



Sequence 5: movement and interactions



Fiche de synthèse mobilisée (collection en français) :

- Fiche n°5 : mouvement et interactions, rappels de seconde



Sommaire des activités ETLV :

- ACTIVITY 1: forces on a basketball

ACTIVITY 1: forces on a basketball

Objective: understanding how to place forces during a movement

DOCUMENT 1: throw of a basketball

A basketball has been thrown and one has taken images of its trajectory. One can detail six specific times:

- ▶ t_A : when the basketball player starts to throw
- ▶ t_B : when the ball leaves the player's hand
- ▶ t_C : when the ball reaches the summit of its trajectory
- ▶ t_D : when the ball first reaches the hoop
- ▶ t_E : when the ball leaves the hoop
- ▶ t_F : when the ball drops to the floor



Figure 1



Figure 2

On figure 1, the ball is in contact with the basketball player's hand.

On figure 2, the ball has left the hand of the player.

1. On document 1, label the position of the ball at times t_A, t_B, \dots, t_F .



In the next question, air drag on the ball is neglected.

2. The system is considered as the basketball: B. In the table below, place and label the forces exerted on the ball during the different phases of the throw.

Between t_A and t_B	Between t_B and t_C	Between t_C and t_D	Between t_E and t_F
● B	● B	● B	● B

■ **Acquiring vocabulary:**

Using the previous documents, find a translation for the following expressions:

English	French
trajectory	
air drag	
forces exerted on ...	



Activity summary

What you must remember:

- **force**
- **trajectory**

Skills linked to the curriculum:

Fiche(s) de synthèse mobilisée(s)	Fiche n°5 : mouvements et interactions, rappels de 2 nd e
Type d'activité	→ Activité « papier »
Conditions de mise en œuvre	→ demi-groupe préférable mais classe entière possible → possibilité de donner à traiter à la maison
Matériel utilisé	→ aucun matériel
Place dans la séquence	→ début de séquence
Capacités mises en œuvre dans cette activité	ANA – Associer une force à une action exercée par un système extérieur. REA – Représenter une action par le vecteur-force en respectant la direction et le sens.