

4.1. How forces act

When we drop a book, it falls to the ground. **Gravity** pulls all objects downwards, but can forces act in other directions?



What forces can you identify in the picture?

Forces always act in pairs that work in opposite directions. If you are holding an object in the air, you are exerting an upward force on it, but the object is also exerting a downward force. If the forces are the same size, they are said to be **balanced**. If one force is bigger than the other, they are said to be **unbalanced**. When forces are balanced, an object will remain **stationary**. If forces are unbalanced, one object will move in the direction of the force.

Forces acting on a bicycle

Look at the picture of the boy on the bicycle. Draw arrows on the picture to show the direction of the forces acting on the bicycle.

