

EXAMEN : BACCALAURÉAT GÉNÉRAL – SÉRIE S	SESSION 2018
EPREUVE : Evaluation spécifique de Langue en section européenne	
PHYSIQUE – CHIMIE en langue Anglaise	
THEME : Temps, mouvement et évolution : cinématique et dynamique	Sujet n° 6

Galileo Launch

11 December 2017 :

Europe's Galileo satellite navigation system will come a giant leap nearer completion on Tuesday 12 December, as four more Galileo satellites are launched into orbit by Ariane 5.

Liftoff from Europe's Spaceport in Kourou, French Guiana is scheduled for 18:36 UTC (19:36 CET, 15:36 local time), carrying Galileo satellites 19–22. Separation of the upper stage will occur about nine minutes after liftoff, followed by the first firing of the upper stage.



The upper stage – carrying four 715-kg Galileo satellites – will fly in ballistic configuration for three hours and eight minutes, after which a second upper stage firing will place it into circular separation orbit.

Once stabilised at 3h 35 min after liftoff, the Galileo dispenser will release the first two satellites, followed by the second pair 20 minutes later.

At orbital injection the launcher will have attained an altitude of 22 925 km, approximately 300 km below the Galileo satellites' operational altitude. The four satellites will manoeuvre themselves up to this height, leaving the passivated upper stage safely in a 'graveyard orbit'.

Source : esa.com

Questions:

- 1 Present and comment on this document.
2. Focus on one the Newton's laws to explain satellites' orbits.
3. What do you think about the importance of space conquests?