



Introduction for SRO's and Teachers



Today's presentations and
this Power Point are archived at

www.legalsciences.com/about

Massachusetts newspaper article:

Within the first six months after getting
a license, nearly 50% of teen drivers
were involved in an accident.

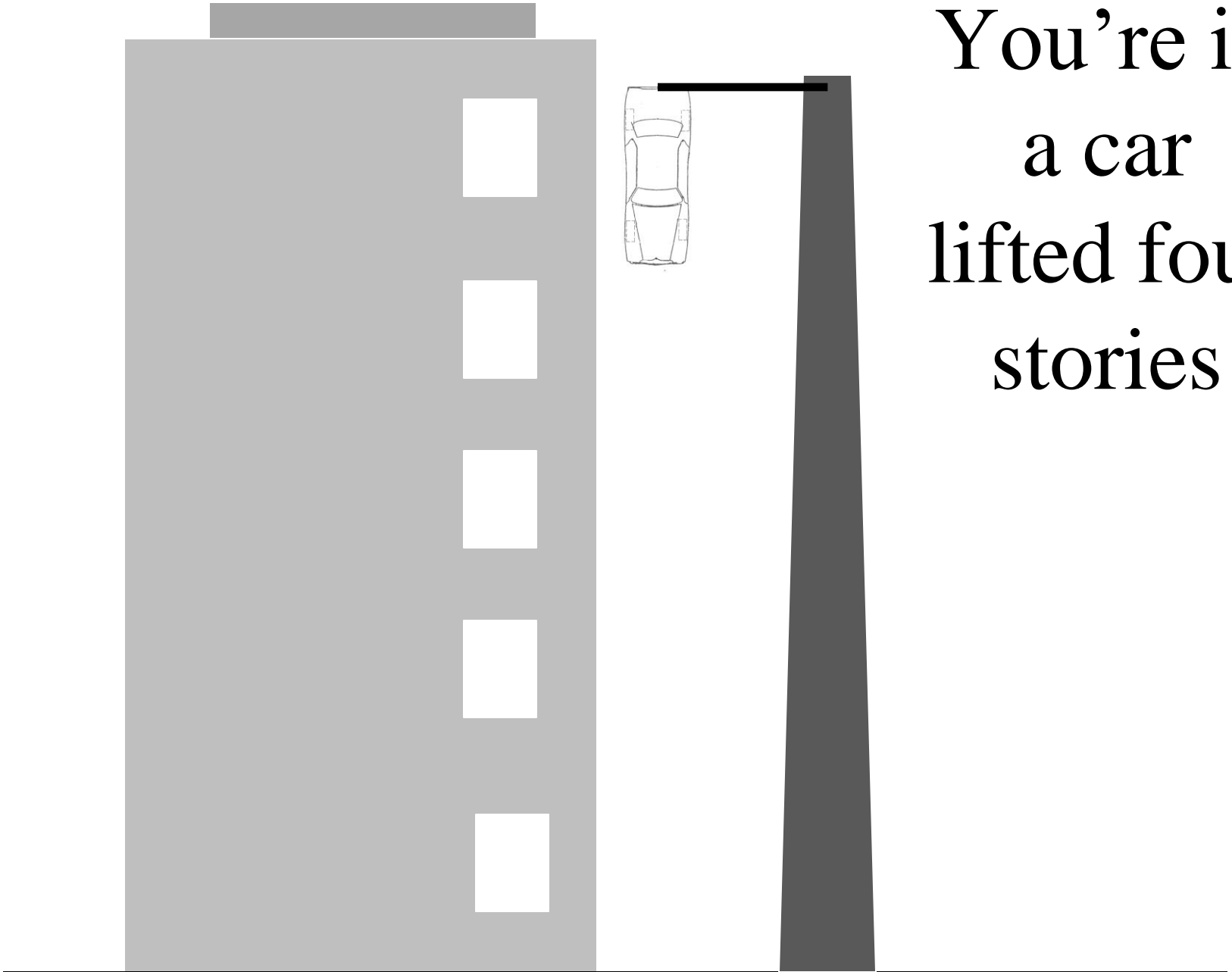
My hypothesis:

