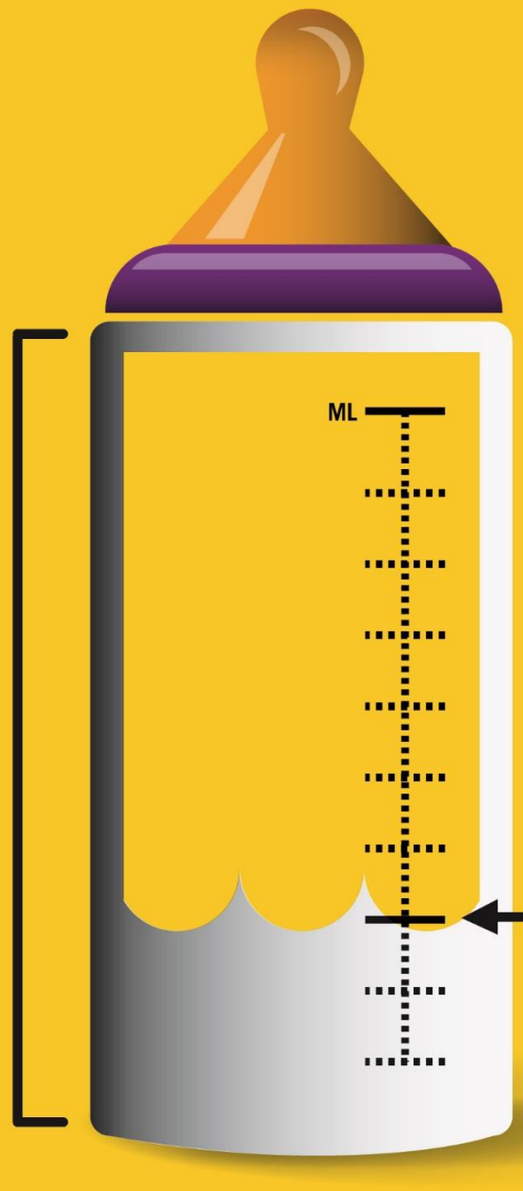
Archbishop John Carroll High School

ROBERT KAPLINSKY

@robertkaplinsky

CHOOSE CAR SEAT:
BY AGE & SIZE

THE NUMBER OF PEOPLE **WHO THINK** THEY HAVE THEIR CHILD IN THE RIGHT SEAT.



THE ONES **WHO ACTUALLY DO.**

KNOW FOR SURE

IF YOUR CHILD IS IN THE RIGHT CAR SEAT.

VISIT SAFERCAR.GOV/THERIGHTSEAT

Ad Council

NHTSA www.nhtsa.gov

Child Car Safety

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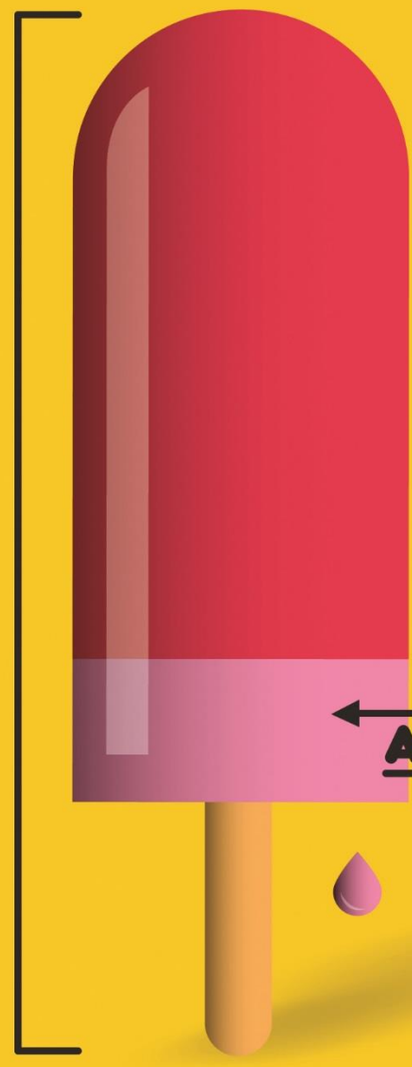

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There are 125 sheep and 5 dogs in a flock. How old is the shepherd?

