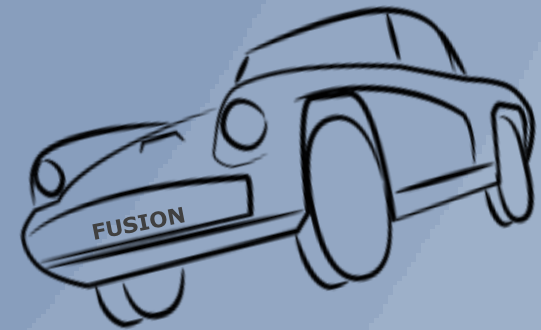




# SPEED LIMITS: JUST A SUGGESTION?



A Glimpse into IMSA FUSION

# IMSA FUSION

School-based program

Inquiry based, integrated math & science

Grades 4-5 and 6-8

- Units developed at IMSA
- Teachers participate in professional development & receive materials
- 2 units, 64 contact hours
- Implement program at schools

# IMSA FUSION Goals

Maintain & increase student interest, involvement & literacy in science & mathematics;

Enhance the knowledge & skills of teachers in science & mathematics;

- Stimulate excellence in schools' science & mathematics programs across Illinois;
- Help increase access to programming for students who are historically underrepresented in mathematics and science or in areas of the state that are under-resourced.

# Decision



# Let's Get Started



- What do you know about the speed of objects?
- How would you know (or your parents) what speed to drive?
- What does that mean?

# Tasks (TP & Chair)

Driver: Push the vehicle

TP Handlers: Unroll TP without ripping or twisting

Passenger: Drops the paper on command

- ❑ Timer: “Drop,” every 2 seconds
- ❑ Accuracy Team: Watches drops, Moves paper to original position
- ❑ Everyone: Measurement, Recording



# Tasks (Bean Bags)

All: Unwind & secure tape measure to floor

Passenger: Drops the paper on command

- Timer: “Drop,” every 2 seconds
- Accuracy Team: Watches drops, Moves bean bags to original positions
- Everyone: Measurement, Recording



# Data (TP & Chair)

SPEED LIMITS DATA TABLE			
Formula for Speed	Speed = Distance ÷ Time		
Group	Length of Toilet Paper	Time	Speed
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
Average Speed			