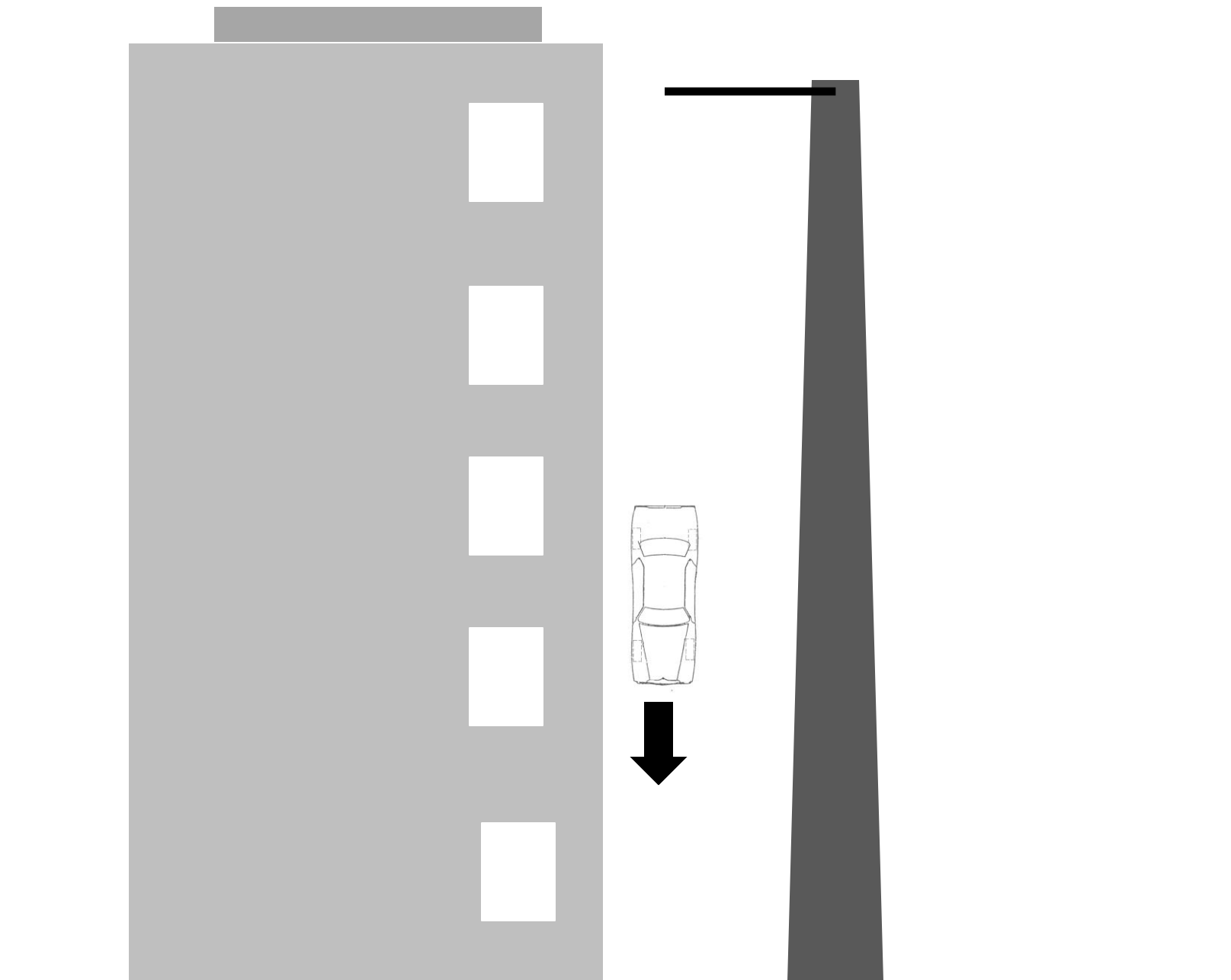
Kids have accidents because
they don't know why
crashes happen.

*If your car is only going 35 mph
you really can't get hurt badly
in an accident.*