Of the 32 students I interviewed…

- 75% of them gave me numerical responses
- 2 students calculated the answer to be 130 (125 + 5)
- 2 students calculated the answer to be 120 (125 – 5)
- 12 students calculated the answer to be 25 (125 ÷ 5)
- 0 students calculated the answer to be 625 (125 x 5)
- 4 students stated that they guessed their answer (90, 5, 42, and 50)
- 4 students tried to divide 125 by 5 but could not correctly implement the procedure

Takeaways

- Making sense of mathematics
- Intellectual autonomy
  - Intellectual autonomy is about being able to think for yourself and not being dependent on others for the direction and control of one's thinking.

What Does the NHTSA Say?

Key Statistics and Consumer Insights:

- Motor vehicle crashes are the leading cause of death for children age 1 through 12 years old.[1]

According to a NHTSA study, 3 out of 4 kids are not as secure in the car as they should be because their car seats are not being used correctly.

be reduced by about half if the correct child safety seats were always used.

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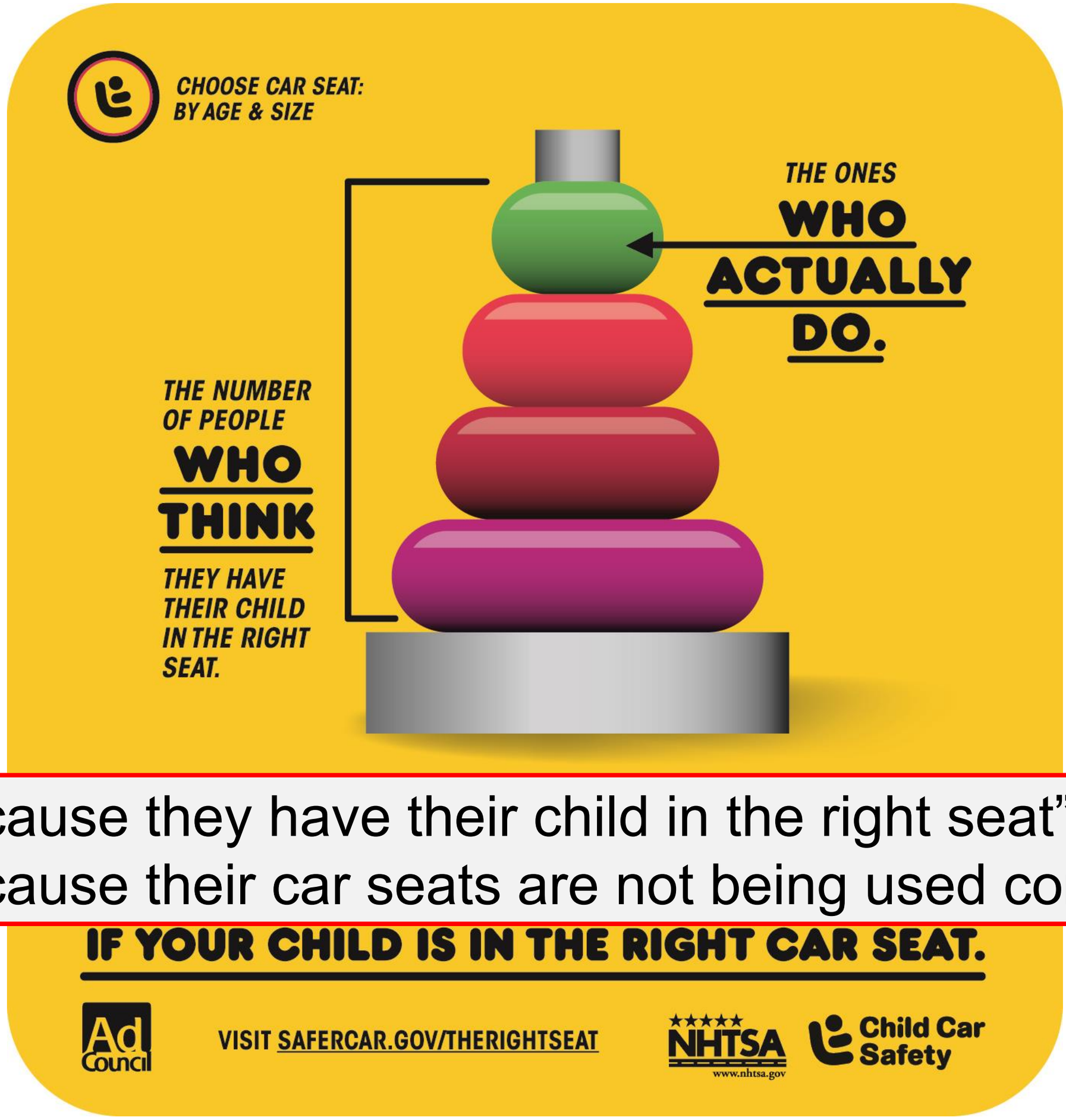
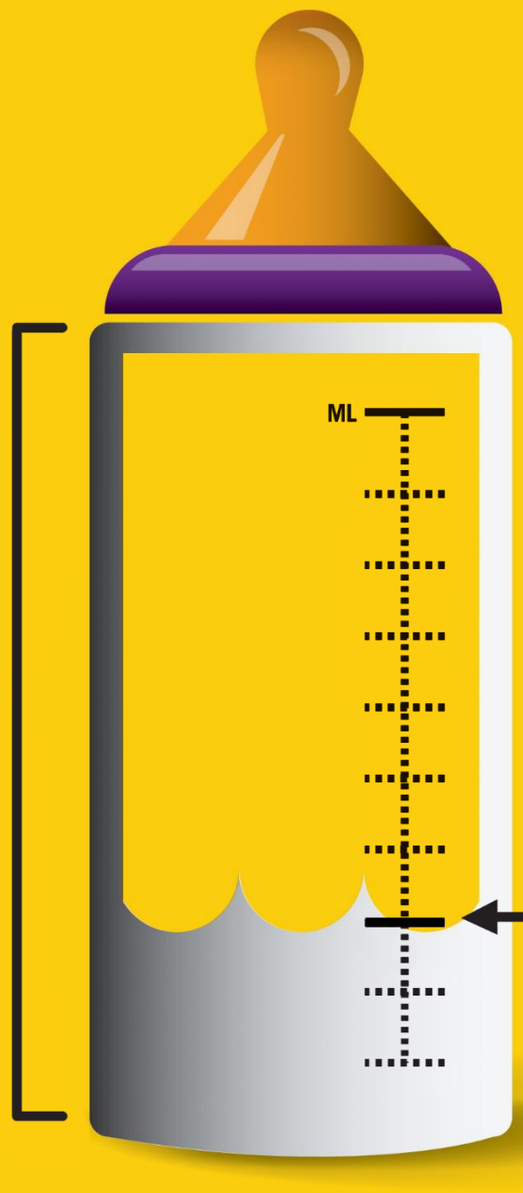
[1] Source: Based on the latest mortality data currently available from the CDC's National Center for Health Statistics.



