

# ANGLIČTINA PRO MÍRNĚ POKROČILÉ 2

FAKULTA  
JADERNÁ  
A FYZIKÁLNĚ  
INŽENÝRSKÁ  
ČVUT V PRAZE

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KATEDRA  
HUMANITNÍCH  
VĚD A JAZYKŮ

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UNIT 1

DICTIONARIES, WORD FORMATION

PART 1

DICTIONARIES

1. The following excerpts and examples have been taken from various sources. Compare them and then fill in the table and answers questions.

1 Oxford Advanced Learner's Dictionary (OALD)

**panto-mime** /'pæntəmɪm/ *noun* **1** (also *BrE informal panto*) [C, U] (in Britain) a type of play with music, dancing and jokes, that is based on a FAIRY TALE and is usually performed at Christmas **2** [U, C, usually sing.] the use of movement and the expression of your face to communicate sth or to tell a story [SYN] MIME **3** [C, usually sing.] (*BrE*) a ridiculous situation, usually with a lot of confusion

**pantomime 'dame** (also *dame*) *noun* a female character in a PANTOMIME (1), that is usually played by a man

**pan-try** /'pæntri/ *noun* (*pl. -ies*) a cupboard/closet or small room in a house, used for storing food [SYN] LARDER

**pants** /'pænts/ *noun* [*pl.*] **1** (*BrE*) UNDERPANTS or KNICKERS: a pair of pants **2** (especially *AmE*) trousers: ski pants—picture on page A4 **3** (*BrE, slang*) (also used as an adjective) something you think is of poor quality: *Their new CD is absolute pants!* ◊ *Do we have to watch this pants programme?* [IDM] bore, scare, etc. the 'pants off sb (*informal*) to make sb extremely bored, frightened, etc.—more at ANT, CATCH *v.*, SEAT *n.*, WEAR *v.*, WET *v.*

**pant-suit** /'pæntsʊt; *BrE* also -sju:t/ *noun* (*AmE*) = TROUSER SUIT

**pan-ty-hose** /'pæntihəʊz; *AmE* -hoʊz/ *noun* [*pl.*] (*AmE*) = TIGHTS

**pap** /pæp/ *noun* [U] **1** (*disapproving*) books, magazines, television programmes, etc. that have no real value **2** soft or almost liquid food eaten by babies or people who are ill

**papa** /pə'pɑː; *AmE* 'pɑ:pə/ *noun* (*old-fashioned*) used by children to talk about or to address their father

**pap-acy** /'peɪpəsi/ *noun* **1** (the papacy) [*sing.*] the position or the authority of the Pope **2** [C, usually *sing.*] the

3 Collins Cobuild English Dictionary (CCED)

**pantry** /'pæntri/ *pantries*. A pantry is a small room or large cupboard in a house, usually near the kitchen, where food is kept. N-COUNT  
-larder

**pants** /'pænts/ ◆◆○○○○  
N-PLURAL:  
also a pair of/it  
-knickers

**1** In British English, pants are a piece of underwear which have two holes to put your legs through and elastic around the top to hold them up round your waist or hips. *I wash and dry myself and put on my bra and pants.*

**2** In American English, pants are a piece of clothing that covers the lower part of your body and each leg. The British word is trousers. *She described him as wearing brown corduroy pants and a white cotton shirt.* N-PLURAL:  
also a pair of/it

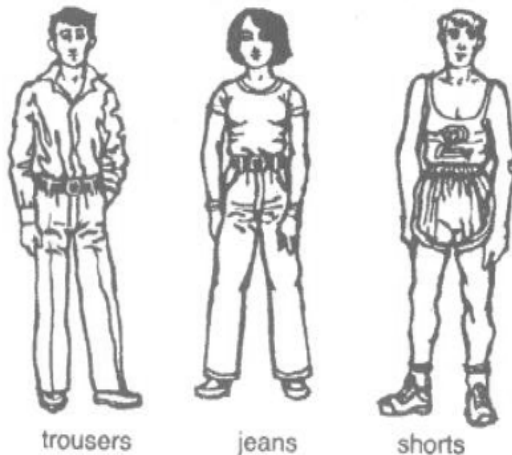
**3** If someone bores, charms, or scares the pants off you, for example, they bore, charm, or scare you a lot; an informal expression. *You'll bore the pants off your grandchildren... We all love to frighten the pants off ourselves by going on hair-raising rides at funfairs.* PHRASES  
v PHR

**4** If you fly by the seat of your pants or do something by the seat of your pants, you use your instincts to tell you what to do in a new or difficult situation rather than following a plan or relying on equipment. V inflects

**5** ● to be caught with one's pants down: see catch.  
● to wear the pants: see wear.

**pan-ty-hose** /'pæntihəʊz/; also spelled *pan-ty hose*. N-PLURAL:  
also a pair of/it  
In American English, pantyhose are nylon tights worn by women. The usual British word is tights.