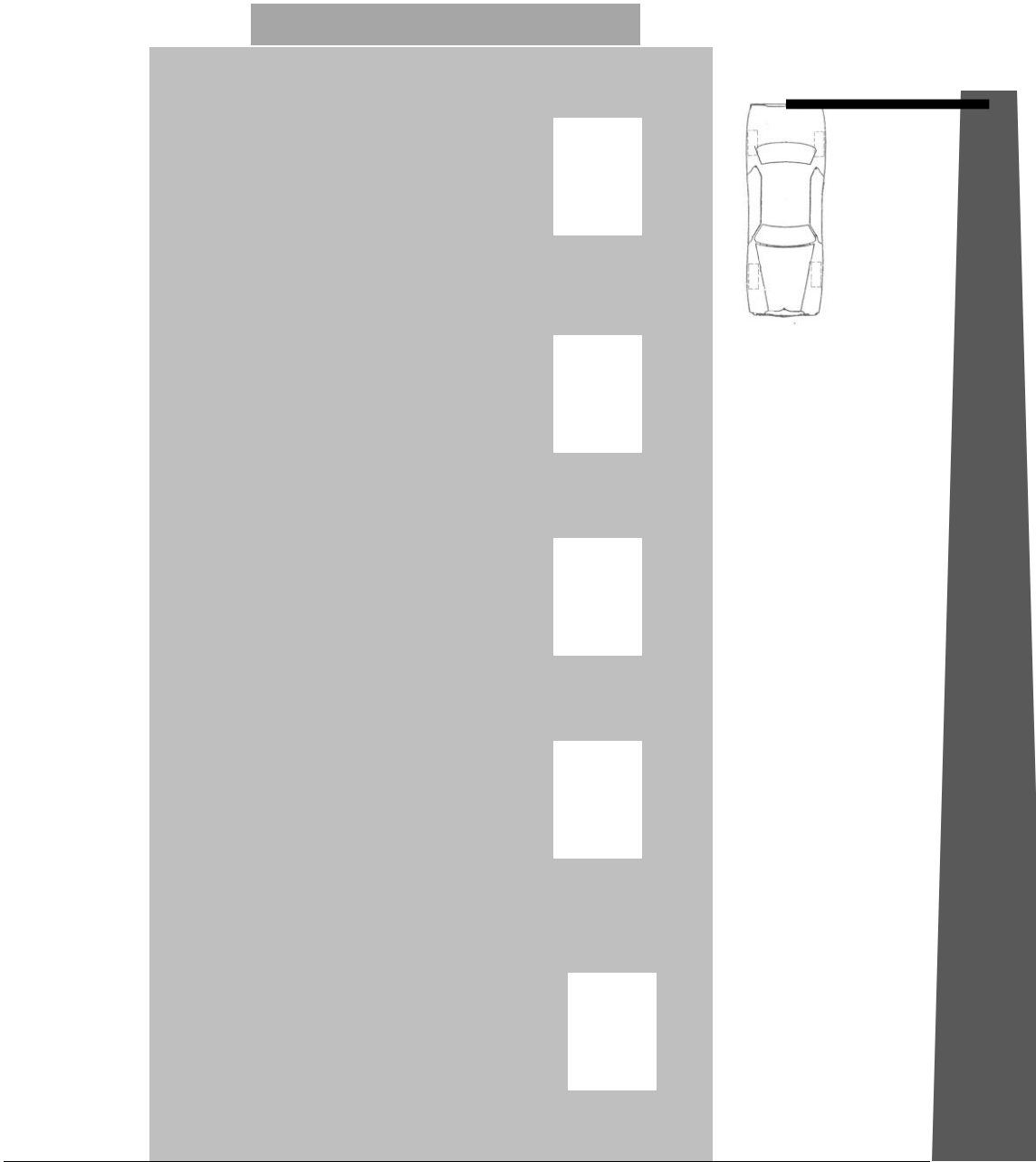
AGREE	76%
DISAGREE	18%
NO OPINION	6%

You're in
a car
lifted four
stories





Would
you wear
your seat
belt?





An impact at 35 mph
is like being dropped
from a four-story building.





Elena Dmitriev

AL
R 18, 1998



Photo by MARC BRE

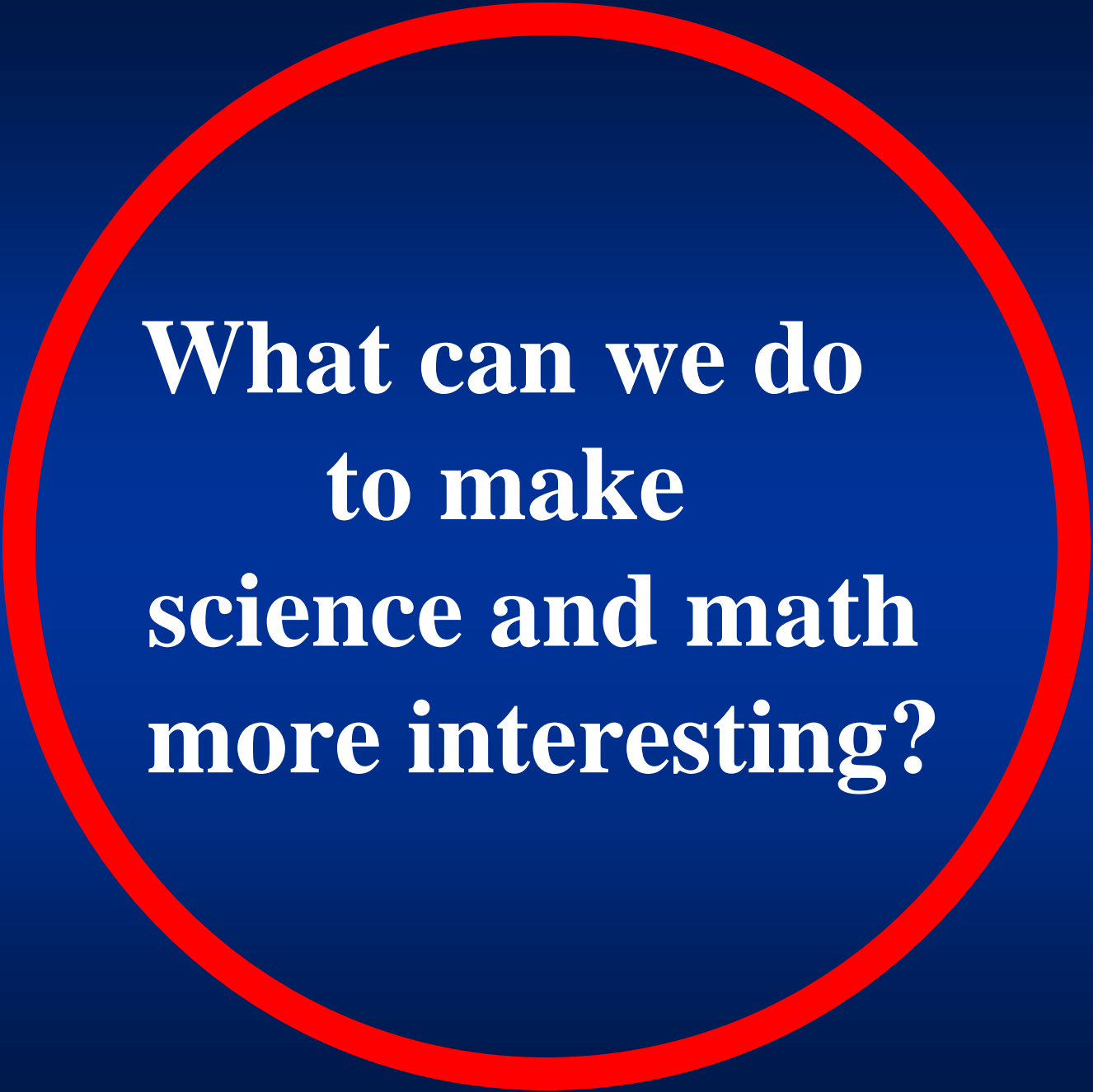
Cabana use the Jaws of Life to help extricate accident victim Elena
er. The teen later died.