- “because they have their child in the right seat”
- “because their car seats are not being used correctly”

CHOOSE CAR SEAT:
BY AGE & SIZE

THE NUMBER OF PEOPLE **WHO THINK** THEIR CAR SEATS ARE BEING USED CORRECTLY.



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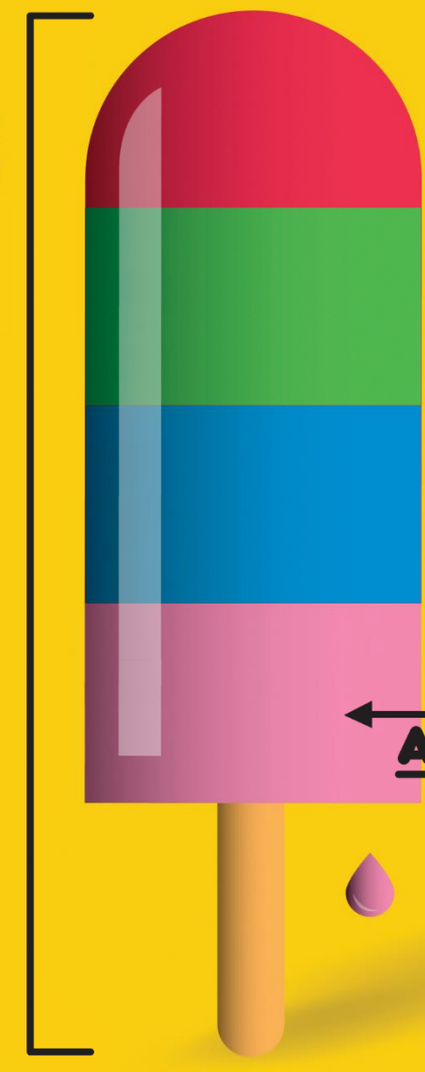

