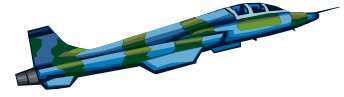


# FUN WITH FORCES

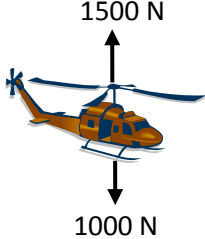


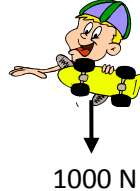



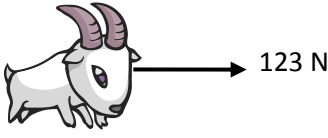

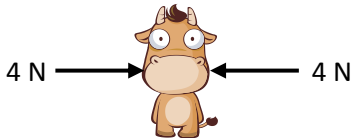
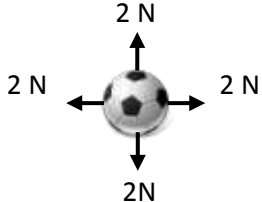
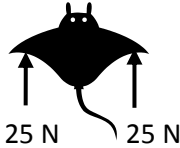


**PURPOSE:** To have fun learning about forces and to determine what happens to an object that experiences one or more forces. Remember, **force is a vector quantity** (has both **magnitude** (size) and **direction**). To determine the **net force** (resulting force on an object) you need to **add** all the forces that are acting on the object together. In general – forces to the **right** or **up** are considered **positive** and forces to the **left** or **down** are considered **negative**. The **net force** is always a **positive** amount. The **negative sign** just tells you the **direction** the object is moving (*see above*).

**DIRECTIONS:** Determine the following for each free body diagram (force diagram):

1. What is the **net force** acting on each object? (**show your work** and the correct unit (Newton))
2. Are the forces **balanced** or **unbalanced**? (**YES** or **NO**)
3. **Which way** will the object move? (**Left, Right, Up, Down, or Stay Still**)

1.		7.	
2.		8.	
3.		9.	
4.		10.	
5.		11.	
6.		12.	

13	 <p>1500 N 1000 N</p>	19	 <p>10 N ← 25 N →</p>
14	 <p>500 N → 5000 N ←</p>	20	 <p>1000 N ↓</p>
15	 <p>900 N → 100 N ←</p>	21	 <p>150 N → 30 N ←</p>
16	 <p>20 N → 20 N → 440 N ←</p>	22	 <p>123 N →</p>
17	 <p>3 N ← 6 N → 6 N ← 3 N →</p>	23	 <p>4 N → 4 N ←</p>
18	 <p>2 N ↑ 2 N ↓ 2 N ← 2 N →</p>	24	 <p>25 N ↑ 25 N ↑</p>

**BONUS:**