ving Ludlow crash

he same ad-
ess, police
id. Lyubov
mitriev suf-
ered minor
cuts and
bruises and
was treated at
the scene.
The two sis-
ters were the
only occupants
of the 1994 Mitsubishi when it
went off Rood Street, jumped the
curb, smashed through a chain
link fence and hit a tree head on,
police said. The accident occurred
around 11:30 p.m.
Police and firefighters used the
Jaws of Life to remove Elena Dmi-
triev from the vehicle.
Elena Dmitriev was taken by
ambulance to Baystate Medical
Center's Emergency Room, where
she was diagnosed with head inju-
ries. She died shortly after 1 p.m.
The Massachusetts Acci-
dent Reconstruction Unit has been
called in to investigate.
Elena Dmitriev was a sopho-
more at Ludlow High School. Her
brother, Lyubov Dmitriev, graduated last May
from Ludlow High School. Principal
James D. Cavallo said both sisters
were quiet students, but they were
not afraid to speak out about what
they think.



**What can we do
to help new
drivers be safer ?**



**What can we do
to make
science and math
more interesting?**



Science and Math
resources for grades 8 -12

CRASH! addresses two problems:

- Automobile crashes are the leading cause of death for teenagers (70 % +)
- Many kids are turned off to science and math by the time they are high school seniors
(As a country, the US ranks 25th in math and science)

handout

Education Ranking by Country 2020

<https://worldpopulationreview.com/country-rankings/education-rankings-by-country>

Country	Total Score	Reading	Math	Science
China	1731	556	600	575
Hong Kong	1637	533	555	549
Finland	1631	536	541	554
Singapore	1630	526	562	542
South Korea	1623	539	486	538
Japan	1588	520	529	539
Canada	1580	524	527	529
New Zealand	1572	521	519	532
Taiwan	1558	495	543	520
Netherlands	1556	508	526	522
Australia	1556	515	514	527
Liechtenstein	1555	499	536	520
Switzerland	1552	501	534	517
Estonia	1541	501	512	528
Germany	1530	497	513	520
Belgium	1528	506	515	507
Macau	1523	487	525	511
Iceland	1503	500	507	496
Poland	1503	500	495	508
Norway	1501	503	498	500
United King.	1500	494	492	514
Denmark	1497	495	503	499
Slovenia	1496	483	503	512
Ireland	1491	496	501	508
France	1491	496	487	498
United States	1489	500	497	487 (25th)
Hungary	1487	494	490	502 (23rd)

handout p.1

How much time does it take?



does *not* require any
additional time



is *not* a structured program
or module (like D.A.R.E.)



is used with existing lessons



is a collection of
teaching resources...



that make science and math
more interesting

physics

science

health studies

biology

math

driver's ed

Memo

Kansas City, Missouri

St. Teresa's Academy

To: Judy Downey, MetLife
From: Jessie Thompson
Re: CRASH! The Science of Collisions Materials

I have been teaching physics at St. Teresa's Academy in Kansas City, Missouri, for the past ten years. One of my goals is to make physics exciting and interesting for my students. This past year I began using activities from CRASH! to teach many of the scientific principles I already cover in my curriculum. I did not change my curriculum to include these CRASH! activities; I simply used CRASH! materials in place of text or lab book exercises. CRASH! provides students with a powerful connection between science and real-life situations. Also through our discussion students became more aware of the importance of safe driving practices. Students enjoyed the learning process and were truly engaged in the CRASH! activities.

David Beier, a 6th grade teacher in Lee's Summit, Mo has used several CRASH! activities and says:

"The CRASH! kit is full of materials that are a perfect supplement to many of my classes. I have used about six of the activities in my sixth-grade science classes, and I love that I can use the activities as assessments of what my students have been learning. The CRASH program is a tremendous way for me to keep my science classes interesting and vibrant. My students end up on a collision course with learning."

I truly believe that the CRASH! materials are an excellent addition to my Physics and Physical Science classrooms. The materials are easy to incorporate into an already existing curriculum and should not require any changes to a schools' existing curriculum. I applaud MetLife for its commitment to improve and enhance students' learning in the classroom. At the same time CRASH! activities will raise students' awareness of the importance of driving safely and wearing seat belts as well as the consequences of accidents and collisions.

handout p.2

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David Beier, a 6th grade

CRASH!

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handout p.2

Memo

Kansas City, Missouri

handout p.2

St. Te Academy

To:
From:
Re:

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more aware
learning process and work

David Beier,
CRASH! activities

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WHAT DO TEACHERS SAY

“Through these interesting, hands-on activities, students learn science principles without even realizing it !”

Arthur Gage, physics teacher

video @ www.legalsciences.com/crash/

“*CRASH!* shows kids how science and math relate to real life, and they get excited about learning.”