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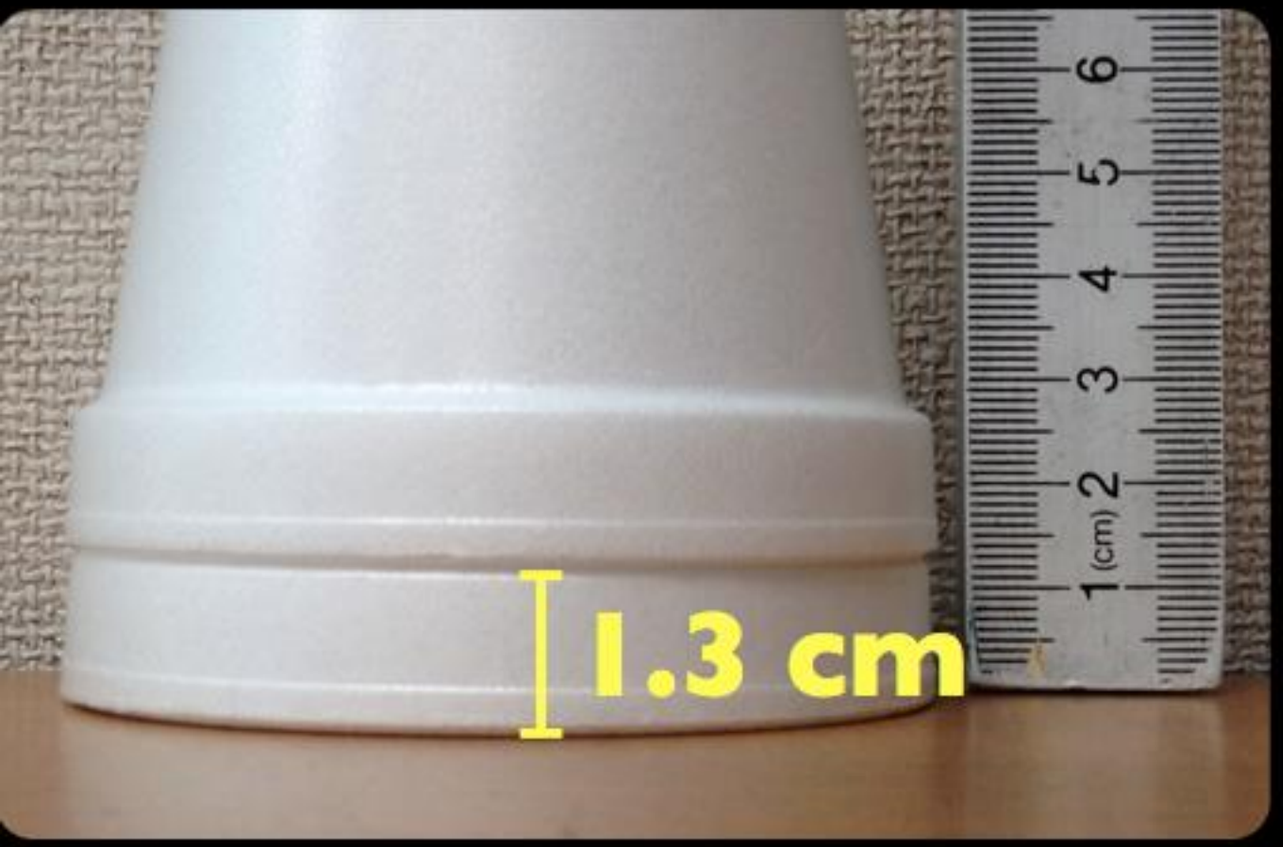
Child Car Safety

How Many Stacked Cups Do You Need?

- "Start by listing in the space the questions you will need to answer in order to tackle the problem.
- Then use your own paper to complete the task.
- Be sure to write down all your data and assumptions.
- Then use graphs, numbers, words, or algebra to explain how you reached your conclusion."