2 The Longman Lexicon of Contemporary English† (LLCE)



**trousers** [P] *esp BrE* an outer garment divided into two parts, each fitting a leg, worn from the waist down *esp* by men and boys: *I'd like a new pair of trousers. She wore trousers.*

**slacks** [P] **1** *esp AmE* trousers, *esp* of a loose-fitting kind and not part of a suit **2** *esp BrE* trousers as worn by women

**pants** [P] **1** *AmE* trousers **2** *esp BrE infml* trousers **3** *esp. BrE* trousers worn by women

**shorts** also *fml short trousers* [P] trousers with short legs, usu stopping above or at the knee: *The runners wore shorts.*

**jeans** also *blue jeans* [P] trousers made of a strong, usu blue, cotton cloth worn for work and informally by men, women, and children



## trousers *noun* S2

Menu Word family Word origin Verb form Word set

/ˈtraʊzəz \$ -ərz/ [**plural**] *especially British English*

a piece of clothing that covers the lower half of your body, with a separate part fitting over each leg [= **pants** *American English*]

His **trousers** were slightly too short.

I need a new **pair of trousers** for work.

—**trouser** *adjective* [only before noun]

The tickets are in my **trouser** pocket.

→ wear the **trousers** at WEAR<sup>1</sup> (7) → catch somebody with their **trousers** down at CATCH<sup>1</sup> (6)

- ▶ **trouser** *verb*
- ▶ **drainpipe trousers** *noun*
- ▶ **kickflare trousers** *noun*
- ▶ **trouser press** *noun*
- ▶ **trouser suit** *noun*

NEW



WRITING ASSISTANT

SPOKEN EXAMPLES

TEACHER'S LESSONS

### Phrase bank

Dictionary phrases:

■ **pair of trousers**

Phrases from other entries:

■ **catch sb with their pants/trousers down** - see **catch**, **v**

■ **drainpipe trousers** - see **drainpipe trousers**, **n**

■ **oilskin coat/jacket/trousers etc** - see **oilskin**, **n**

■ **pair of trousers/scissors/glasses etc** - see **pair**, **n**

### Examples bank

Sentences from books, newspapers, etc.

- Carlo is wearing a large, double-breasted linen jacket and non-matching royal blue **linen trousers** over a slate-grey T-shirt and stone shirt.
- He won't have a woman in the shop if she's got **trousers** on her and he sees her.
- I may be killed for saying this but I suspect the new Focus will be all marketing and no **trousers**.
- I watched Claude stuff himself into ...

### Activate your language

**to control people or to control what happens**

- control • control • be in control • what somebody says, goes • call the tune/shots • be in the driving seat • be the boss • wear the trousers • keep/hold somebody/something in check

trousers Find

trousers

**trousers** *n*  
**combat trousers** *n*  
**trouser** *v*  
*catch sb with their pants/trousers down*  
*be all mouth and no trousers, at be all mouth*  
*wear the trousers*

**trousers** UK US /'traʊ.zəz/ (US /-zɔːz/ plural noun (US USUALLY **pants**)

**E** a piece of clothing that covers the lower part of the body from the waist to the feet, consisting of two cylindrical parts, one for each leg, which are joined at the top  
*I need a new **pair of** trousers to go with this jacket.*  
*Why aren't you **wearing** any trousers, David?*  
 See picture [clothes 1](#)

SMART thesaurus

**'trouser suit** UK US noun [C] UK (US **pantsuit**)

a matching jacket and pair of trousers that is worn by women on formal occasions  
*She's bought a very smart trouser suit for her job interviews.*

SMART thesaurus

Smart thesaurus

**SMART thesaurus categories**

**Trousers**

View full entries  View as list

**bell-bottoms** UK US plural noun  
trousers that are very wide below the knee

**'blue jeans** US plural noun US  
OLD-FASHIONED  
**jeans** (= trousers made of strong blue cotton cloth)

**bootlegs** UK US plural noun  
bootleg trousers  
*a pair of bootlegs*

**breeches** UK US plural noun (US **britches**)  
trousers that do not cover the whole of the leg  
*riding breeches*  
*a pair of breeches*

**britches** UK US plural noun

Pictures | CALD3

**Pictures**

- clothes 1
- clothes 2
- clothes 3
- clothes 4
- clothes 5 (trousers)**
- clothes 6 (parts of)
- clothes 7 (fasteners)
- clothes 8 (necklines)
- clothes 9 (styles)
- clothes 10 (shoes)
- clown
- club
- cobweb
- coconut shy
- cog
- cold frame
- columns
- comb
- compass
- computer
- concertina
- cone
- confetti
- conifer
- conservatory
- contour
- conveyor belt
- coral
- corkscrew cork

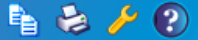
## Index

trousers *noun*  
 trout *noun*  
 trove *noun*  
 truancy *noun*  
 truant *noun*  
 truce *noun*  
 truck *noun*  
 trucker *noun*  
 trudge *verb*  
 trudge through *phr verb*  
 true *adj.*  
 truly *adv.*  
 trump *noun*  
 trumped-up *adj.*  
 trumpet *noun*  
 trumpet *verb*  
 trump up *phr verb*  
 truncheon *noun*  
 trundle *verb*  
 trunk *noun*  
 trust *noun*  
 trust *verb*  
 trusted *adj.*  
 trustee *noun*  
 truth *noun*  
 truthful *adj.*  
 truthfully *adv.*  
 try *noun*