Maryanne Butler, CT Science Supervisor

video @ www.legalsciences.com/crash/

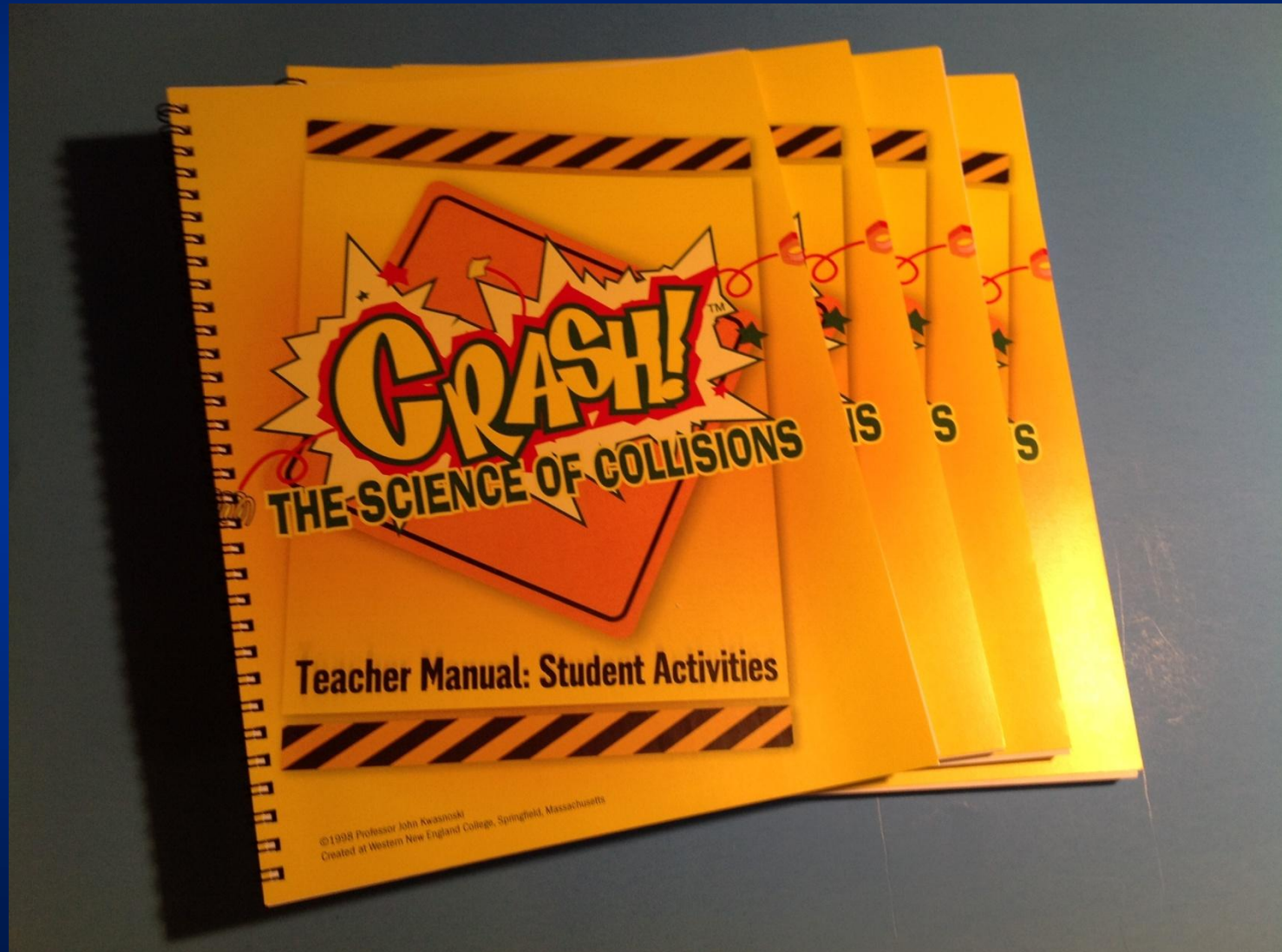
“Three kids got to sit in the police car and the officer did an emergency stop with the tires screeching. They were going crazy in the back seat. They couldn’t wait to take the measurements.”

Officer Robert Wilde
North Providence, R.I. PD

FEEDBACK FROM TEACHERS and STUDENTS

handout p. 3

Where do you start?