Source: Andrew Stadel – estimation180.com



Source: Andrew Stadel – estimation180.com

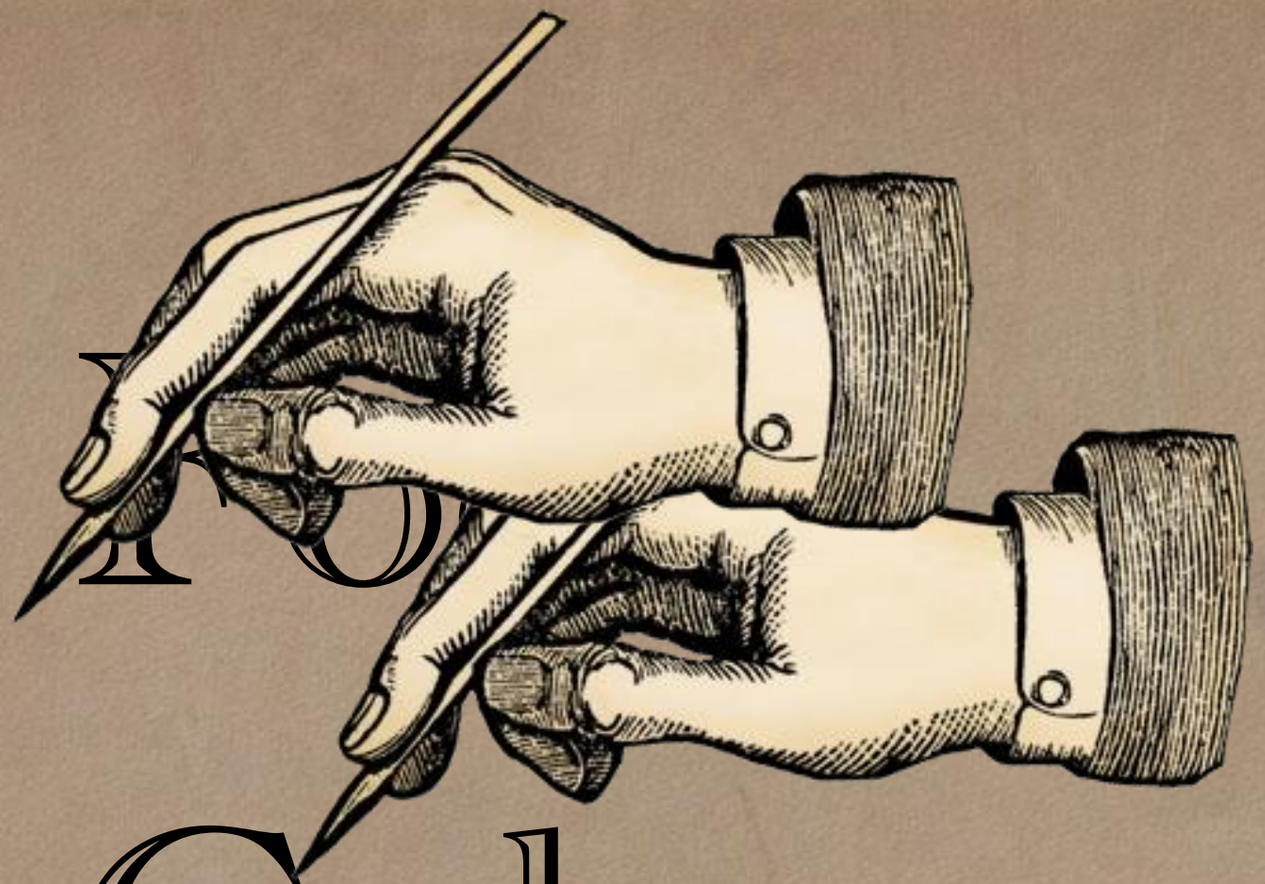
211.8 cm

Source:
Andrew Stadel
estimation180.com

CUPS: 0

Source: Andrew Stadel – estimation180.com

- Focus
