Regional Metamorphism

Alignment of grains and cleavage ***D or P 2 min***

About 20 matches are placed in random orientation between two strips of wood 20cm long. The strips of wood are moved slowly together and the matches become aligned. This alignment explains why slate splits as it does.

Try not to have matches at right angles to the rulers.

Equant crystals and cleavage ***D or P 2 min***

To show that no alignment can be formed if the crystals are equant and not elongate or sheet-like. Place some fine gravel all about 5mm diameter on the table between two strips of wood. Move the wood together. No alignment will develop. Compare with samples of marble and metaquartzite.

Idea taken from Chris Bedford

Granoblastic polygonal texture ***A 2 min***

To show what this texture, typical of marbles, looks like without a microscope. Students examine samples of coarse polystyrene and pull off equant "crystals" and describe the texture.

Shale and slate ***A P 5 min***

To enable students to distinguish between shale and slate.

Students describe the similarities and differences between the two.

Fold patterns in gneiss ***A P 5 min***

To show how several periods of folding can lead to the patterns found in some gneisses such as limbless hinges. Students put 3 layers very soft plasticine of different colours on top of each other and then fold and squeeze the plasticine several times. They can then compare this to photos of contorted gneiss.