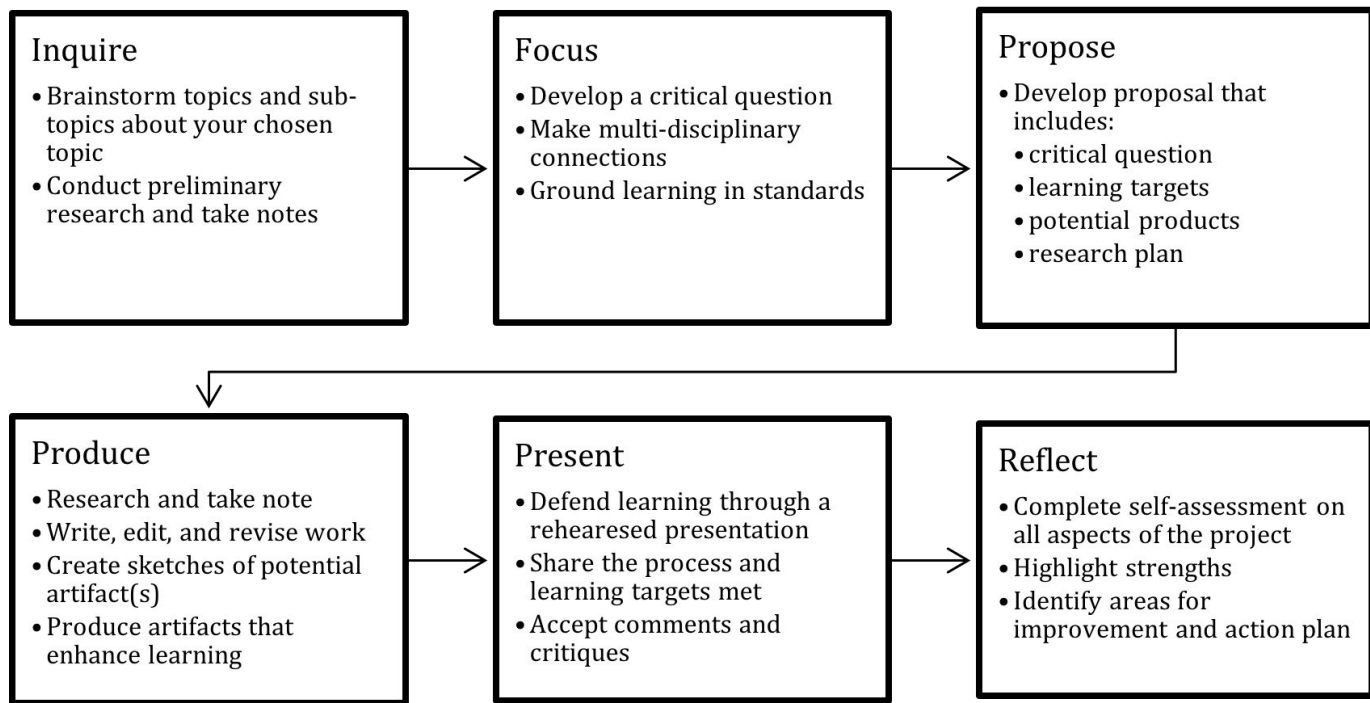
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A day in the life of **LDI**

