**Video Quiz**

**Video Title:** The Geology of Roof Falls  
**Length:** 20:00  
**Vendor:** Mine Safety & Health Administration (MSHA) VC-941

**Synopsis:**

1. Typical rock types found in coal mine roofs and ribs include which of the following? a) coal, b) shale, c) limestone, d) sandstone  
   - True_, False __
2. Ability of rock to support the mine roof depends on lateral and vertical changes in rock type and bedding.  
   - True_, False __
3. Thick sandstones and shales are often good roofs in underground mines. True__, False __
4. Rock falls in thin-bedded shale usually occur because of weaknesses along bedding planes. True__, False __
5. Concentrations of plant fossils (leaf and plant impressions) along bedding planes are common causes of weaknesses. True__, False __
6. Coal streaks in the shale cause weaknesses because of a) poor bonding between the two rock types, b) weakness of the coal, c) weakness of the shale.  
   - True_, False __
7. Bolt lengths or types can compensate for weaknesses due to coal streaks. True__, False __
8. It is important to spot-check torques on bolts in shale roofs over time after they are installed. True__, False __
9. Kettle bottoms are fossil remains of ancient tree trunks, which are unstable because: a) they vary in height, b) they are often surrounded by a thin coal ring.  
   - True_, False __
10. Weakly-bedded stack rock fails because of inter-layering of thin, flat-bedded sandstones and coal streaks.  
   - True_, False __
11. Concentrations of mica along bedding planes can cause weakness in sandstone layers. True__, False __
12. A sandstone that is hard to drill is always good for anchorage. True__, False __
13. ____________ or slips are smooth glassy surfaces formed by compaction of softer shales around sandstones. They form natural weaknesses.  
   - True_, False __
14. Geologic features causing structural weaknesses should be indicated on ______ for predicting roof conditions and for reserve estimates.  
   - True_, False __
15. Joints can act as pathways for__________, resulting in structural weakness.  
   - True_, False __
16. Information for predicting structural stability of areas to be mined can be found by studying ______  
   - True_, False __
17. Sandstone is usually indicative of weaknesses. True__, False __
18. ____________ create breaks along and across bedding plains.  
   - True_, False __
19. Displacement along a fracture is called a______, which may be associated with other features that cause hazardous mining conditions.  
   - True_, False __
20. Clay veins are irregular wedge-shaped disruptions, which cause unstable roof conditions and are often associated with high levels of methane gas. True__, False __

1) a,b,c,d, 2) T, 3) T, 4) T, 5) T, 6) a, 7) T, 8) T, 9) a,b, 10) T, 11) T, 12) F , 13) Slickensides, 14) mine maps, 15) moisture, 16) drill core logs, 17) F, 18) Fractures, 19) Fault, 20) T