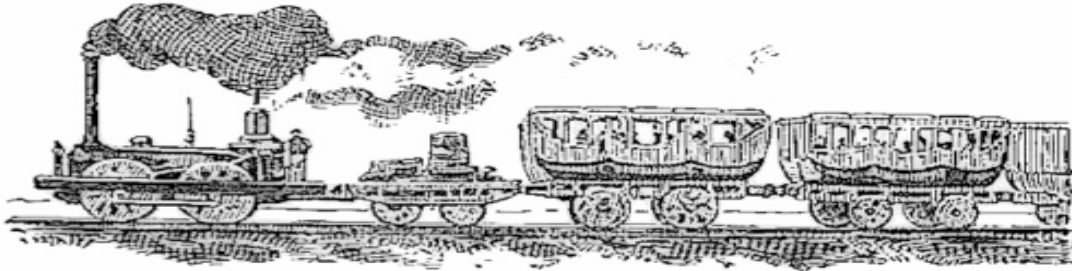


Think about a train moving along its tracks. In the train, two workers, one on either end of the train, are shoveling coal into the engine at a steady speed. This particular train is also equipped with two sets of brakes, one in the front and one in the back.



**BRAKES**

**BRAKES**

The train needs to continue to maintain its constant speed, but also must be able to stop when needed. In groups, discuss what would happen to the speed/control of the train during each of these following scenarios. Would the train operate normally, always move without stopping, or never be able to move?

- a. One of the workers shoveling coal breaks his shovel
- b. Both of the workers break their shovels
- c. One of the workers uses a bigger shovel
- d. Both workers use bigger shovels
- e. One of the workers begins to shovel twice as fast
- f. Both workers get friends to help shoveling
- g. One of the brakes gets stuck (continuous stopping)
- h. One of the brakes fails to work
- i. Both brakes fail