

Big Picture

We are working with numbers and number systems. We will also be working with algebra and algebraic expressions. We will view much of this unit from the perspective of estimation and the purpose of measurement. This will eventually lead us to Fermi questions. Large estimations!

Context of this Lessons

Today we are working with rates and converting rates. This will be one of the last two lessons of the unit before we move into our first assessment.

To Do Today!

- **Task 0:** Fast 10
- **Task 1:** HW (10)
- **Task 2:** Rates
- **Task 3:** Calculator Work w/ Rates
- **Task 4:** How Fast Are You? (15)
- **Task 5:** Book Work Pg 55 1 and 2

Task 0: Please work together to solve the following problems. NO CHEATING!!! 😊

Example: 1 Hour 30 minutes is 1.5 hours. And 2.25 hours is 2 hours and 15 minutes. Please fill in the following table as best as you can.

Actual Time	Decimal Equivalent
1 hour 30 minutes	1.5 hours
1 hour and 15 minutes	2.25 hours
3 hours and 25 minutes	
	1.10 hours
	5.8 hours
0 hours and 55 minutes	

There has got to be an easier way to do this.

For instance if I took 2 hours and 35 minutes to travel 87 km, how fast was I going in km/hr? Can we find a way to get to that "UNIT" rate. Is there a way to do this with the calculator?

Task 1: HW Discussion

Task 2: Rates

Rate: An ordered comparison of quantities of different kinds...ZZZZZ...ZZZZ

What are some examples of Rates that we can think of?

Go online and find the average Rainfall per year for your home country.

Rate = _____

Go Online and find the the annual rates of petrol consumption per year.

Rate = _____

The most common Rate we will deal with... and deal with on a day to day basis is Speed.

Some important Facts... However the calculator will help us out a lot with this ☺

$$S = \frac{D}{T} \quad D = S \cdot T \quad T = \frac{D}{S}$$

Task 3: Some Calculator Help!

Looking back at the warm up we discovered that converting back and forth from actual time to decimals is a bit of a pain in the butt. Luckily the Calculator (which is our friend) can help us with this A LOT! Please Pull Out Your Calculators!

Actual Time	Hour Decimal Equivalent
1 Hour 30 Minutes	
	3.4946 Hours
5 Hours 23 Minutes 15 Sec	
	0.67 Hours
37 Hours 59 minutes 1 Sec	
	8.4876532 Hours

Please try a few of the following problems. Then give your answer as specified.

1. Find the average speed of the car traveling	
71.2 km in 51 minutes.	468km in 5 hours and 37 minutes

2. Find the distance traveled if you are traveling at an average speed of	
95 km/hr for 3 hours and 23 minutes	25.3km/h for 1 hour and 17.5 minutes

3. How long would it take you to travel 42.3 km at an average speed of 5.7 km/h?	

Task 4: How Fast Are you

In the following section, you will go out with your class and use the Trundel Wheel to find out how fast you are in km/sec and then km/hr. I would like you to fill in the google doc that is linked on the website. I want your speeds.

Then using that information, how long in hours would it take for you to travel to the following places assuming you can maintain the constant speed.

Your Speed = _____ km /hr

Round your answers to 3 sig figs and give your answer in hours please.

Place	Distance from CAC	Travel Time
100 Meter Dash		
Around a 400 m Track		
Home		
Alexandria		
New York		
Beijing		
The Moon		
The Sun		
Alpha Centari		