Kinetic Energy

Definition: Energy is **energy due to motion.**

The amount of energy in a moving object depends upon **its speed and its mass**.

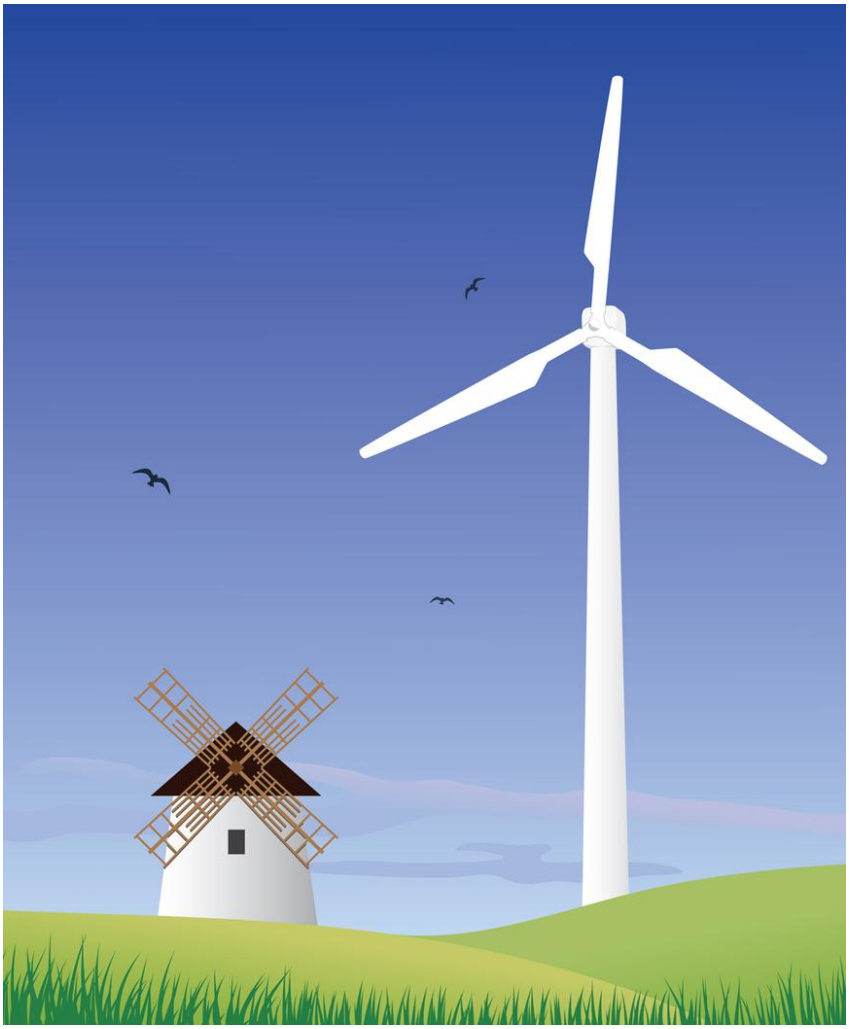
The **faster** an object moves, **the more kinetic energy it has**.

Mass also affects kinetic energy. The **more mass** an object has, the **more kinetic energy** it has.

Imagine that you are on a beach and you have just built a sandcastle. If a beach ball rolls over and hits your sand castle, what do you think would happen?

What do you think would happen if a basketball, rolling at the same speed as the beach ball, hit your sand castle? Why?

Like all forms of energy, kinetic energy can **<u>change into different forms of energy</u>**.



examples: A windmill changes the kinetic energy of wind into electric energy.

When a drumstick hits a drum, kinetic energy becomes

_____ energy.

Kinetic energy can also change into **thermal energy**.

Rub your hands together for a few seconds. What happens? What do you feel?

An **increase** in thermal energy **increases temperature**.

QUESTION OF THE DAY: Think of examples you see at school of kinetic energy.

What determines how much kinetic energy a moving object has?

Which as more kinetic energy, a horse that is walking or the same horse that is galloping? Why?

You roll a ball across a carpeted floor. What are two ways that you could increase the amount of kinetic energy in the ball?