Genie

Exercises



## trousers *noun* (esp. BrE) → See also [PANTS](#)

### ADJECTIVE

- **long, short** (BrE)  
*I was still in short ~ (= still only a boy) at the time.*
- **baggy, loose**
- **tight**
- **drainpipe** (BrE), **flared**
- **camouflage, combat**
- **pyjama/pajama, tracksuit** (BrE)
- **corduroy, cotton, leather, linen**

### ... OF TROUSERS

- **pair**

### VERB + TROUSERS

- **pull on, pull up**  
*He quickly pulled on his ~ and a T-shirt.*
- **drop, pull down, unzip**  
*He dropped his ~ in a rude gesture.*

### TROUSER + NOUN

- **bottoms, leg, pocket**  
*He tucked his trouser bottoms into his socks.*

### PREPOSITION

- **in ~**  
*He disapproves of women in ~.*

SEARCH

FREQUENCY

CONTEXT

ACCOUNT

FIND SAMPLE: [100](#) [200](#) [500](#) [1000](#)




PAGE: [◀](#) [▶](#)  / 22 [↻](#)































2113 ENTRIES: 731 TEXTS 

LIMITS: **NONE**

SORTING: **GENRE**

CLICK FOR MORE CONTEXT

SAVE
  TRANSLATE
  ANALYZE
 **HELP** 

1	JNG	S_meeting			coffee, no sticky buns on the table (pause) er my helpers don't wear <b>trousers</b> or leggings because helpers, like the goods, come in all sorts of shapes
2	JP7	S_meeting			man who erm replaced erm Mr Yeo (SP:PS4H8) (laughing) Oh yes. (SP:PS4H4) with his <b>trousers</b> down. Now I think erm Ron (unclear) was a bit upset because he
3	JTB	S_meeting			give them their radio back then. (SP:PS4UW) I gave them some er jackets and <b>trousers</b> that I got in stock down there that's that's that's it then
4	FU6	W_fict_drama			They join the two belts, and hold them taut between them. ROS's <b>trousers</b> slide slowly down. HAMLET enters opposite, slowly, dragging POLONIUS's body.
5	FU6	W_fict_drama			two people can do. (They undo the belts: ROS pulls up his <b>trousers</b> .) ROS: (Worriedly -- he walks a few paces towards HAMLET's
6	CH1	W_newsp_tabloid			THE LIMIT # RICK SKY # LOVE-HUNGRY fellas in Californian colleges wear jockstraps outside their <b>trousers</b> in a desperate bid to woo the girls -- and women like
7	CH1	W_newsp_tabloid			Roach, who produced the Laurel and Hardy movies, had not buttoned up his <b>trousers</b> properly.' I got a women member of the production team to have a
8	CH2	W_newsp_tabloid			carriages and REACHED a screaming man who had a bone sticking out of his ripped <b>trousers</b> . Dr Bob calmly injected a pain-killing drug into the man's backside.
9	CH2	W_newsp_tabloid			London's Hosiery Show yesterday. And it gave a whole new meaning to tight <b>trousers</b> ! Picture: ARNOLD SLATER # Pinter drama # THE playwright Harold Pinter v
10	CH5	W_newsp_tabloid			# MARILLION singer Steve Hogarth was left red-faced when a fan tried to rip his <b>trousers</b> off during a sell-out show. Steve, 30, was performing at the National
11	CH5	W_newsp_tabloid			n't believe it. This girl ripped my shirt off and then went for my <b>trousers</b> . It took four bouncers to get her off me.' # THE LIMIT #
12	CH5	W_newsp_tabloid			Kelly demonstrates to Chris Smith the pitfalls of wearing clothes back to front... his <b>trousers</b> keep falling down. # 10,000 FIZZ OF CYNTHIA'S GOLDEN DAY # JAN
13	CH5	W_newsp_tabloid			item and ONE lucky reader will also win Almighty singer Ricky Warwick's black leather <b>trousers</b> (28 in waist) worn during the band's last tour, PLUS a
14	CH5	W_newsp_tabloid			to arrive. When I emerged I had to borrow a pair of chef's <b>trousers</b> ,' he admitted. But Shaunagh took it all in her stride. She
15	CH5	W_newsp_tabloid			one liked us until we changed our hairstyles. Grow your hair and wear tight <b>trousers</b> and success is easy.' # FACT FILE # Good old country comforts #

	OALD	LLCE	CCED	LDCE	CALD	OCD	BNC
lists words in alphabetical order							
uses topics as an organizing principle							
gives definitions							
includes tables and pictures							
gives pronunciation							
gives information about style							
indicates differences between British and American pronunciation / usage / spelling							
gives information on grammar							
give examples of usage							
gives Czech equivalents of English words							

1. *What is the difference between a dictionary, a lexicon and a corpus (N.B. plural form: corpora)?*
2. *What are the advantages and disadvantages of using on-line translators?*
3. *Do you know any other useful on-line or off-line tools you can use?*

**Which English dictionary to choose? Here are some questions you might ask.**

1. *Is it written for native English speakers, or for people whose first language is not English?*

Some of the most famous dictionaries, such as *Webster's* or the *Concise Oxford Dictionary*, are designed for native English speakers. Dictionaries designed for speakers of other languages have special grammar and pronunciation information, which you might find useful.