- Coherence
- Rigor

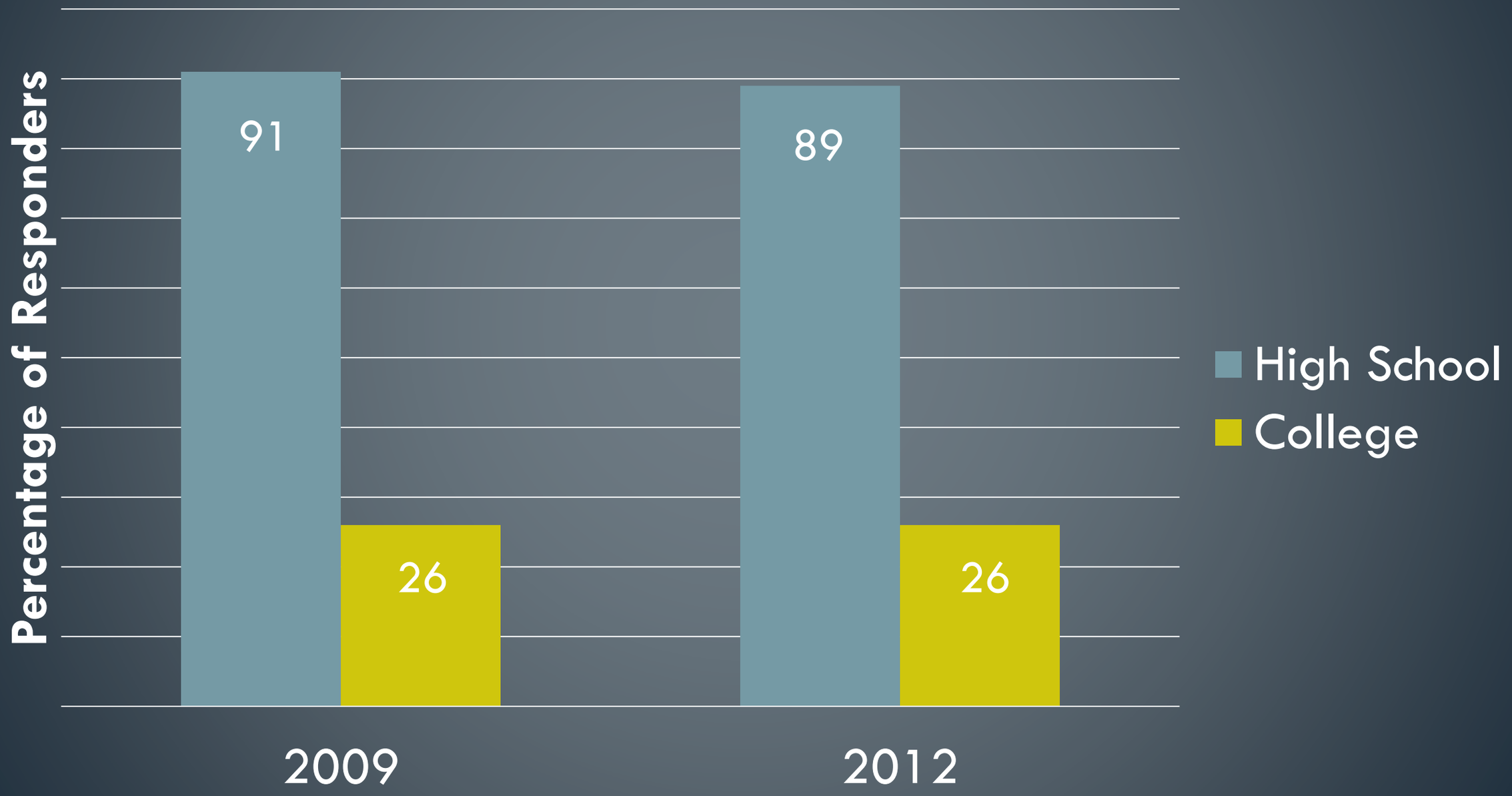


Cups	Height
1	9.2 cm
2	10.5 cm
3	11.8 cm
4	13.1 cm

WHAT IS THE PURPOSE OF A K-12 EDUCATION?

- *College readiness*
  - *ACT National Curriculum Survey*
  - *Surveyed 9,937 educators*