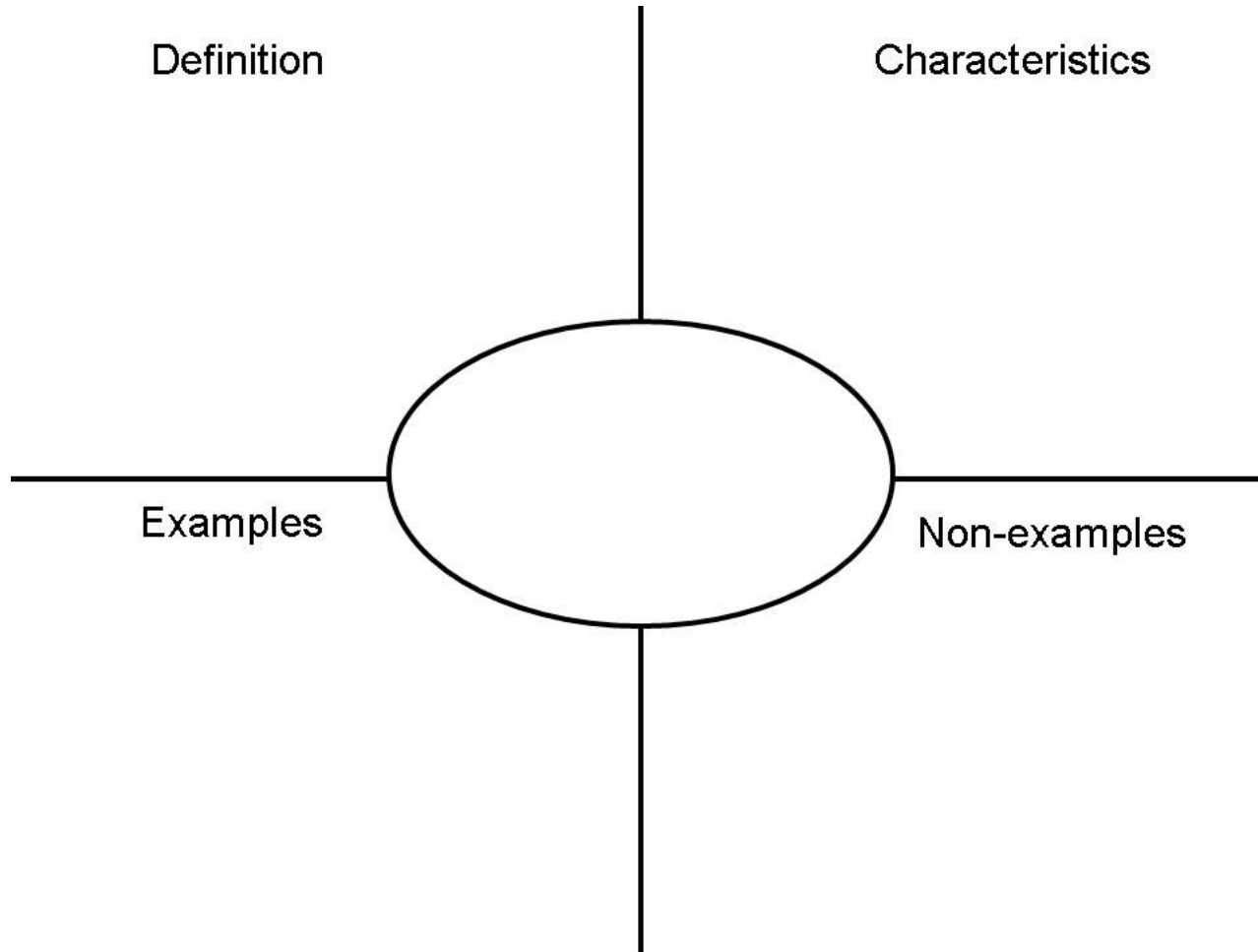




PROJECT-BASED LEARNING



SOCIAL JUSTICE MATHEMATICS



1.

Content Knowledge

- ▷ the standards and practices that align to a school district's mandated curricular standards
- ▷ knowledge that assists students in needed skills for further education as well as life and career opportunities
- ▷ “Classical” knowledge
(Gutstein, 2007)



2.

Critical Inequity

- ▷ coming to an understanding of the historical, social, political, and cultural issues in society
- ▷ knowledge of power and privilege through multiple lenses:
 - ▷ race
 - ▷ class
 - ▷ gender
 - ▷ language
 - ▷ ability
 - ▷ sexual orientation
- ▷ “Critical”
(Gutstein, 2007)





3.

