

Friday, March 22, 2019

Your Learning Goal: Students will build a ramp and test cars with different material wheels to assess the affect of friction on speed. They will be able to draw a diagram of their experimental set up and label all forces.

It's a Bumpy Road- 42L + R

- Catalyst 42 L: Look at the two pictures. What are the differences between them. How do these differences impact the magnitude or direction of the forces?



Homework:

Unit Test & Notebook Check
Week of April 1

Gravity HW Due TODAY



Agenda:

1. Catalyst
2. Build a Ramp
5. Race the Cars
6. Reflection

Table of Contents

<u>Date</u>	<u>Assignment</u>	<u>Pg #</u>
2/19/19	Runner's Speed	34L + R
2/22/19	Velocity & Vectors	35 L + R
3/1/19	Forces Everywhere!	36 L + R
3/5/19	How high can I jump?	37 L + R
3/7/19	Rules of (Gravitational) Attraction	38 L + R
3/11/19	You Look Tense	39 L + R
3/13/19	Feel the tension	40 L + R
3/20/19	Spinning in Circles	41 L + R
3/22/19	It's a Bumpy Road	42 L + R

3/22/19

Catalyst:

Look at the two pictures.
What are the differences
between them. How do
these differences impact
the magnitude or direction
of the forces?

It's a Bumpy Road

42L

42R

Catalyst 42 L



Look at the two pictures. What are the differences between them. How do these differences impact the magnitude or direction of the forces?

3/21/19

Catalyst:

Look at the two pictures.
What are the differences
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It's a Bumpy Road

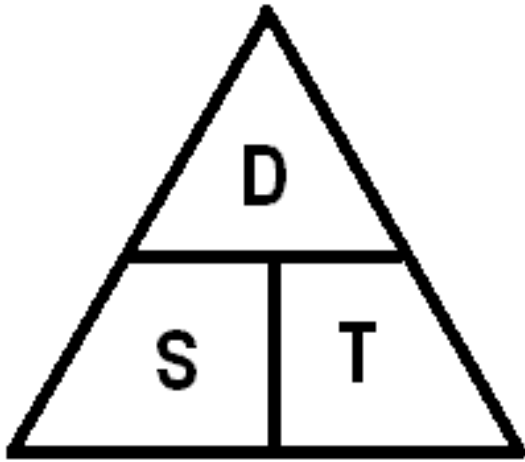
Wheel Type	Ramp Length	Time	Speed
1			
2			
3			
4			

