Today we are solving problems

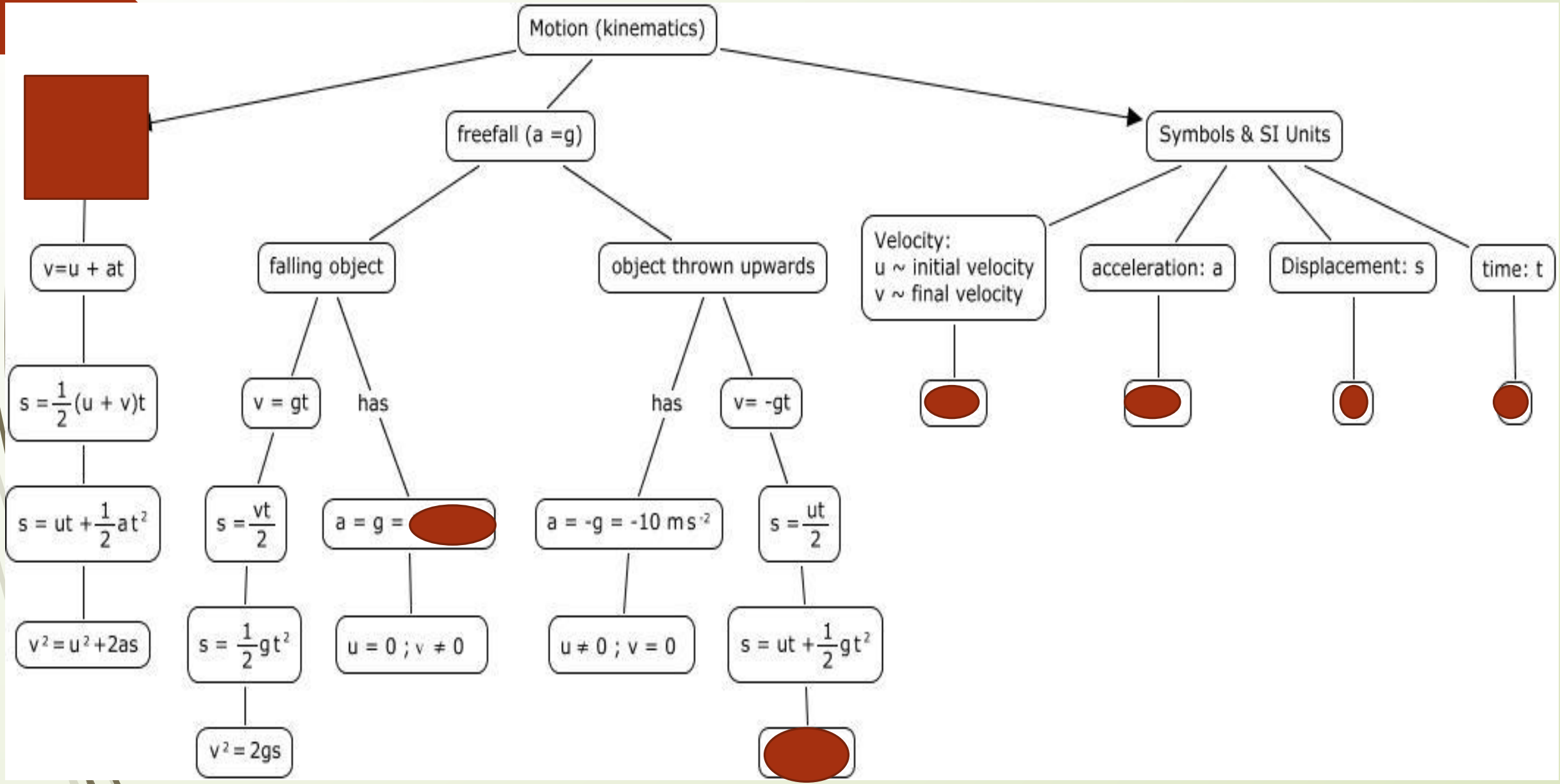
Learning objective

- *recall the definitions of position, distance, displacement, speed, velocity and acceleration and distinguish whether these are scalars or vectors.*