Community Connections

- ▷ the lived experiences students bring into the classroom
- ▷ incorporates cultural knowledge: language, heritage, religion, and other cultural practices
- ▷ includes understanding of power relationships within their local, state, national, and global society
- ▷ “Community”
(Gutstein, 2007)



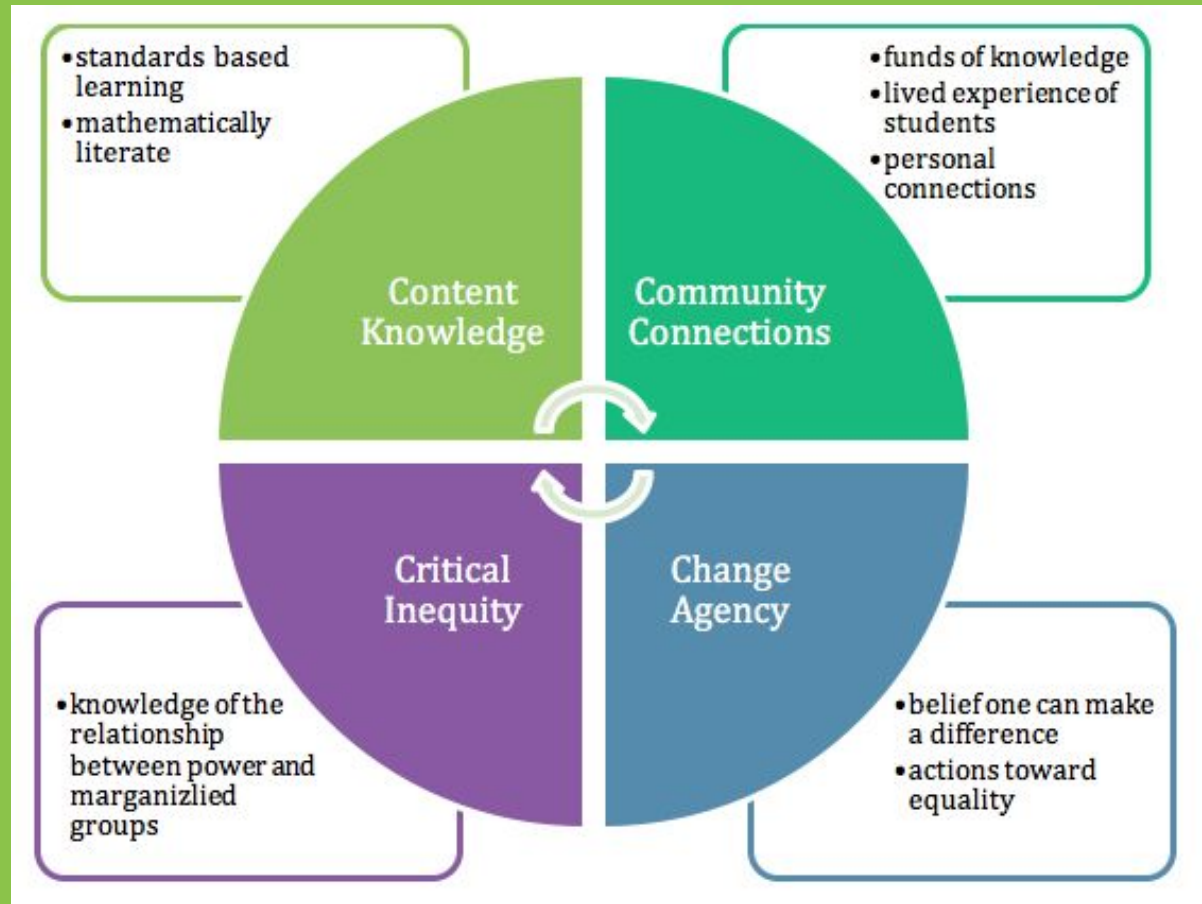
4.

Change Agency

- ▷ understanding one's ability to make a difference in society
- ▷ may grow over time, from a belief one can make a difference to acting upon this knowledge
- ▷ Gutstein did not include this in his framework (2007)



PB-SJM Framework



(adapted from Gutstein, 2007)

“

I can make a difference say, but
you know, I'm just a little kid. I
can't make a whole difference in
this whole entire world. I can sure
enough try.