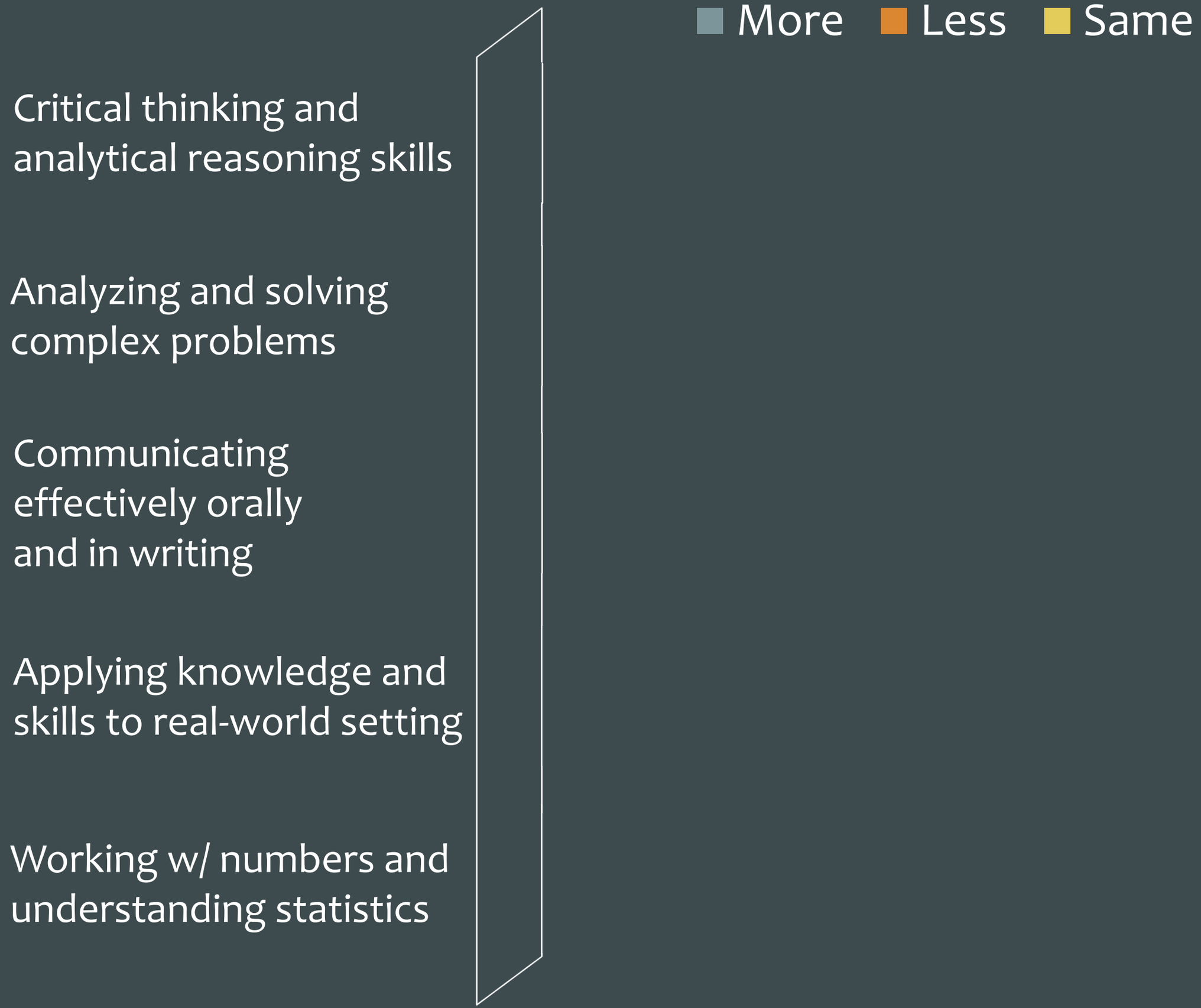
“Well” or “Very Well” Prepared for College



Source: http://www.act.org/research/policymakers/pdf/NCS-PolicySummary2012.pdf

WHAT IS THE PURPOSE OF A K-12 EDUCATION?

- *College readiness*
- *Career readiness*
  - *Association of American Colleges and Universities survey*
    - *Surveyed over 300 employers with at least 25 employees and many new hires*



Source: http://www.aacu.org/leap/documents/2013_EmployerSurvey.pdf

New Student Expectations

ELA, Social Studies, and Tech Subjects

1. Demonstrate independence.
2. Build strong content knowledge.
3. Respond to the varying demands of audience, task, purpose, and discipline.
4. Comprehend as well as critique.
5. Value evidence.
6. Use technology and digital media strategically and capably.
7. Understand other perspectives and cultures.

Science

1. Ask questions (for science) and defining problems (for engineering).
2. Develop and use models.
3. Plan and carry out investigations.
4. Analyze and interpret data.
5. Use mathematics and computational thinking.
6. Construct explanations (for science) and design solutions (for engineering).
7. Engage in argument from evidence.
8. Obtain, evaluate, and communicate information.

Mathematics

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Sources: CCSS ELA student portraits, NGSS practices, CCSS mathematics practice

MATH

M1. Make sense of problems & persevere in solving them.

M2. Reason abstractly & quantitatively.

M7. Look for & make use of structure.

M8. Look for & express regularity in repeated reasoning.

SCIENCE

S1. Ask questions & define Problems.
S3. Plan & carry out Investigations.
S4. Analyze & interpret data.
S6. Construct explanations & design solutions.

S2. Develop and use models.
S5. Use mathematics & computational thinking.
M4. Model with mathematics.
M6. Attend to precision.

E2. Build a strong base of knowledge through content rich texts.
E5. Read, write, and speak grounded in evidence.
M3 and E4. Construct viable arguments & critique reasoning of others.
S7. Engage in argument from evidence.

S8. Obtain, evaluate & communicate Information.

E6. Use technology & digital media strategically & capably
M5. Use appropriate tools strategically

E3. Obtain, synthesize, and report findings clearly and effectively in response to task and purpose.

E1. Demonstrate independence in reading complex texts, and writing and speaking about them.
E7. Come to understand other perspectives & cultures through reading, listening, and collaborations.