Strategies Before
Linking to Previous Knowledge and Predicting

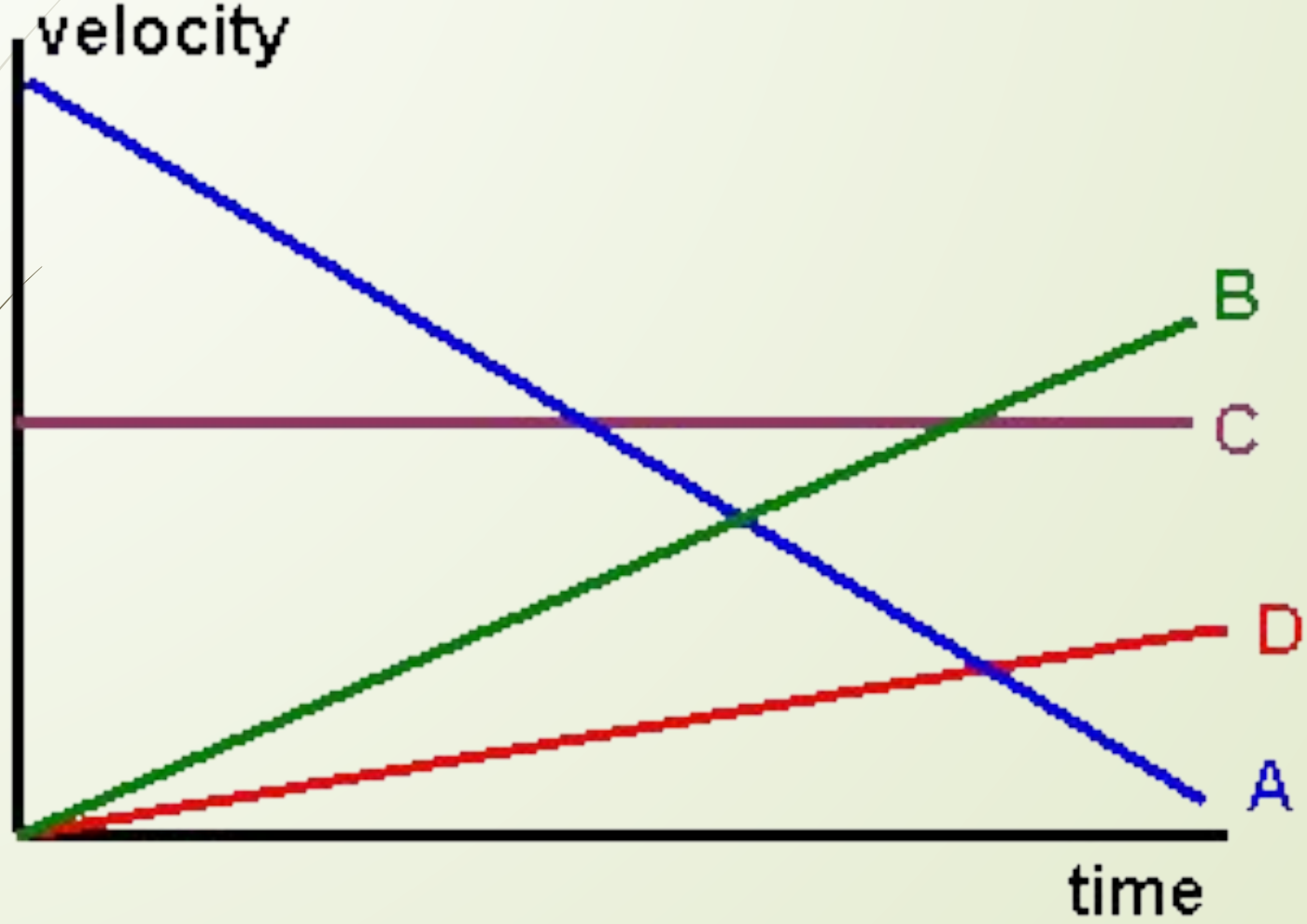
1. Do you know about *vectors and scalars*?
2. Do you know what is displacement?
3. What is velocity vs. Time graph?
4. What is acceleration?
5. Do you know difference between velocity and speed?

Strategies During
Complete the Conceptual Map



Strategies After

Take a look at the image and form appropriate phrases or sentences



Activity: Use the symbols and sentences bellow to fill up the table.

