

Science and Technology - Quiz

Fill in the gaps with the correct word.

1. are being carried out to find a cure for cancer.
Experiences Experiments Examinations Research
2. Microscopesvery small objects many times to make them visible.
magnify enhance expand increase
3. Radio signals are now oftenby satellite.
received delivered transmitted dispersed
4. Solar power stations are able to the energy of the sun.
harm maximize drive harness
5. Other energy sources include wind and wave power.
renewable recyclable returnable reusable
6. In some types of power station steam is used toturbines.
force turn reverse rotate
7. Mercury is aat room temperature
fluid liquid solid gas
8. Hydrogen and oxygen are the two that make up water.
compounds atoms molecules elements
9. Allis composed of atoms.
stuff material substance matter
10. The of lead is greater than that of aluminium.
rigidity weight density volume
11. When water is heated itmore quickly.
evaporates condenses melts solidifies
12. The of iron and oxygen produces rust.
reaction separation decomposition composition
13. Chemists study the composition of natural
substances machines mixtures alloys
14. The of water is 100°C.
melting point boiling point point of condensation freezing point

Adapted from J.Harbord: *Topic-based Vocabulary*.

Properties of Matter

1. Complete the following text.

Clue: **Below** boiling **except** fluids highly liquid solid state

Note the preposition **below** and the connector **except**.

Changes of state / form

0°C - **melting point** of ice. 100°C - _____ **point** of water.

Ice is _____, water is _____, steam is gaseous. Steam and water are _____.

Steam, water, ice, oxygen, neon: all these are fluids _____ ice. Sometimes the properties of a substance change when it changes its _____. For example, if the temperature of oxygen falls _____ -183°C, it changes from a colorless gas to a bluish liquid, which is _____ magnetic.

2. Complete the following text.

Clue: dissolve element form gas hard properties salt salty substance

Which are the verbs?

Is there a connector?

A substance may be an element, a compound or a mixture.

An element, such as copper or iron cannot be broken down into simpler substances. When elements combine to form compounds, there is a chemical reaction. Some _____ of the elements change during the reaction. For example, the _____ chlorine (Cl) is a poisonous yellow _____. Sodium, on the other _____, is a soft silvery-white metal which reacts violently with water. However, if these elements combine, they _____ sodium chloride, or _____. This is a harmless white _____. A mixture of a sand and salt is yellowish-white and it tastes both _____ and gritty. If we put the mixture in water, the salt will **dissolve**, because it is **soluble**, but the sand will not _____, because it is **insoluble**.

3. Answer these questions:

1. What is the boiling point of oxygen?
2. Are sodium and chlorine harmless?
3. What is the difference between a compound and a mixture?

4. Choose the right word in a sentence:

- a) A conductive / conductivity material can be used to conduct electricity.
- b) If a material is easy to stretch under stress, we call it elastic / elasticity.
- c) If you want to improve durable / durability of a machine, clean it regularly.
- d) Hard / hardness is an important property of steel.
- e) Concrete is used for building because of its strong / strength.

5. Word formation: Form the nouns.

Soft _____, deep - _____, long - _____, wide - _____, dissolve - _____.

6. Discuss these questions in pairs:

1. What is your favourite material for clothing? Do you prefer natural or synthetic materials? Why? What material are you wearing right now?
2. Do you know some modern hi-tech materials? (e.g. Gore-tex)? Which ones? Where are they used? What are their **advantages** over traditional materials?
3. Give examples of things which were originally **made of** natural materials and now are made of plastics. Why are plastics now used? Are there any **disadvantages**?

Adapted from Bates, Martin and Dudley-Evans, Tony: *Nucleus of General Science*. Longman 1990. **Věra Hranáčová, 2013**

7. Form nouns of some properties of materials. Note the stressed syllables in **bold type**.

	Adjective	Noun	Verb
pružnost	elastic (stress on the 2nd)	elasticity (stress on the 3rd)	
křehkost (nepřužnost)	brittle (rocks, bones, glass)	brittle____	
křehkost (ztráta síly) lack of solidity/strenth	fragile [frædʒaɪl] (bones, glass)	fragility [frə'dʒɪlɪti]	
síla	strong	str____	
tuhost (neohebnost)	rigid	rigid...	
tažnost, kujnost	malleable [mæliəbl], ductile	malleability ['bɪlɪti]	
plastičnost, tvárnost	ductile	ductil____	
vodivost	conductive	conductiv__	
žáruvzdornost	heat-resistant	heat-resistan__	
zápalnost, hořlavost	combustible	combustib____	combust
vznětlivost	(in)flammable, zápor=non-!	(in)flammab____	inflamm[eɪ]
zápalnost	ignitable [ɪg'naitəbl], igneous rocks (vyvřelé)	ignitability [ɪg'naitə'bɪlɪti] ignition (zážeh)	ignite [ɪg'nait]
jedovatost, toxicita	toxic	toxic____	
reaktivita	reactive	reactiv__	react
netečnost	inert	inert____	
lehkost	light	light____	
těžkost	heavy	heav____	
savost, absorpčnost	absorbent	absorbency	
viskozita, lepkavost	viscous	viscos____	
hustota	dense	dens__	
trvanlivost, odolnost	durable	durab____	
odolnost proti korozi	corrosion resistant	corrosion resistan__	

8. Complete the following text.

Clue: brittle opaque[əu'peɪk] rough[raʃ] soft transparent
translucent flexible hard while

Is there a connector?

Properties of matter

A breakable material is _____ or fragile; but if it does not break easily, it is **tough**[taʃ] .

A _____ material is difficult to scratch, whereas a _____ material is easy to scratch.

A _____ material bends easily, e.g. rubber, _____ a **rigid** material does not bend easily.

Some materials produce little friction when they are rubbed - they have **smooth** surface.

Other materials have a _____ surface and produce a lot of friction; e.g. sandpaper.

You can see through _____ materials such as water. You cannot see through _____ materials, such as dirty water, but light passes through them.

You cannot see through _____ glass or other materials and the light cannot pass through them.

Combustible materials burn easily. If gasses burn easily, they are **(in)flammable**[ɪn'flæməbl].

Some people also have an inflammable temper. Phosphorus is self-**ignitable** in the light.

Task: Note and marker the key verbs.