WEAVING TOGETHER **EQUITY** PRACTICES

- ▶ PB-SJM Framework
- ▶ TODOS & NCSM's Social Justice Position
- ▶ NCTM's Equity Principle

Using these three documents, what common threads do you find? What is the goal of an equitable, social justice mathematics classroom?

COMMON **EQUITY** THREADS

The infographic features a white background with a large, diagonal teal shape on the right side. It contains three data points, each with a large number and a descriptive text below it.

\$100,000,000,000

cost of gang violence per year in US

17%

percent of US population is Hispanic

47%

percent of US gang members are Hispanic

Where did you see the 4 C's?

Content Knowledge	Community Connections
Critical Inequity	Change Agency

PB-SJM IN ACTION: Kala

Inquire

- learned about the GREAT program
- investigated national statistics
- lack of local statistics led to idea to interview local police officer

Focus

- pre-research included gang ethnicity breakdown
- examine difference between the percent of Hispanic people in gangs compared to the US population

Propose

- “I wasn’t hearing much about gang activity and I was wondering why. I want to incorporate numbers because it deepens the learning.”

PB-SJM IN ACTION: Kala

Officer Myers got to meet a family who had two middle school boys that were in the gang, "Crazy Hmong Boys". She was hearing rumors that they were in the gang so she decided to stop over. She said the mom was very nice and the boys were very polite. They taught her gang signs and the two that stood out to her was if you wanted to assault a female police officer and the second one was if kill a police officer. These two stood out because in a way they were protecting her. Sadly, one of them is currently serving jail time at the [REDACTED] Police Department.

Produce

- conducted a 25 min interview with a local, female police officer
- wrote letter to superintendent regarding the GREAT program in schools
- calculated new use of \$100 billion

\$20,000 per year for 4 years = \$80,000

I divided \$100,000,000,000 (100 billion) by \$80,000.

I found that with 100 billion dollars, I could send 1.25 million people to college for 4 years

That could send almost all of the gang members to college for 4 years!



“

Why isn't the **government** just doing this, then? Putting money into **education** and fixing gang problems instead of putting them in jail?

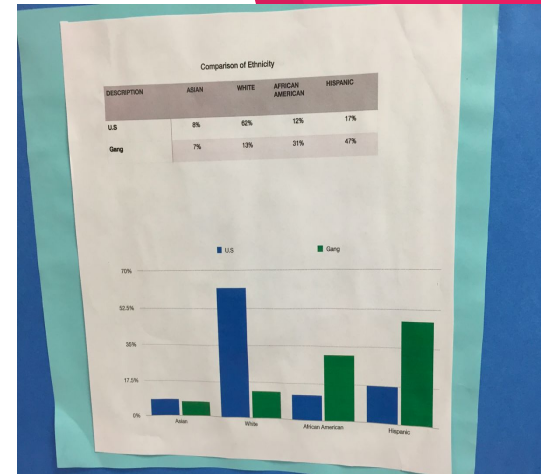
PB-SJM IN ACTION: Kala

Present

- peer asked Kala reasons people join gangs
- Kala's research indicated factors like poverty, immigration, discrimination and social isolation
- "These are really big ideas. Like, I could have done a whole project on just one of the ideas. I couldn't look at all of them."

Reflect

- "I guess with math, even if it was just money, I could transfer that to how much it costs in real life to make a point."



Where did you see the 4 C's?

Content Knowledge	Community Connections
Critical Inequity	Change Agency

APPLICATION

How can I incorporate
Project-Based Social
Justice Mathematics
into my classroom?

THANKS!

