Simple -

One main idea/clause. Must contain a noun and a verb. The cat sat on the mat.

Compound –

Two main ideas/clauses. Both can stand alone. Usually joined by 'and'/'or'/'but'. The cat sat on the mat and the dog sat in front of the fire.

Complex -

At least two clauses. One main (can stand alone) and one subordinate (doesn't make sense alone)
The cat sat on the mat because it was tired.