2. *Does it cover American English, British English, or both?*

A good dictionary will cover both, in depth, and will show differences in pronunciation, usage and meaning.

3. *Does it help me use and understand English?*

No dictionary can make you a fluent speaker or accurate writer, but a dictionary which has many examples of up-to-date English will help show how English is really used by native speakers. All dictionaries designed for speakers of other languages use grammar codes. These codes are not always easy to understand, and are not always linked to example sentences. Look inside the dictionary: see whether you can understand the grammar codes, and whether they are linked to clear examples.

4. *Does the dictionary use labels to help you?*

A good dictionary shows you when and how to use words. It clearly labels words that are slang or need to be used with caution.

5. *Can I understand the definitions?*

Some learners' dictionaries use a controlled defining vocabulary. Check that the defining vocabulary is within your level range. A good dictionary will indicate the language that the dictionary is aimed at.

6. *How do I find the meaning I'm looking for if the word has many meanings?*

Most dictionaries divide up the senses of a word. Some use numbers to indicate the different senses, some use short descriptions to show the subject areas and contexts in which the word may be used. Look, and see which approach you find most useful.



7. *Can I find my way around the dictionary?*

Idioms and set phrases are difficult to find, if you don't know where to look for the entry. What does 'burn the midnight oil' mean, for example? Do you look under 'burn', 'midnight', or 'oil'? Some dictionaries have ways of helping you find idioms and phrases quickly and easily.

8. *Was the dictionary designed for speakers of my language?*

Some words in English look as though they mean the same as words in other languages. *Sensible*, for instance, does not mean *sensible* in French or *sensible* in Spanish. These are known as 'false friends'. How does the dictionary handle this problem? Is there an entry for your language?

9. *Does the dictionary use illustrations?*

Most modern dictionaries designed for speakers of other languages use pictures. But do they illustrate single words, groups of items or groups of words which sound the same but have different meanings? Look under 'tools', for instance, or 'bridge'.

10. *Why should I use a monolingual dictionary?*

Words don't always translate exactly from one language to another. A good monolingual dictionary will give plenty of guidance on usage, style and context which a bilingual dictionary may not provide.

## EXERCISES – USING A DICTIONARY

II. *Work with the dictionary to answer these questions.*

1. Who is a **first-time buyer**?

2. What is the plural of the noun **fish**?

3. Is a **fishwife**:

- a) a woman that sells fish?      b) an unpleasant and offensive woman?      c) the wife of a fisherman?

4. Which of the following sentences are correct? Look at **fish out** and choose the correct sentences.

- a) She fished a book out of her bag.  
b) She fished out a book from her bag.  
c) She opened her bag and fished out a book.

5. What does it mean if a person has **bigger fish to fry**?

6. What do you call the shop where you buy fish?

7. Is **fisticuff** a word?

8. Where are **gills** on a fish? (See picture.)

9. What would you do with a **fish-finger**?

- a) eat it                      b) play it                      c) throw it away

What is the American word for **fish-finger**?

10. What is the past tense of the verb **fit** in British English?  
in American English?

**COLLOCATION** = a word or phrase which is frequently used with another word or phrase.

III. Read these sentences and choose the words which can be used in each space. There may be more than one correct answer. If you need help, look in the dictionary at the entry for the word written in bold letters.

1. They couldn't see anything because of the **dense** \_\_\_\_\_ .  
a) fog                      b) undergrowth              c) people                      d) weather
2. Can I **pay** for this \_\_\_\_\_ cash?  
a) with                      b) by                      c) in                      d) through
3. I was determined to \_\_\_\_\_ the **opportunity**.  
a) catch                      b) gain                      c) seize                      d) hold
4. She is **related** \_\_\_\_\_ me through her husband's family.  
a) of                      b) to                      c) with                      d) from
5. It's one of the stresses (**stress**) and \_\_\_\_\_ of modern life.  
a) strains                      b) disasters                      c) worries                      d) problems
6. The team started the year with a \_\_\_\_\_ **victory**.  
a) good                      b) resounding                      c) stunning                      d) beautiful
7. His problems seemed to \_\_\_\_\_ into **insignificance**.  
a) fade                      b) go                      c) hide                      d) pale
8. The teacher asked us to **learn** the poem by \_\_\_\_\_ .  
a) memory                      b) mind                      c) heart                      d) read
9. She promised to **mend** her \_\_\_\_\_ .  
a) ways                      b) behaviour                      c) behaviours                      d) habits
10. After the flood, the government declared a **state** of \_\_\_\_\_ .  
a) urgency                      b) emergency                      c) disaster                      d) catastrophe

**PART 2**

**PHONETIC SYMBOLS**

IV. Study the phonetic symbols. Then match the words below to the symbols (according to the underlined part of each word).