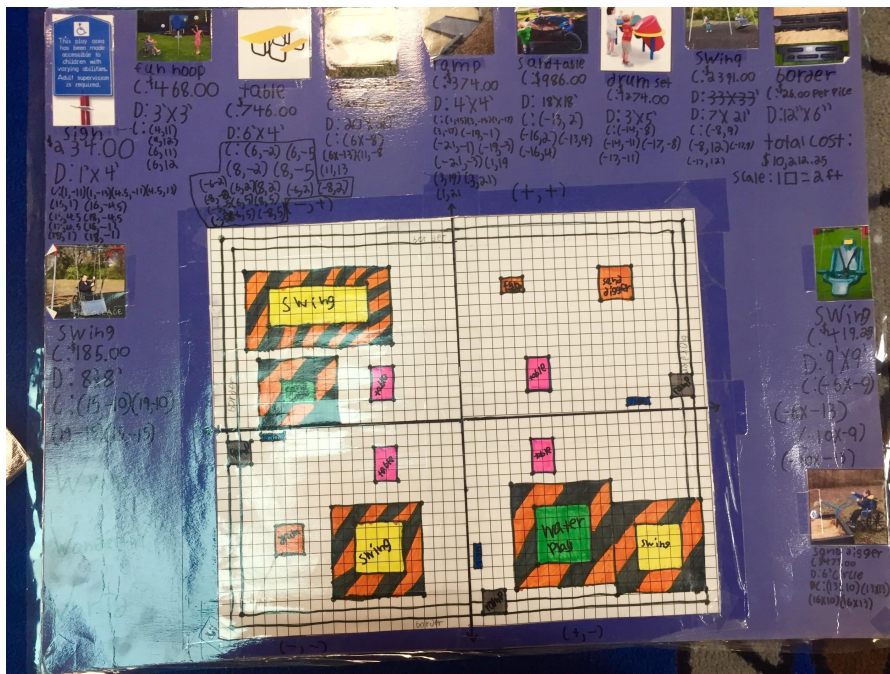
Any questions?

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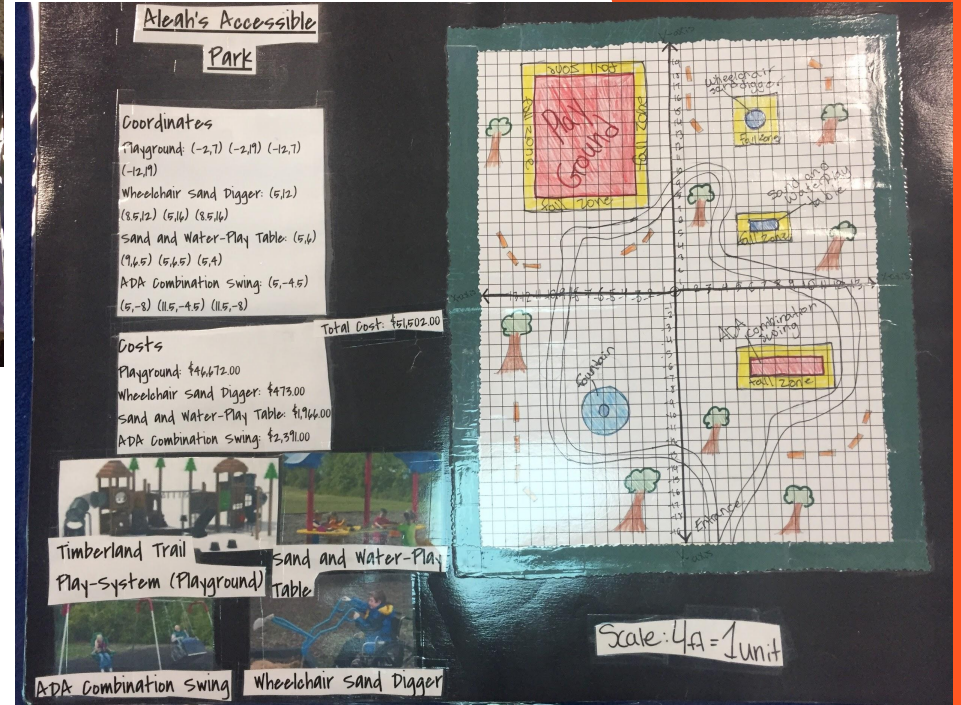
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ACCESSIBLE PLAYGROUND



SOCIAL JUSTICE

RATIO BOOKS

There are about 5,200 more or less students in a HS district.

