Name: Date:

Investigation: Reaction Time

Investigate Part A:

1. Pick someone to be Partner A and Partner B
2. Partner A (the dropper) holds the ruler vertically with the lower numbers pointing downward
3. Partner B (the catcher) puts their hand just below the ruler and gets ready to catch it.
4. Partner A drops the ruler (no warnings!) and partner B catches the ruler.
5. Record the measurement from the top of Partner B's hand (the part farthest up the ruler)
6. Repeat 4 more times.
7. Switch jobs and repeat all steps. Partner A becomes the catcher and partner B becomes the dropper.

Part A Data

Partner A			Partner B		
Drop #	Distance (in)	Average (add up all of your distances and divide by 5)	Drop #	Distance (in)	Average (add up all of your distances and divide by 5)
1			1		
2			2		
3			3		
4			4		
5			5		

Investigate Part B:

1. Pick someone to be Partner A and Partner B
2. Partner A (the dropper) holds the ruler vertically with the lower numbers pointing downward
3. Partner B (the catcher) puts their hand just below the ruler and gets ready to catch it.
4. Partner B closes their eyes. No Peeking!
5. Partner A says the word "drop" and at the same time drops the ruler. Partner B catches the ruler.
6. Record the measurement from the top of Partner B's hand (the part farthest up the ruler)
7. Repeat 4 more times.
8. Switch jobs and repeat all steps. Partner A becomes the catcher and partner B becomes the dropper.

Part B Data

Partner A			Partner B		
Drop #	Distance (in)	Average (add up all of your distances and divide by 5)	Drop #	Distance (in)	Average (add up all of your distances and divide by 5)
1			1		
2			2		
3			3		
4			4		
5			5		

Analysis:

Use the chart below to figure out your reaction time and your partners reaction time. If you have access to the internet or are working online you can use this calculator for more accurate results.

Partner A Reaction Time	Partner B Reaction Time
Part A	Part A
Part B	Part B

Distance	Time
2 in (~5 cm)	0.10 sec (100 ms)
4 in (~10 cm)	0.14 sec (140 ms)
6 in (~15 cm)	0.17 sec (170 ms)
8 in (~20 cm)	0.20 sec (200 ms)
10 in (~25.5 cm)	0.23 sec (230 ms)
12 in (~30.5 cm)	0.25 sec (250 ms)
17 in (~43 cm)	0.30 sec (300 ms)

Making Meaning:

How does sight or sound affect your reaction time?

Did your partner have the same reaction time as you? Why might this be so?

How would knowing their reaction time help a NASCAR driver and their team of supporters during a race?