ɪ	ɪ	ʊ	u:	ɪə	eɪ		
e	ə	ɜ:	ɔ:	ʊə	ɔɪ	əʊ	
æ	ʌ	ɑ:	ɒ	eə	aɪ	aʊ	
p	b	t	d	tʃ	dʒ	k	g
f	v	θ	ð	s	z	ʃ	ʒ
m	n	ŋ	h	l	r	w	j

judge, bed, here, short, men, sit, zoo, go, too, the, day, go, sing, part, not, no, pig, time, wear, very, do, church, boy, window, kilo, America, read, think, but, six, cat, five, book, casual, tour, milk, hello, yes, sort, live, read, how, my, word

**PART 3**

**WORD FORMATION**

<b>PREFIXES</b>				
<b>EXPRESSING NEGATIVES</b>		<b>EXPRESSING REPETITION OR CHANGE</b>		
un-	dis-			re-
in-	a-			en-
im-	mal-			em-
il-	mis-			
ir-	non- ( <i>usually hyphenated</i> )			
<i>N. B. Prefix in- does not always mean not or no.</i>				
<b>EXPRESSING VARIOUS KINDS OF RELATIONS</b>				
bi- ( <i>often hyphenated</i> )	extra-	micro-		over-
uni- ( <i>often hyphenated</i> )	fore-	mono-		pseudo-
anti-	inter-	multi-		under-
co-	post-	hyper-		auto-
counter-	pre-	super- ( <i>often hyphenated</i> )		self-
ex-	sub-	ultra- ( <i>often hyphenated</i> )		
pro-		semi- ( <i>often hyphenated</i> )		

SUFFIXES			
<b>FORMING NOUNS DENOTING PERSONS</b>		<b>FORMING ABSTRACT NOUNS</b>	
-ee	-or	-age ( <i>N. B. pronunciation!</i> )	-ism
-eer	-ian	-al	-ity
-er	-ist	-ance, -ence, -ancy, -ency	-ment
-ess	-ster	-ion (-ation, -tion, -sion, -ssion)	-ness
<i>N.B. the difference: <b>physician</b> x <b>physicist</b></i>		-cy	-ry, -ery
		-dom	-ship
		-hood	-ure
		-ing	
<b>FORMING ADJECTIVES FROM NOUNS</b>	<b>FORMING ADJECTIVES FROM ADJECTIVES AND ADVERBS</b>	<b>FORMING ADJECTIVES FROM VERBS</b>	
-al	-ish	-ish	-able, -ible
-an	-less	-some	( <i>N.B. pronunciation of <b>-able</b></i> )
-ed	-like	-ly	-y
-en	-ly	-ward	-ful
-ese	-ous		-ive
-ful	-some		
-ian	-y		
-ic, -ical			
<i>N.B. the difference: <b>economic</b> x <b>economical</b></i>			
<b>FORMING VERBS</b>		<b>FORMING ADVERBS</b>	
-en		-ly	
-fy		-wise, -ways	
-ise ( <i>British</i> ), -ize ( <i>American</i> )		-ward, -wards	
		<i>N.B. suffix <b>-ly</b> does not always denote an adverb</i>	

V. Use a dictionary to find:

1. examples of words formed by means of prefixes; compare the meaning of prefixes;
2. an example of a word in which the prefix in- has a meaning other than negative;
3. examples of words formed by means of suffixes (find various suffixes);
4. collocations of the words *electric* and *electrical*;
5. an example of a word with the suffix *-ly* that is not an adverb; then form an adverb.

## EXERCISES – WORD FORMATION

### Prefixes

I. Which prefix forms the opposite of these words? (The bottom line are all verbs, the rest are adjectives.)

.....happy	.....patient	.....polite	.....legal
.....correct	.....regular	.....visible	.....possible
.....legible	.....friendly	.....employed	.....honest
.....pack	.....lock	.....agree	.....like

II. Agree with these statements:

Example: A: He doesn't have a job, does he?

B: No, he's unemployed.

1. It's against the law, isn't it?  
Oh yes, .....
2. His room is always in a mess, isn't it?  
Yes, .....
3. He took off his clothes?  
Yes, .....
4. This handwriting is impossible to read.  
Yes I know, .....
5. She can never wait for five minute, can she?  
No, .....
6. I thought it was rude, didn't you?  
Yes, it was very .....

III. Complete the verbs in these sentences.

1. I'm sorry, I mis..... her message completely.
2. We un..... as soon as we got to the hotel, then went out for a walk.
3. She was there a minute ago, but then she dis..... I'm afraid I don't know where she is now.
4. We normally have similar opinions but I dis..... with him totally on the subject of drugs.
5. My homework was so bad that I'll have to re..... it.
6. Apparently her alarm clock didn't ring and she over.....

7. She finally managed to un..... the door and we were able to go inside.
8. I dis..... the film, but the others enjoyed it.
9. I don't think I'll pass the exam, but I can always re..... in September.
10. The post office shuts for lunch but It should re..... at 2.00 p.m.
11. She's over..... at the moment. She really needs a holiday and a complete break from her job.
12. My sister wrapped up my present so well that it took me about five minutes to un..... it.

*IV. Practise using words with negative prefixes. Contradict the following statements in the same way as the example.*

Example: He's a very honest man. I don't agree. I think he's dishonest.