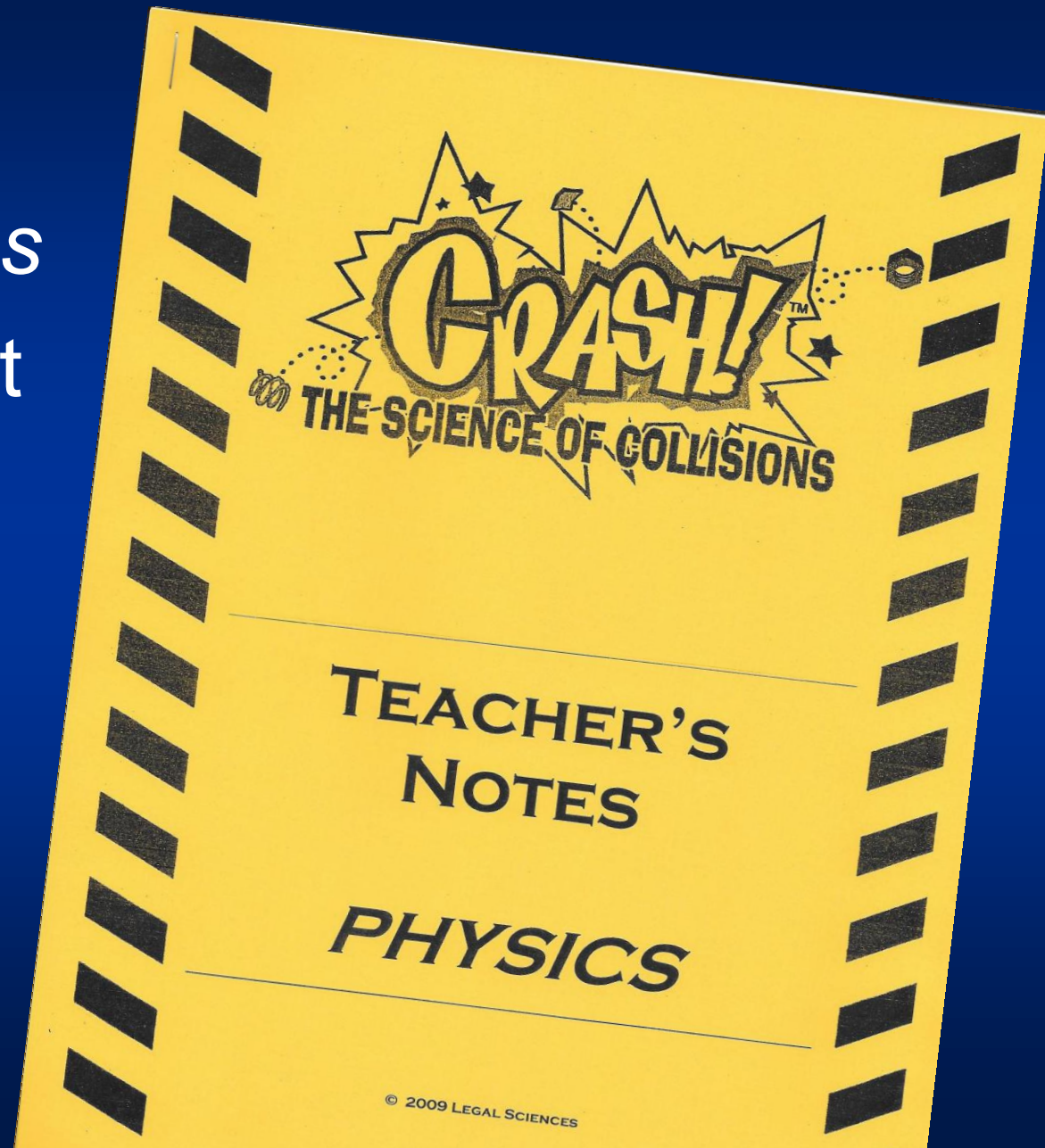


Each Teacher's
Manual has a
table of contents.

Science Manual,
p.4

Page	CRASH ACTIVITIES-SCIENCE	NEWTON'S LAWS	PROPERTIES OF MATERIALS	ENERGY	CSI	PERCEPTION - REACTION TIME	LINEAR MOTION	STATISTICS
5	Examining Lamps for ON/OFF at Impact	●	●					
11	Investigating a Motor Vehicle Homicide Case				●			
14	Was It Safe to Cross?					●	●	●
17	Driver Perception-reaction Time					●	●	●
24	Distractions Can Be Deadly!					●	●	●
27	Skateboards and Cars Don't Mix					●	●	●
30	People Can't Fly!			●				
32	Vehicle Kinematics	●						
38	Does Speeding Really Save Time?						●	

There are
Teacher's Notes
for each subject

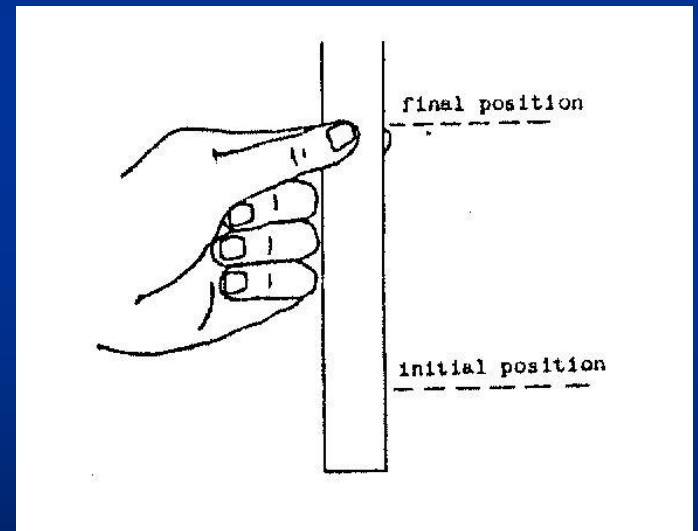


Sample activities

The CRASH! activities easily
adapt to *remote learning*.