	Displacement	Distance
Symbol		
Definitions		

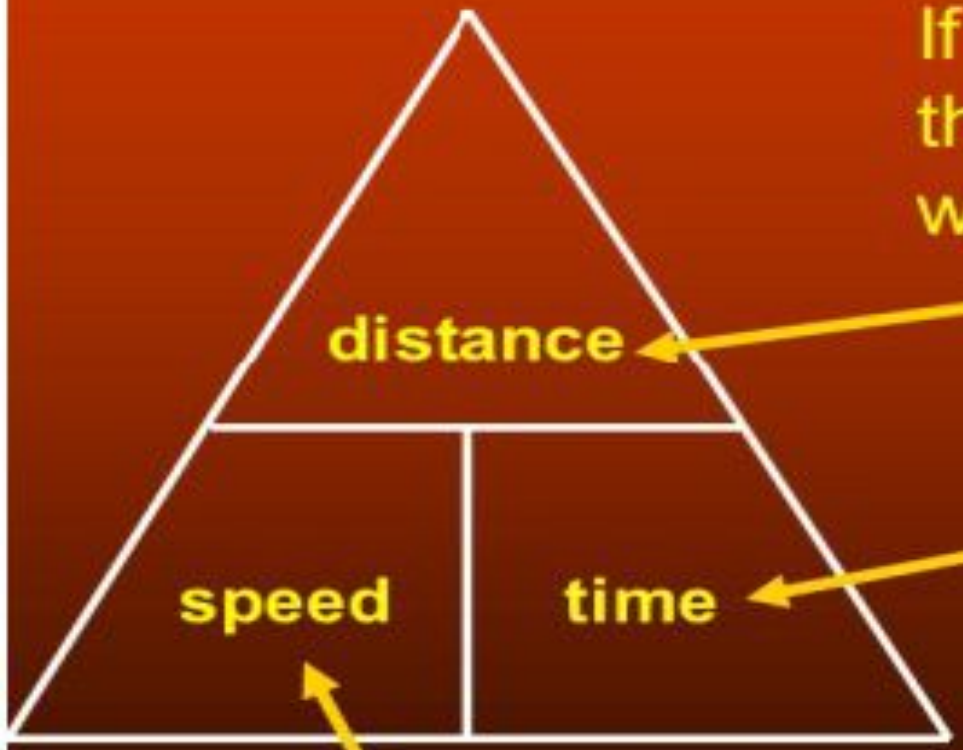
b) Do Correction

Solution:

	Displacement	Distance
Symbol	Δx, Δy	D
Definitions	Is that single vector with the same effect as other vectors together	Is the length of the path followed by a moving object
	Magnitude and direction (vector quantity)	Magnitude only (scalar)
	Can be positive or negative	Positive only

Speed & velocity

It may well help you to use the following:



If you point to the one variable, the triangle tells you what to do with the other two:

Distance = speed x time

Time = distance/speed

Speed & velocity

Speed = distance/time

Use the same principle for velocity

Some sample examples

Say if they are **in motion** or **at rest**.

