

Here we will learn to distinguish between vectors and scalars.

Vectors are objects that have both a magnitude, a single number, and a direction.

Whereas scalars have only a magnitude.

Let's see some examples of each.

The length of something is a scalar because it's just the magnitude.

A force exerted by someone pulling something is a vector because we care about the strength of the force, the magnitude, and the direction in which the force is acting.

Temperature-- it's a scalar.

If we display temperature on a weather map where the value of the temperature is different at each point in space, this is a scalar field.

In comparison, this weather map of wind where the value of the wind velocity at each point in space is represented by a vector is a vector field.