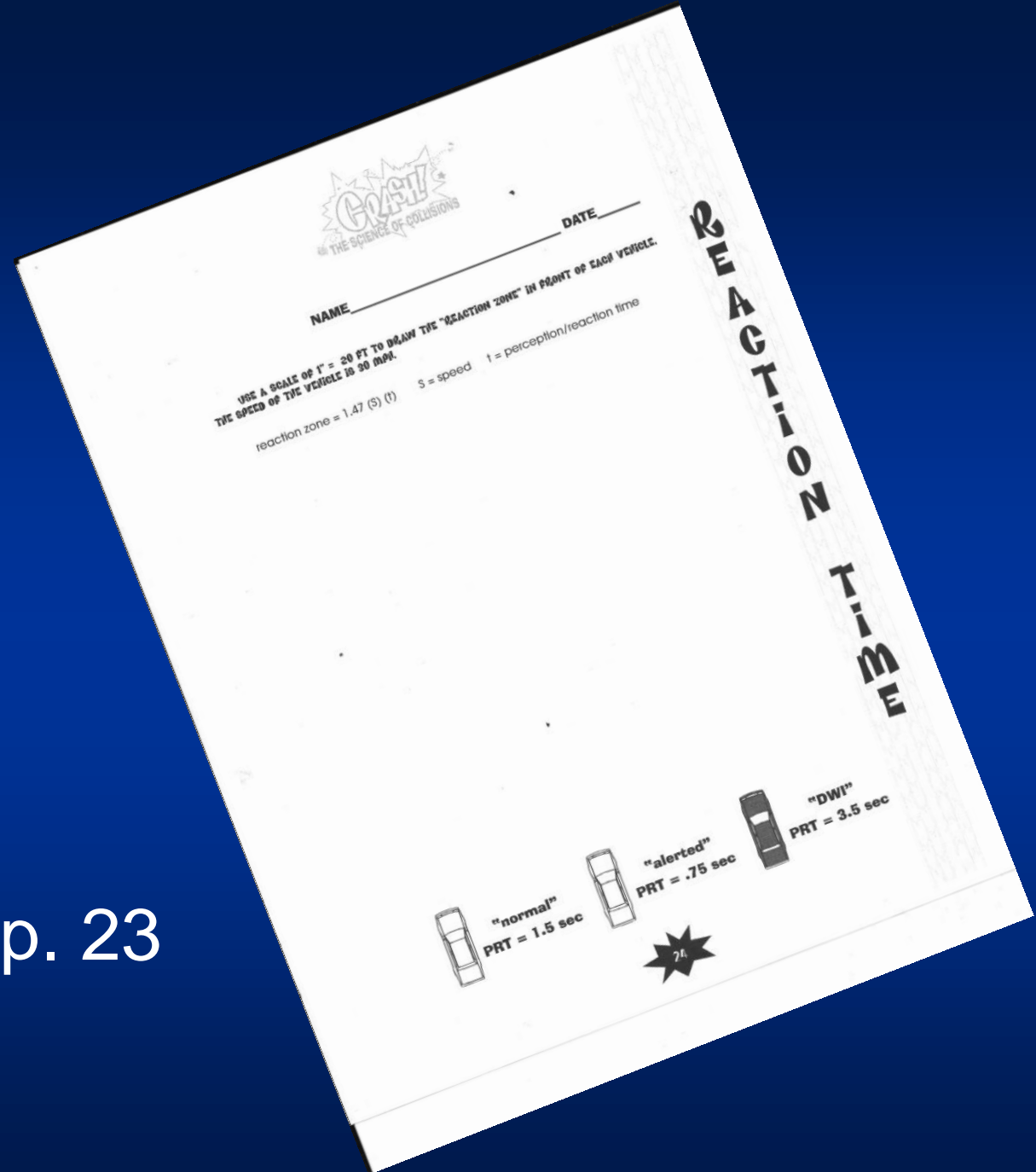
science activity:

