FLEXIBILITY

Materials which bend or change shape when they are pushed or pulled are ‘flexible’. Some materials, like rubber, are flexible because they are ‘elastic’. You can stretch a rubber band, but it will return to its original shape when you let it go. Other materials, like metals, can return to their original shape even when a very large force is applied. These materials are useful for building strong structures.

Tall buildings are designed to be flexible and will sway a little in the wind. Trees are also flexible, although strong winds may sometimes stretch them too far! Even our bones are flexible while we are young. As we get older, they become more brittle and likely to break.

THIS RUBBER BALL IS A SPHERE. WHEN IT DROPS TO THE GROUND, THE GROUND EXERTS A FORCE ON IT AND THE BALL CHANGES SHAPE.

BUT AS THE BALL BOUNCES UPWARDS AND THE FORCE FROM THE GROUND IS REMOVED, IT ONCE AGAIN BECOMES SPHERICAL. THE RUBBER BALL IS ELASTIC.

DIVING BOARDS ARE MADE FROM WOOD, FIBREGLASS OR ALUMINIUM. FIBREGLASS AND ALUMINIUM MAKE THE MOST FLEXIBLE BOARDS, enabling a diver to jump high over the water before entry.

THE FLEXIBLE TRUNKS OF PALM TREES ALLOW THEM TO BEND IN THE WIND.