

Used correctly, backpacks can be a good way to carry all the books, supplies and personal items needed for a typical school day. Backpacks are designed to distribute the weight of the load among some of the body's strongest muscles. However, backpacks that are too heavy or carried incorrectly can injure muscles or joints and contribute to back pain and other problems.



### **The proper backpack is:**

- No wider than the user's chest
- Worn no higher than the base of the neck
- Worn no lower than 2 to 4 inches below the waist
- Supported by a waist or a chest strap
- Made of lightweight material

### **A good backpack has:**

- A padded back
- Several compartments
- Side compression straps
- A waist or chest strap
- Reflectors
- Two wide, padded shoulder straps

## **How to use a backpack**

### **To wear it**

- Facing the backpack, bend your knees, hold the backpack with both hands, and straighten your knees to lift it to waist height.
- Apply one shoulder strap at a time.
- Be sure to always use both shoulder straps.

- Snugly adjust it between your neck and the curve of your lower back using the shoulder straps (the closer the backpack is to your body, the less strain it will cause).

## **To load it**

- Keep it light – pack only what is needed for the day.
- Place the heaviest objects so they will be closest to your back.
- Use compartments to distribute the weight and keep things from sliding.
- Hand-carry heavy books to avoid excessive weight in the backpack.
- Clean it out daily.

## **Backpack weight**

If a backpack forces the wearer to lean forward, it's overloaded and some items should be removed. Carrying an overloaded backpack can cause discomfort and, over time, lead to back injuries and other problems.

If the backpack weighs more than 15 percent of the carrier's weight, it's too heavy. To determine the proper maximum weight for a backpack, multiply the user's body weight by 0.15. If a heavier load is unavoidable, consider using a backpack with wheels.

### **Carrying too much weight or wearing a backpack the wrong way can lead to:**

- Muscle fatigue
- Poor posture
- Painful shoulders
- Back and neck pain
- Injuries from tripping and falling