Making a “chronoscope” to measure perception-reaction time

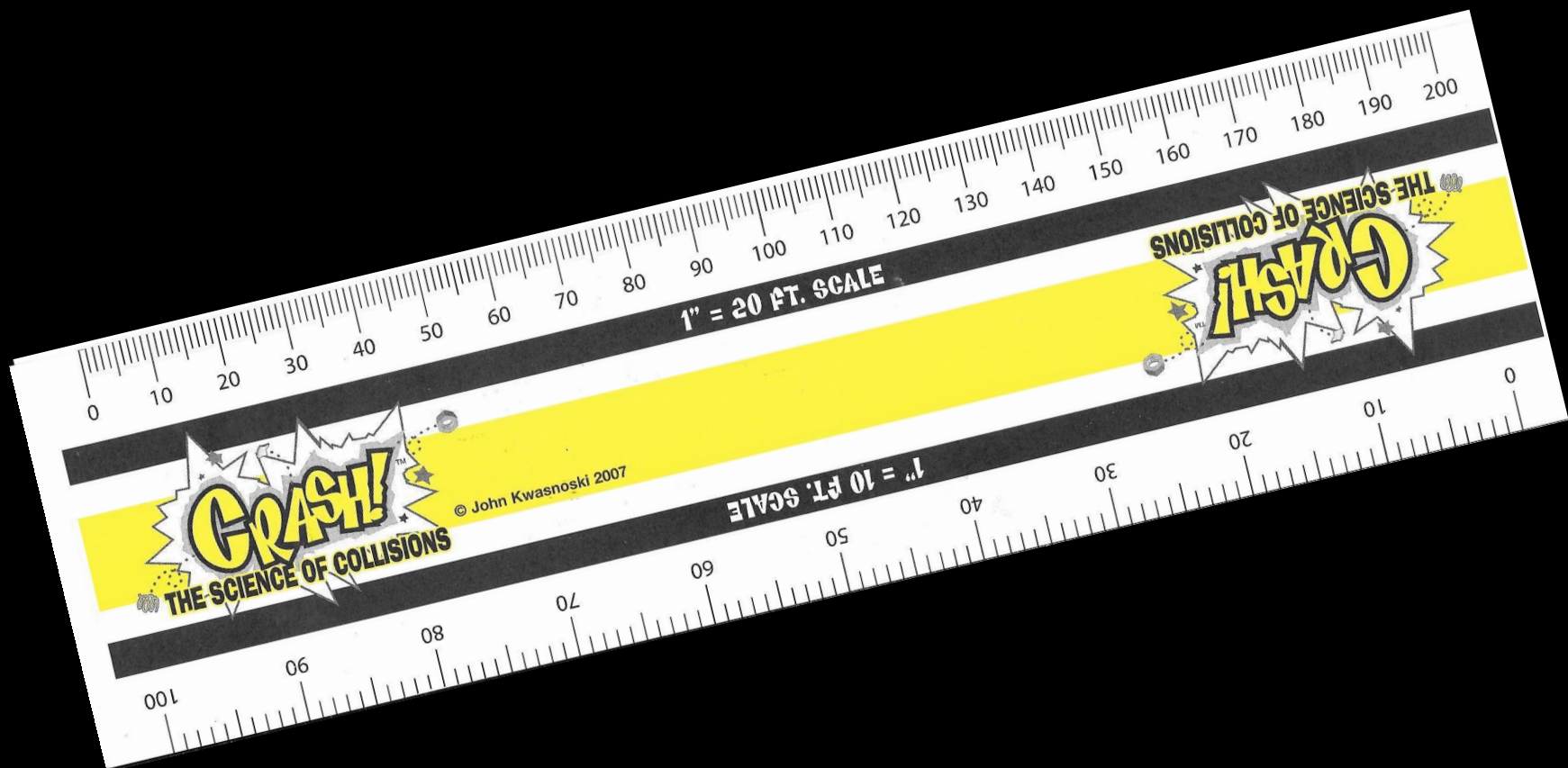


Science Manual, p. 17

Science Manual, p. 23



$$\text{reaction distance} = 1.47 \text{ S t}$$





NAME _____ DATE _____

USE A SCALE OF 1" = 20 FT TO DRAW THE "REACTION ZONE" IN FRONT OF EACH VEHICLE.
THE SPEED OF THE VEHICLE IS 30 MPH.

reaction zone = 1.47 (S) (t) S = speed t = perception reaction time

OUTSIDE demonstration?



"normal"
PRT = 1.5 sec



"alerted"
PRT = .75 sec



"DWI"
PRT = 3.5 sec



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M
E

There are 12 alcohol-impaired
driving activities...

**STOP DWI funding can be
used to purchase CRASH!**

3 DVD's

are included in the CRASH! Toolbox

(Impaired Driver Testing, Sheridan Animation, Crash Testing)

3 CD's

are included in the CRASH! Toolbox\

(The INVESTIGATOR, BACSim, Resources CD)

Resources CD

is a backup, with
all police reports, forensic photos,
videos, and computer softwares

The message for law enforcement:

CRASH! saves kids' lives!

Remember my hypothesis:

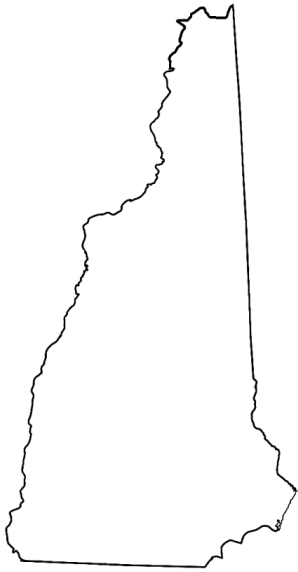
Kids have accidents
because they don't know
why crashes happen.



tells them why!

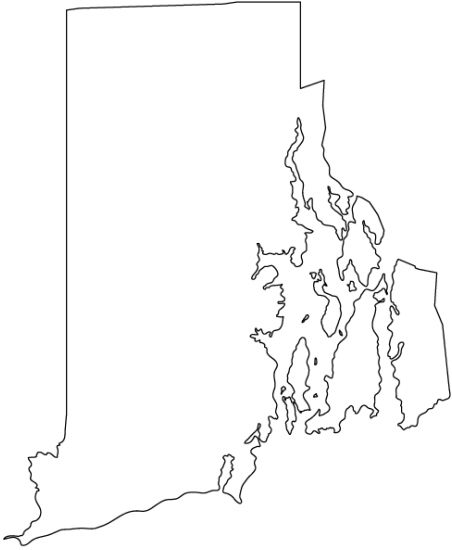
HOW DO WE
KNOW ***CRASH!***
WORKS?





Funded by GOHS in NH
and MetLife in RI

CRASH! was used for one
full year and...



teen deaths went

down by 25%



tells them why!

www.legalsciences.com/crash!/

The message for teachers:

CRASH! *motivates* kids
using real applications
of math and science



- aligns with NY state learning guidelines and supports mandated testing
- is used within existing lessons (no new topics are introduced)
- no special teacher training is needed
- ***no additional time is required***

*[www.legalsciences.com/crash!/
CRASH!](http://www.legalsciences.com/crash!/)*

CRASH! overview video (2 min.)

[www.legalsciences.com/crash!//](http://www.legalsciences.com/crash!/)

What they say video (2 min.)
(students and teachers)

[www.legalsciences.com/crash!/*!*](http://www.legalsciences.com/crash!/)

List of activities – *handout and online*

[www.legalsciences.com/crash!/*!*](http://www.legalsciences.com/crash!/)

FAQ's – *handout and online*

[www.legalsciences.com/crash!/*!*](http://www.legalsciences.com/crash!/)

Sheriff's letter – *handout and online*

www.legalsciences.com/crash!/

Today's presentations – video



Chief Reggie Redfern, Past President
New England Assoc. of Chiefs of Police

“When a young driver is
killed, the whole
community grieves...

now we can do something

before it happens.”

Questions?

www.legalsciences.com/crash!/

Do we need a CRASH! kit
for each school?

Yes. If both a senior and junior
high school want to use
CRASH! each school should
have a CRASH! kit.

Can more than one teacher
use the CRASH! kit
at the same time?

Yes, Each teacher can print a
teacher's Manual and other
materials from
the Resources disc.

How long does
the CRASH! kit last?

Nothing in the CRASH! kit is
consumable. All materials can
be printed from the Resources
disc.

What do we do if we
lose a video or software?

Make another from
the Resources disc.

kwasnoski@aol.com

www.legalsciences.com/CRASH!