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1. I'm sure she's discreet.          | 6. He's very efficient.              |
| 2. I always find him very sensitive. | 7. I always find her responsible.    |
| 3. It's a convincing argument.       | 8. He seems grateful for our help.   |
| 4. That's a very relevant point.     | 9. I'm sure she's loyal to the firm. |
| 5. She's always obedient.            | 10. He's a tolerant person.          |

*V. Which negative adjective fits each of the following definitions?*

1. .... means not having a husband or wife.
2. .... means impossible to eat.
3. .... means unable to read or write.
4. .... means not having a job.
5. .... means fair in giving judgement, not favouring one side.
6. .... means unable to be replaced.

*VI. Choose a negative verb to fit each of the sentences below. Put it in the correct form.*

Example: The runner was disqualified after a blood test.

1. Children (and adults) love ..... parcels at Christmas time.
2. I always find that I ..... with his opinion.
3. I'm sure he's lying but it's going to be hard to ..... his story.
4. After a brief speech the Queen ..... the new statue.
5. It took the removal men an hour ..... our things from the van.
6. His phone was ..... because he didn't pay his last bill.

VII. Answer the following questions.

1. What kind of oven cooks things particularly fast?
2. What kind of drug can help somebody with an infection?
3. What kind of a company has branches in many countries?
4. How does a passenger aeroplane normally fly?
5. What is a student who is studying for a second degree?
6. What means 'underground railway' in the US and 'underground passage' in the UK?

VIII. Construct words or phrases to replace the underlined words.

Example: He's in favour of the American approach. He's pro-American.

1. The BBC tries to avoid pronouncing foreign words incorrectly.
2. Most people say they have to work too hard but are paid too little.
3. He dated his cheque with a date that was later than the real date.
4. She's still on good terms with the man who used to be her husband.

### Suffixes

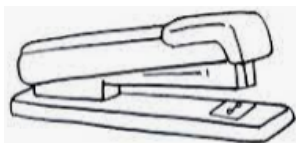
IX. Use the suffixes **-er/-or**, **ee** and **-ist** to give the names of the following.

Example: A person who plays jazz on the piano.      a jazz pianist.

1. The thing that wipes rain off your car windscreen.
2. A person who plays classical violin.
3. A person who takes professional photographs. (N.B. pronunciation)
4. A person who acts in amateur theatre.
5. The person to whom a cheque is made out.
6. A machine for washing dishes.
7. A person who donates their kidneys upon their death.
8. The person to whom a letter is addressed.

X. Each picture is of an object ending in **-er**. Can you name them?

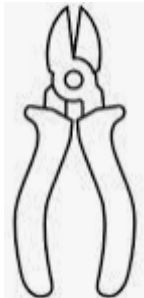
a)



b)



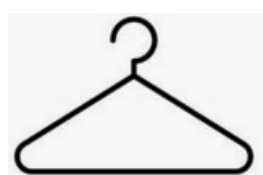
c)



d)



e)





XI. Spelling changes. Rewrite each sentence by changing the underlined words. Make any spelling changes needed.

1. Most of his crimes can be forgiven.  
Most of his crimes are .....
2. The Club refuses to admit anyone not wearing a tie.  
The Club refuses ..... to anyone not wearing a tie.
3. Her only fault is that she is lazy.  
Her only fault is .....
4. This firm has produced a lot in recent years.  
This firm has been very ..... in recent years.
5. I found the book very easy and pleasant to read.  
I found the book very .....

XII. Complete the tables and mark the stress on each word.

VERB	NOUN
educate	
improve	
jog	
govern	
spell	
hesitate	
arrange	

ADJECTIVE	NOUN
stupid	
dark	
weak	
similar	
punctual	
ad	
popular	

XIII. Fill the gaps with suitable adjectives.

1. You must be very ..... when you drive in wet weather.
2. It was so ..... this morning that I couldn't see more than twenty metres in front of me.
3. Everyone in my country has heard of her; she's very .....
4. The people in the tourist information office were very ..... and answered all our questions without any problems.
5. This is very ..... road; there were at least three serious accidents on it last year.
6. It was very ..... when I hit my leg against the corner of the table.
7. This bag is very ..... because I can use it for work or when I go on holiday.
8. We've never had any problems with our TV in ten years; it's been very .....

9. The factory is in the middle of the ..... part of the city, surrounded by other factories.
10. I made some coffee, but it was horrible. In fact, my sister said it was .....
11. I'm afraid my working hours are very .....; I have to start at exactly the same time every day and finish at the same time every day.
12. It seems terrible to me that there are so many ..... people living in a city with thousands of empty houses.

*XIV. Answer the questions.*

- a) How many of these words can form opposites with the suffix –less?  
 b) Can you think of words which mean the opposite of the other words (the ones without –less)?

painful      wonderful      useful      careful      beautiful      tactful  
 awful      thoughtful

**Word formation – mix**

*XV. Complete the texts by writing a form of the word in CAPITALS in each space.*

1.

(1) ..... of your new energy-efficient domestic gas boiler is free of charge, and will be performed within 5 days of payment. Regular (2) ..... from a qualified engineer is advised. The system comes with an (3) ..... cover, which can be kept fully extended or half down. The cover must be completely removed for repairs to be carried out. As with all (4) ..... equipment, please exercise great care if you are attempting to repair the ..... yourself.	INSTALL MAINTAIN ADJUST ELECTRIC APPLY
--	--

2.

