Metamorphic Rocks

Metamorphic rocks: type of rock which is can be formed from igneous, sedimentary, or previously metamorphosed rocks by recrystallization in the solid state.

Main factors of metamorphism:
1/Temperature
2/Pressure

1. Type of metamorphism:

1. **Contact (Thermal) metamorphism:** temperature is the main factor for metamorphism.
2. **Dynamic metamorphism:** pressure is the main factor for metamorphism. Example: ***Myllonite***
3. **Regional metamorphism:** temperature and pressure together are caused metamorphism.

2. Class: There are three main classes of metamorphic rocks:

a. **Foliated Rocks:** Minerals to arrange themselves in a parallel sheets show orientation.
b. **Non Foliated Rocks**: Minerals do not show a discernible preferred orientation.
c. **Cataclastic Rocks**: Grains arranged themselves under pressure influence.

3. Texture: Represent size and arrangement of grains-forming rocks.

4. Parent rocks: Represent the previous rocks (parent rock) which rock transformed from.

Rock Name	Type of metamorphism	Class		Texture (Grain size)	Parent rocks
Slate	**Regional**	**Foliated**	**Slaty**	**Fine**	**Shale, mud**
Phyllite			**Phyllitic**	**Fine-medium**	**Shale, slate**
Schist			**Schistosity**	**Medium-Coarse**	**Shale, slate, Phyllite, basalt**
Gneiss			**Gneissic**	**Coarse**	**All rocks**
Myllonite		**Cataclastic**		**Coarse**	**All rocks**
Hornfels	**Contact**	**Non Foliated**		**Very fine**	**Shale, basalt**
Quartizite				**Fine - Coarse**	**Sandstone chert**
Marble				**Fine - Coarse**	**Limestone or Dolomite**
Serpentinite				**Fibrous-coarse**	**Serpentine igneous rocks**

Table work:

Rock Name	Type of metamorphism	Class (foliation)	Texture (grain size)	Parent rocks