ELA

Sources: CCSS ELA student portraits, NGSS practices, CCSS mathematics practice

Adapted from work of Tina Cheuk, Stanford University

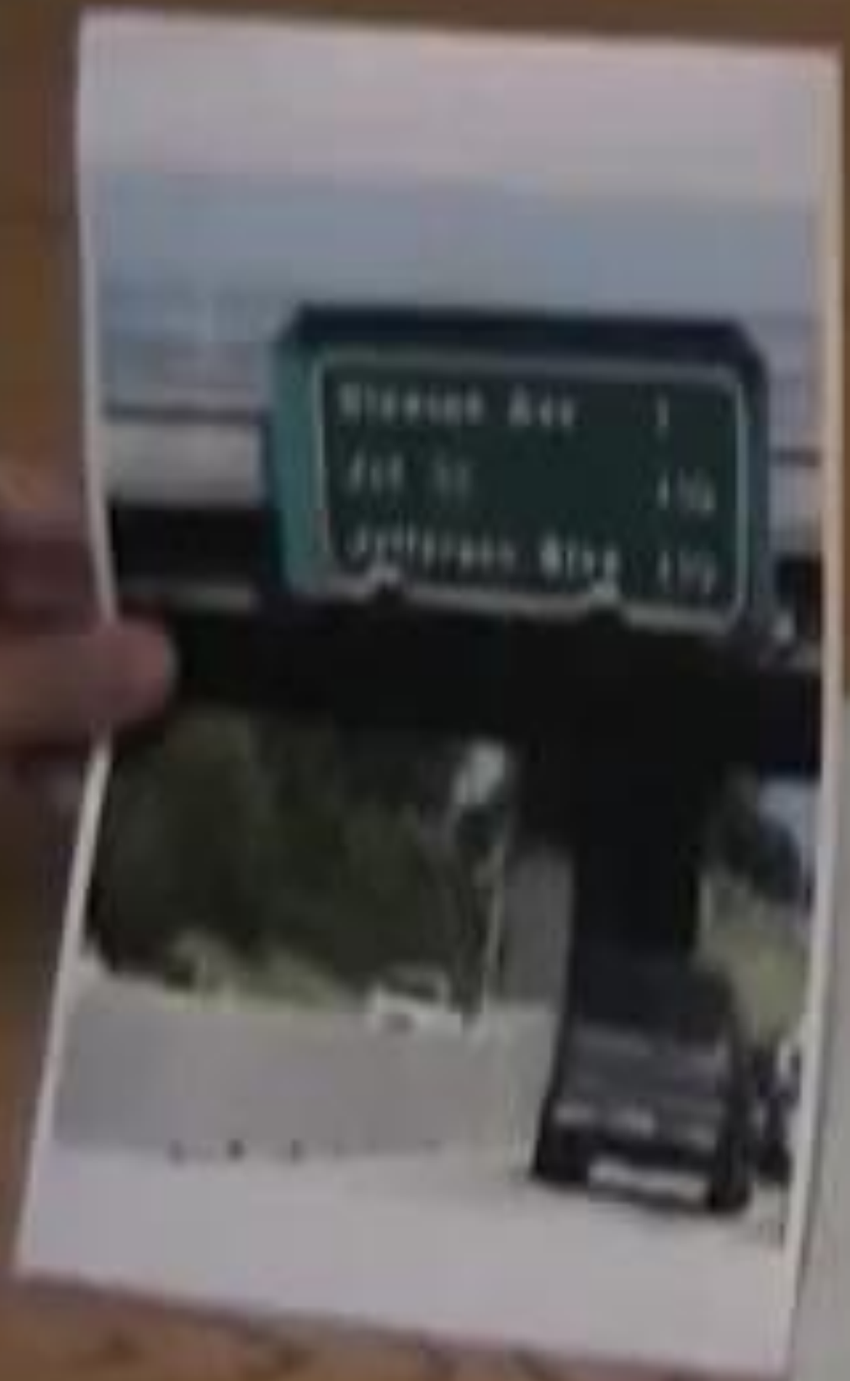
WHAT DOES IT LOOK LIKE…

- when students **can** work with numbers but **cannot**:
  - critically think
  - analyze and solve complex problems
  - applying knowledge and skills to real-world settings

How far apart are the exits on this freeway: Jct 90 and Jefferson Blvd?

$$1 \frac{1}{2} - 1 \frac{1}{4}$$

$$1\frac{1}{2} - 1\frac{1}{4}$$



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