Attach the motor to the (6) ..... outlet-pipe. Screw the motor down into place. If the motor does not engage, remove it and (7) ..... the outlet-pipe. All engineers installing or repairing this machinery must observe all necessary (8) ..... precautions. This includes the wearing of goggles, masks and other (9) ..... equipment. For instructions on how to remove the outlet valve, please refer to the (10) ..... described on page 28 of this manual.	CYLINDER TIGHT SAFE PROTECT PROCEED
--	---

3.

<p>This year, (1) ..... in the factory has suffered because of a lack of expert technical knowledge. As a result we have made very substantial (2) ..... in sending employees on training courses. The fact remains that it is becoming increasingly difficult to get skilled labourers with the right (3) ....., experience, and above all, (4) ..... . The company has also suffered this year from the industrial ..... in November, which saw 340 union members walk on in a pay dispute. Union (6) ..... eventually sat down with management and negotiated a four per cent pay rise and five working days were lost. We also now recognize the need to (7) ..... in some areas, and our management (8) ....., Prior and Young, have identified the need for at least three departments to be (9) ..... . It is thought that this will mean the loss of between six and ten jobs, though the exact figures will be (10) ..... in the next report.</p>	<p>PRODUCT INVEST  QUALIFY EXPERT ACT REPRESENT  ECONOMY CONSULT STREAM CLEAR</p>
--	---

XVI. Put the words into 4 groups (according to the meaning, part of speech and suffixes used)

thickness, option, sideways, Chinese, machinery, optional, homeless, likelihood, closure, technical, malfunction, occurrence, imperfect, lengthen, inconsistent, intensify, towards, unrelated, clockwise, disapprove, vaporise, atomic, shortly

**FALSE FRIENDS**

Using a Czech and English (monolingual) dictionary compare the meanings of the words *respektive* (in Czech) and *respectively* (in English).

(Suggested website for the Czech word: <http://prirucka.ujc.cas.cz/> )

## UNIT 2

### DIFFERENCES AND SIMILARITIES

#### PART 1

#### ANOTHER, (THE) OTHER, (THE) OTHERS - REVISION

	SINGULAR	PLURAL	
<i>unspecified</i>	another book / one	other books / ones	others
<i>specific</i>	the other book / one	the other books / ones	the others

#### GRAMMAR EXPLANATION

##### „UNLIMITED SET OF ITEMS“

#### ANOTHER

= **an** (*indefinite article*) + **other** → can ONLY be used with **singular countable nouns**.

Exception:

**Another + specific number** (two, ten, five hundred) or **few** (not ~~some, any, no, a, the~~)

Examples: *another two students, another few people*

Meaning:

#### 1. ještě jeden, další

In plural and uncountable nouns this corresponds to **some more**

Examples: *another cup of tea, some more meat*

#### 2. jiný

Examples: *paint it another colour*

#### OTHER

is used with **plural or uncountable nouns** OR with **some, any, no + noun**

Meaning:

#### 1. jiný

Examples: *other students, any other questions?, some other time*

**OTHERS** = jiní, ostatní.

used **ONLY WITHOUT a noun**

Meaning:

#### 1. jiní, ostatní

Examples: *Some people stayed at home, others went for a walk or went shopping.*

## „LIMITED SET OF ITEMS“

### THE OTHER

Meaning:

**1. ten druhý, druhý ze dvou**

Examples: *on the one hand – on the other hand*

Compare: *other people* = jiní lidé x *the other people* = ti druzí lidé, ti další lidé (zbytek ze skupiny)

**THE OTHERS** = ti druzí (zbytek ze skupiny).

used with **ONLY WITHOUT a noun**

Meaning:

**1. ti druzí (zbytek ze skupiny)**

## OTHER (SELECTED) CASES

**ONE ANOTHER, EACH OTHER** are so called reciprocal pronouns (*vzájemnostní zájmena*). There is a slight difference between them:

**each other** refers to persons as individuals, not as members of a group;

**one another** is more formal, objective, often used in orders or directions. It may refer to more than two people.

**Fixed expressions:**

**THE OTHER DAY** - onehdy

**ONE AFTER THE OTHER = ONE AFTER ANOTHER** - jeden po druhém, po sobě

**THE OTHER WAY ROUND** – obráceně

---

## EXERCISES – OTHER(S), ANOTHER, THE OTHER(S)

*1. Fill in the correct words.*

Time flies! ..... weekend is here. Shall we go for ..... trip? Let's go to see ..... castle. Many ..... family members of the family will join us; ..... people, too. Together we can tour the castle in which, apart from historic objects, there are many ..... things to see. This will be a chance to see ..... exhibition of clocks and ..... technical developments. In addition, ..... works of art are in the castle park, where there are also some exotic trees and ..... rare plants.

*II. Translate the sentences and suggest suitable Czech equivalents of „other“.*

1. The university offers to the students outdoor sport fields and a new indoor athletics and training centre.
2. University accommodation is guaranteed only to first-year students. The others must find their own accommodation.
3. The main campus lies to the north of Birmingham, eight other sites are spread across the city.
4. Around two thirds of students are local, the others arrive from Ireland, England or from overseas.
5. Some social events are organized by the students' union, others are organized by individual college common rooms.
6. Some of these structures were permanent, others were dismantled and moved to a different location.
7. The project was led by a British team, but various parts of the structure were built in other European countries.
8. No other structure of this kind has ever been built.
9. This and some other plants are used to treat asthma.
10. Some of these plant extracts are already well known. The others will be studied as part of the present project.
11. The study of traditional drugs is quite another matter.

