

Bushfires: Worksheet 3a

Bushfire attack

Bushfires are a threat to life and property in a number of ways, these include:

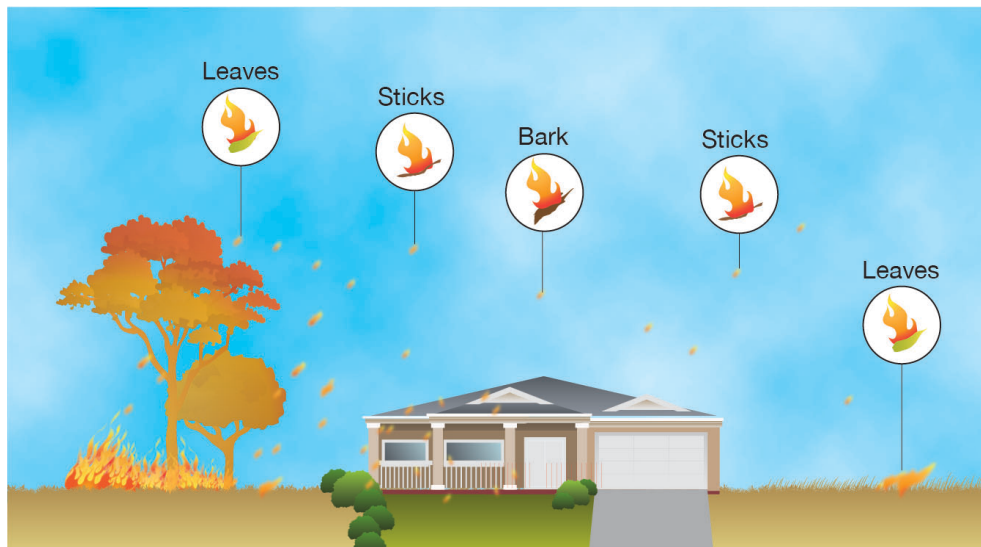
- **The fire front.** The flames of the fire front (the leading edge of a blaze) ignite anything flammable with which it comes into contact. The most dangerous of all fire fronts is one that burns in the crowns, or tops, of trees (called a running crown fire). In eucalypt forests, bushfires can advance at alarming speeds through the upper layers of the forest. The tops of the trees often appear to explode as the fire roars through. On hot days the oils in eucalypt leaves pass into the atmosphere as a vapour. This vapour is quite flammable. The trees themselves do not explode; instead, it is the oil-rich vapour given off by the leaves that ignites in a fireball.

Figure 1: Fast moving fire front



- **Ember attack.** Even if the fire front itself never reaches where you are, spot fires can break out well ahead of the advancing blaze when hot embers fall from the sky. Embers are burning leaves, bark, and small pieces of wood from tree branches. They can be carried great distances by strong winds. Ember attack can occur before or during a fire and for a long period after the main fire has passed.

Figure 2: Ember attack and spot fires



- **Heat.** The amount of heat coming from a large fire can be extreme. It can melt metal and boil water in tanks. It may last for only a few minutes as the fire front passes, but can last much longer when large logs, branches, grass tussocks and stump holes continue to burn and smoulder.

Figure 3: Radiant heat can kill living things and damage property



- **Wind.** Strong winds usually accompany a bushfire. They fan the fire by delivering more oxygen to it, as well as carrying the embers of the fire over great distances.

Activities:

1. What is meant by the term 'running crown fire'? Why are they especially dangerous in eucalypt fires?

2. Study Figure 2. Explain how fires ember attack impacts on the speed at which bushfires spread.

3. Study Figure 3. Why is the radiant heat of bushfires dangerous?

4. In what ways does wind impact on the speed and spread of bushfires?