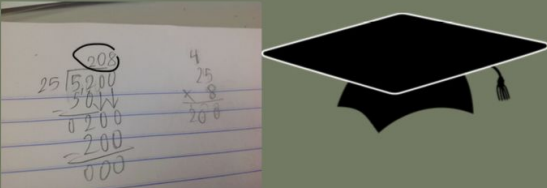
2 out of 25 students in La Crosse do not graduate High School.

That would mean 208 out 5,200 students wouldn't graduate HS.

Multiplicative Relationship

$$\frac{25}{5,200}$$

(This is a part:whole relationship)



FACTS

- 2 OUT OF 25 FOURTH GRADERS IN LAX CAN READ AT A FOURTH GRADE LEVEL AT THE END OF THE YEAR
- 9 OUT OF 25 FOURTH GRADERS IN WISCONSIN CAN READ AT A FOURTH GRADE LEVEL AT THE END OF THE YEAR
- 1 OUT OF 3 FOURTH GRADERS IN THE US CAN READ AT A FOURTH GRADE LEVEL AT THE END OF THE YEAR

$$\begin{array}{r} 2 \overline{) 48} \\ \underline{48} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \overline{) 60} \\ \underline{60} \\ 0 \end{array}$$

Since there are 18 students who can't read at the level they are supposed to we divide by 3 because that's the number of kids who can't. When we divide we get 6 so we multiply 2 by 6 because that's the number of kids who can. Then we get 12 there's your answer.

La Crosse

WISCONSIN

2 Do	36	72
25 Total	450	900

IF I HAVE 450 TOTAL PEOPLE HOW MANY SPEAK A LANGUAGE OTHER THAN ENGLISH?

IF I HAVE 72 PEOPLE WHO SPEAK A LANGUAGE OTHER THAN ENGLISH HOW MANY ARE THERE TOTAL?

437:27 or 437:464

Caucasian: Non-Caucasian

- For every 437 Caucasians in La Crosse there are 27 non-Caucasians. I am part of the minority cuz my mom is white and my dad's black. My nickname is Carmello and I am proud to be African-American and Caucasian.
- As a percent, there are 94.2% Caucasian and 5.8% non-Caucasian. I am part of the 5.8%. As a decimal, that is 0.058. This is a selfie of me, my cousin Rianna, and Ms. McHugh cuz I told you I would make you part of my project. Hehe. I am the only non-Caucasian.



This is me. I'm part of the 4% of people in the world with red hair that is natural not fake.

That is .04 or four hundredths as a decimal.

As a ratio that's 1:25 (part: whole) or 1:24 (part: part).

That means that for every 25 people there is one red head.

It would also be $\frac{1}{25}$ as a fraction.

I think it is awesome to have red hair because I am unique and my hair tells everyone that I am fierce.

SOURCE: PURGATORY.NET



60% of Americans have a single parent.



60%.

0.6

$\frac{3}{5}$.

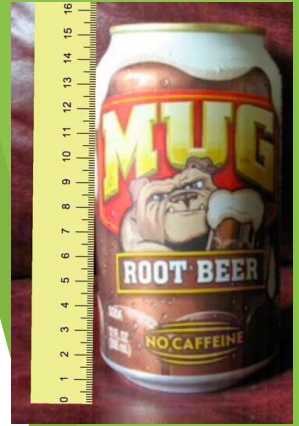
3:5.

3:2

MY LIFE: PART OF THE MINORITY



Pic	Sf	Real
W 5.5	X 19	104
H 3.75	X 19	



CANS FOR KIDS

We had to try and see how many cans could fit inside of this trailer. We only had pictures of the trailer and the picture of the can and a can in front of us.



Navigation icons: back, forward, search, etc.

Slide 3 of 13

00:00:21