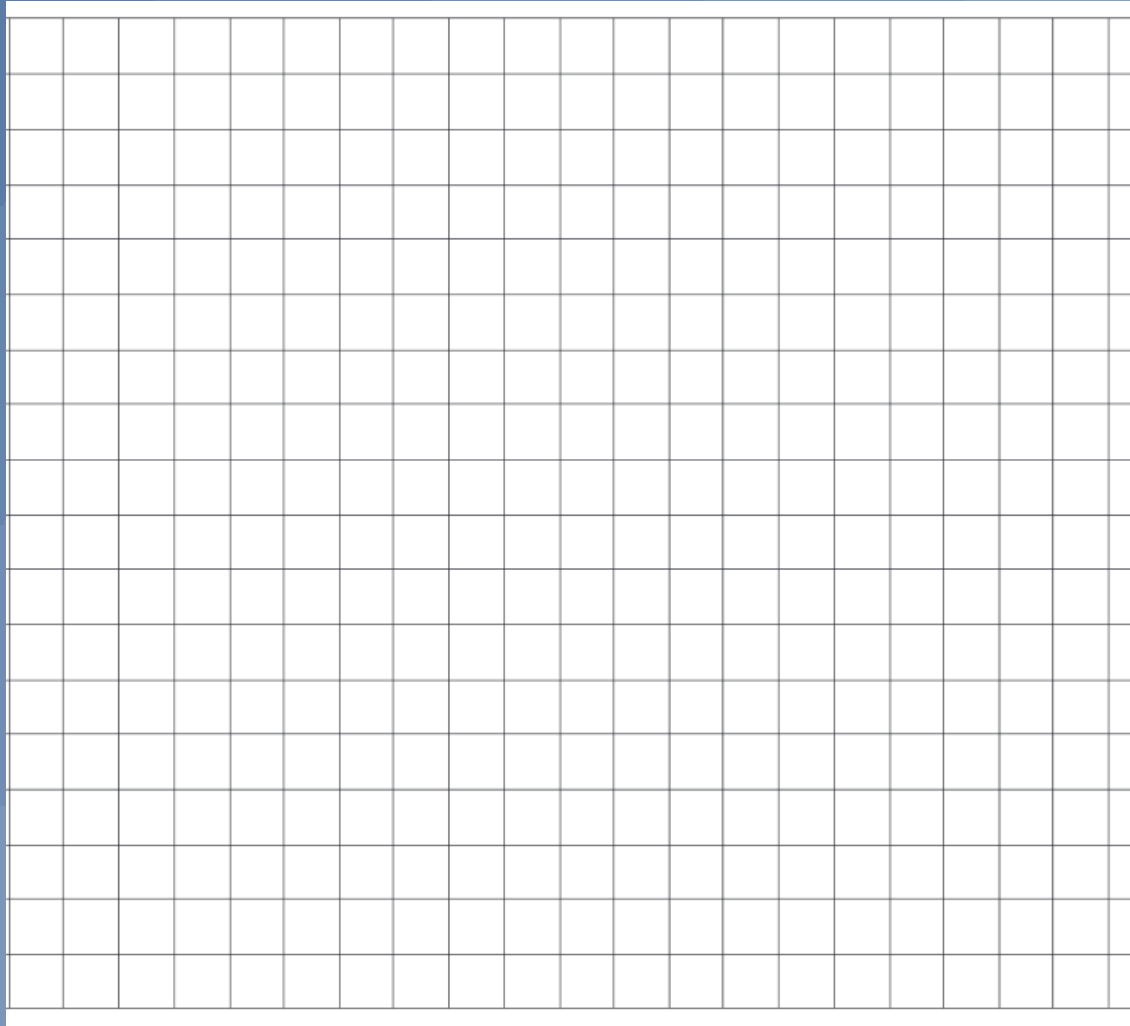


# Challenge

SPEED LIMITS DATA TABLE				
Formula for Speed				
Group	Length of Toilet Paper	Time	Speed	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Average Speed				



# Graphing



# Graphing



## CREATE A GRAPH

### Help



Graphs and charts are great because they communicate information visually. For this reason, graphs are often used in newspapers, magazines and businesses around the world.

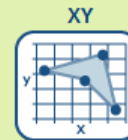
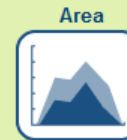
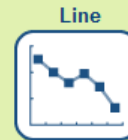
### Examples

NCES constantly uses graphs and charts in our publications and on the web. Sometimes, complicated information is difficult to understand and needs an illustration. Graphs or charts can help impress people by getting your point across quickly and visually.



Here you will find five different graphs and charts for you to consider. Not sure about which graph to use? Confused between bar graphs and pie charts? Read our:

[Create A Graph Tutorial](#)



Please select a graph type to begin

New to creating graphs? Then try...



40,881,558  
Graphs Created Since 2005

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# Discussion

What was the passenger's fastest speed? How do you know?

Where was the passenger's slowest speed? How do you know?

- How can speed be determined?
- Why is constant speed difficult to achieve?



# Conclusion



- Write a 2 – 3 sentence summary about what you learned.

# Your Turn

- ▣ Bearings
- ▣ Matchbox Cars
- ▣ Marbles
- ▣ Ping Pong Balls
- ▣ Ramp Materials
- ▣ Sand Paper
- ▣ Tape Measure/Meter Stick
- ▣ Tennis Balls
- ▣ Towels
- ▣ Timers
- ▣ Wax Paper



# Your Turn



List some questions about motion

Come to consensus in group about question to investigate

- Develop procedure to answer question
  - What one item will change?
  - What will stay the same?
  - What will be observed/measured?
- Share results with group



## Questions?

- ❖ [imsa.edu](http://imsa.edu)
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