

D2 Teachers notes

*Please note:
materials contain
allergens*

GLUTEN

Gluten is a water-insoluble protein that is formed when water is mixed with wheat flour. Two proteins in flour are glutenin and gliadin. When enough water is added to dry flour the two proteins emerge from an inert or frozen state and become flexible and able to move about. It is a bit like dry, stiff pasta, like spaghetti, becoming soft and flexible when cooked in water.

When you mix the water into the flour the proteins, glutenin and gliadin, stick together and make links and chemical bonds. This is why we stretch or knead the bread dough as it helps the proteins to combine. The glutenin and gliadin forms the GLUTEN which is very stretchy and elastic. This stretchy gluten captures the rising effect of the yeast, a bit like inflating a balloon, and the gluten dries in the hot oven so that the bread shape stays and we get a crust. We put salt in the dough because it helps the gluten work. We rest the dough before cooking it because enzymes which are in the dry flour break down the gluten to produce a bigger loaf.

YEAST

Yeast is a micro-organism that is all around us, in soil, on plants and in the air. It is a single cell fungus. Yeast is the driving force behind fermentation which is needed in brewing beer and making bread. It works by consuming sugar, which is why we are using honey in our bread dough. The yeast helps the bread to rise by making carbon dioxide when it eats the sugar – the fermentation. The gluten is already making bubbles in the dough and these become filled with the carbon dioxide made by the yeast fermentation and they begin to expand so the bread rises. The gluten holds in the gas. When we shape our loaf we tuck the dough underneath to trap the gases like tying the end of a balloon to keep the air in.

SPELT

Spelt or Triticum Spelta is an ancient variety of wheat which was first grown by peasants over 9,000 years and is mentioned in the book of Ezekiel in the Bible. The Romans also used it to feed their army. Spelt is a cousin of modern wheat and grows vigorously and when it is ripening in the field goes a gold colour. It has long and strong straw stalks which which would have been used for thatching the roof hundreds of years ago. The white spelt flour is made by milling and sieving out the coarse layers of bran out of each grain. Spelt has good gluten which means it is well suited to quick bread, which is what we are producing.