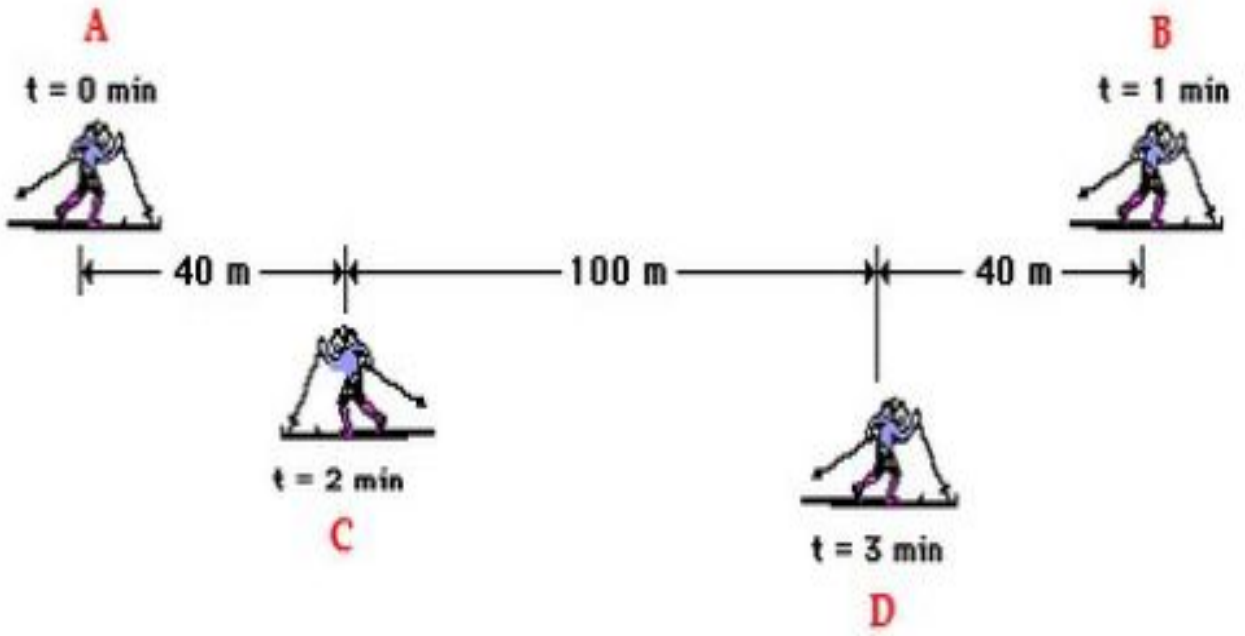
A passenger of the bus with respect to another passenger.

A passenger of the bus with respect to the bus.

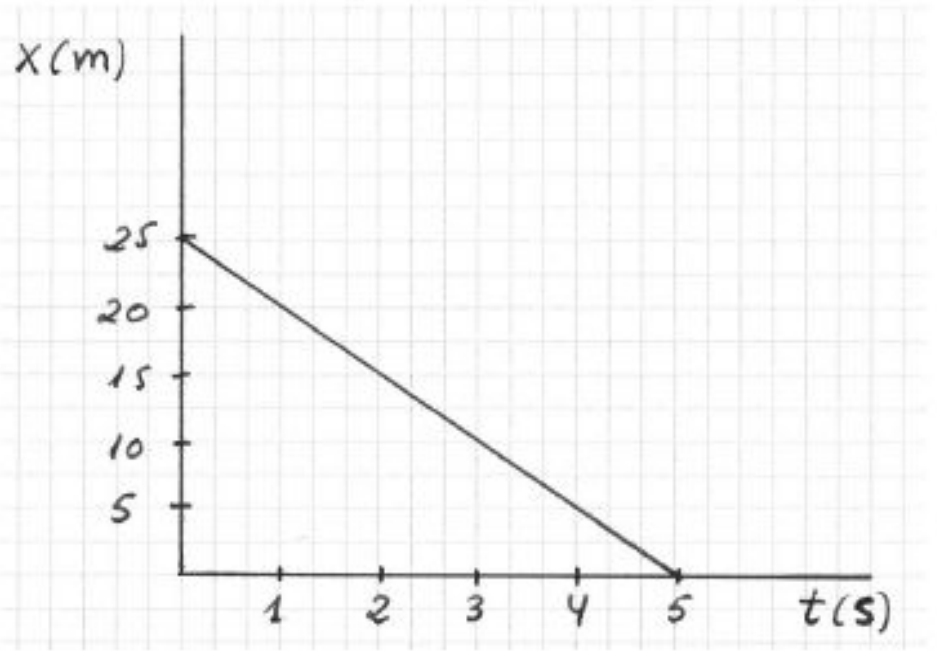
A passenger of the bus with respect to a tree outside the bus.

The bus driver with respect to the people waiting in the bus station.

2. Use the diagram to determine the average speed and the average velocity of the skier during these three minutes.



3. Calculate the velocity of the body represented in the following x-t graph. Give a reasonable example of real life where appears a body moving like this. You can use the substitution table bellow if necessary.



A plain	has gone to the bakery	and now is	moving straight	by the road.
A girl	was in an airport		moving backwards	by the street.
A boy				to the shop.
A car	was in the corner		going back	home.