42L

42R

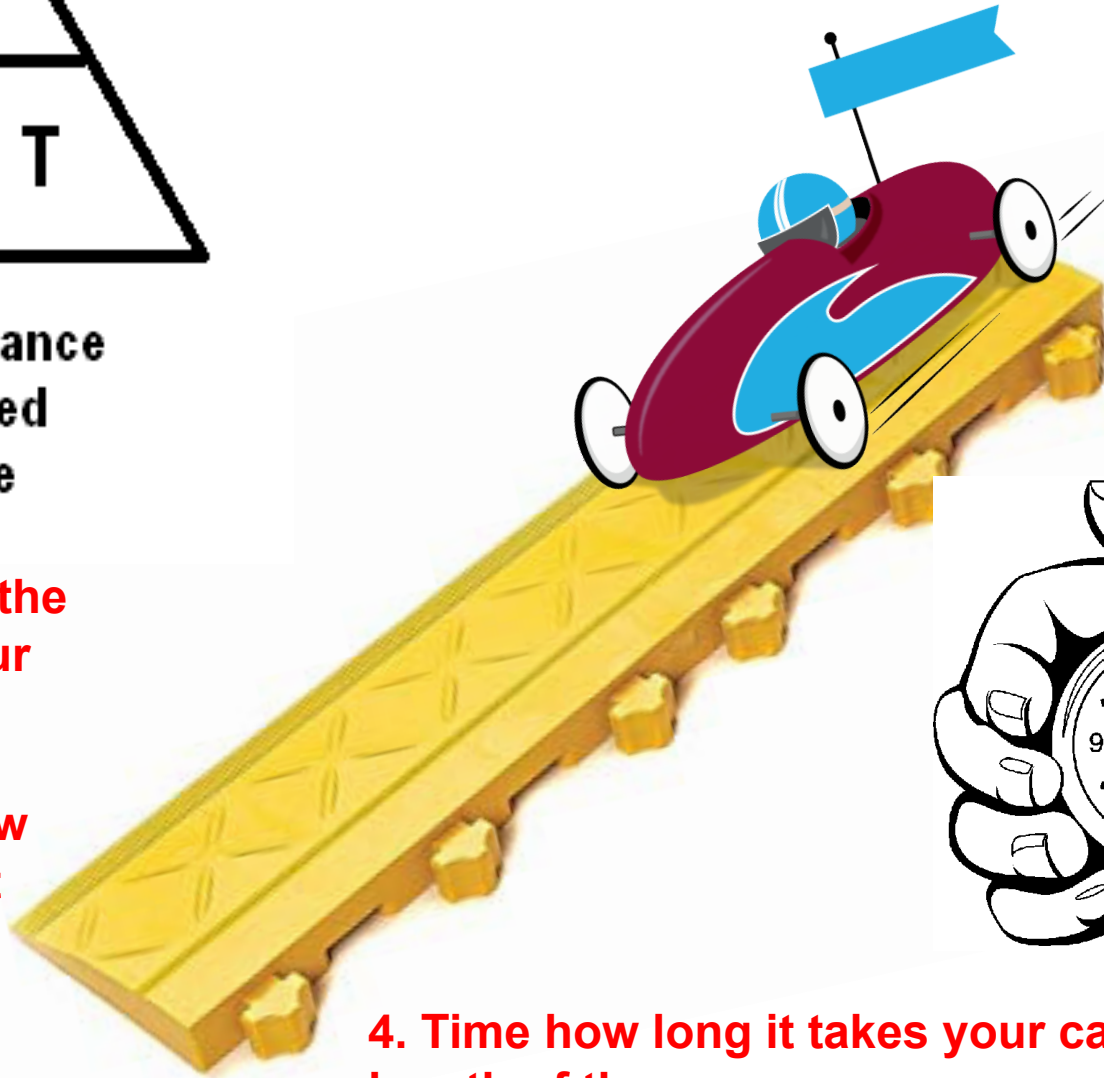
Draw Table on top half of **42R**

Wheel Type	Ramp Length	Time	Speed
1. _____	_____ cm	_____ s	_____ cm/s
2. _____	_____ cm	_____ s	_____ cm/s
3. _____	_____ cm	_____ s	_____ cm/s
4. _____	_____ cm	_____ s	_____ cm/s

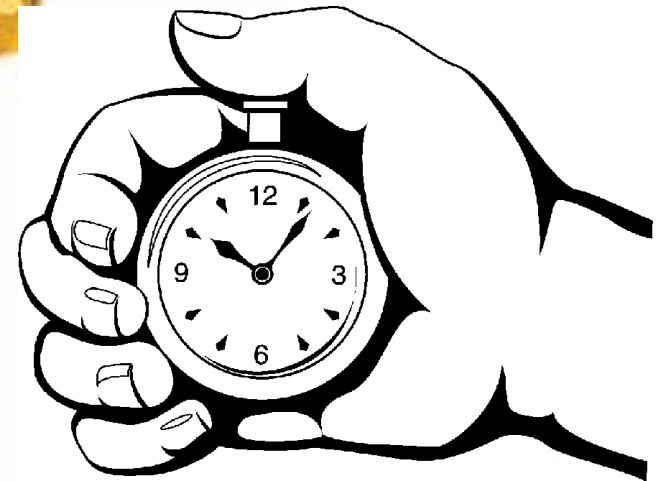


D = Distance
S = Speed
T = Time

- 1. Design a ramp that can hold your car**
- 2. Measure the length of the ramp**



- 3. Drop your car from the top of the ramp and let it roll down.**



- 5. Calculate the speed of your car.**

- 6. Grab a new car and do it again!**

- 7. Graph it.**

- 4. Time how long it takes your car to travel the length of the ramp**

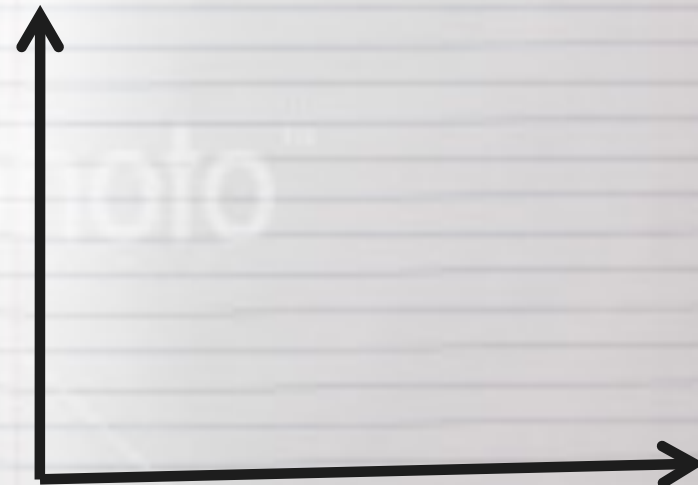
3/21/19

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It's a Bumpy Road

Wheel Type	Ramp Length	Time	Speed
1			
2			
3			
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42L

42R

Title:

Y Axis Label:



X Axis Label:

3/21/19

Catalyst:

Look at the two pictures. What are the differences between them.

How do these differences impact the magnitude or direction of the forces?

LEAF:

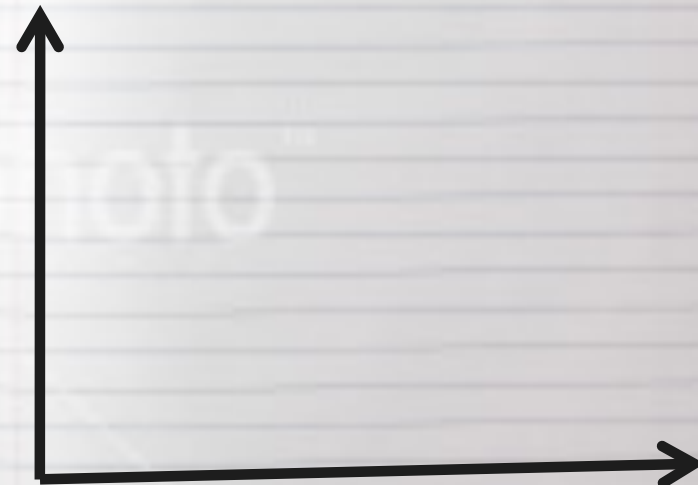
Draw the forces acting on a car as vectors. Label each kind of force.

How did the different wheel materials impact the car's speed? Why?

42L

It's a Bumpy Road

Wheel Type	Ramp Length	Time	Speed
1			
2			
3			
4			



42R