*III. Choose the correct expression.*

1. I answered the phone but all that was on \_\_\_\_\_ end was silence. *another / other / the another / the other*
2. The two countries had been at war with one \_\_\_\_\_ for many years. *another / other / others / the other*
3. Sunday is not nearly as busy as \_\_\_\_\_ days of the week. *another / anothers / the other / the others*
4. Our team only plays every \_\_\_\_\_ Sunday and the match usually takes an hour. *another / other / others / the other*
5. I decided to come to you, because I have no \_\_\_\_\_ friends. *another / anothers / other / others*
6. I have a lot of great books. If you don't like that one, I'll lend you \_\_\_\_\_. *another / other / the another / the other*
7. I think that the third Jurassic Park movie wasn't as good as \_\_\_\_\_. *anothers / others / the other / the others*
8. We soon realized that we couldn't live without each \_\_\_\_\_ and decided to get married. *another / other / others / the other*
9. He believes in reincarnation and he always speaks about what he was and what he did in \_\_\_\_\_ life. *another / his another / other / the other*
10. Many people know the 'Golden Rule': "Treat \_\_\_\_\_ the way you would like to be treated." *anothers / other / others / the other*
11. Which of the expressions (other, another, the other...) in the above exercise do not exist?

**PART 2**

**COMPARATIVES AND SUPERLATIVES**

**EXERCISES – COMPARISONS**

*IV. Read the following information:*

	PRICE £	TOP SPEED mph	PETROL CONSUMPTION mpg	SAFETY	RELIABILITY	STYLE	YEAR
car 1	36,000	184	42.5	good	v. good	good	2018
car 2	42,000	146	38.7	v. good	good	v. good	2020
car 3	28,000	139	45.3	poor	good	poor	2015
car 4	30,000	155	54.4	good	v. good	good	2022

£= pounds

mph = miles per hour

mpg = miles per gallon

*V. Use the above information to fill the gaps in the following sentences with the correct forms of adjective:*

cheap, dangerous, economical, expensive, fast, unattractive, new, old, reliable, safe, slow, stylish, uneconomical, ugly, unreliable, elegant.

- price      The fourth car is ..... than the first car, but it is ..... than the third car.
- speed      The second car is ..... than the third car, but it is ..... than the fourth car. But the ..... of all is the first car.
- economy      The first car is ..... than the second car, but it is ..... than the third car.
- safety      The fourth car is ..... than the third car, but it is ..... than the second car.
- reliability      The first car is ..... as the fourth car, but it is ..... than the second car.
- style      The fourth car is ..... as the first car, but it is ..... than the third car. The ..... of all is the second car.
- year      The second car is ..... than the first car, but it is ..... than the fourth car. The ..... of all is the third car.

VI. Use the information in the table and the adjectives given above to complete the following sentences in any way which makes them true:

Example: The **first** car is as stylish as the **fourth** (one).

1. The ..... car is as ..... as the ..... (one).
2. The ..... car not as ..... as the ..... (one).
3. The ..... car is almost as ..... as the ..... (one).
4. The ..... car is not nearly as ..... as the ..... (one).
5. The ..... car is much ..... than ..... (one).
6. The ..... car is by far the ..... (of all).

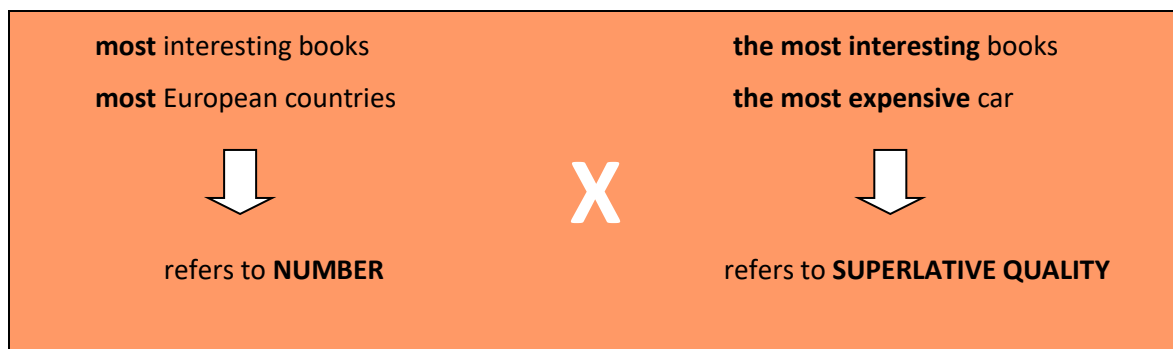
VII. Differentiate: two or more than two?

Example: Both Michael and David are intelligent. **Which is more intelligent?**

I've got three friends. **Which is the best?**

1. All Scottish lakes are deep. Which is .....?
2. Some exercises are suitable for old people. Which are .....?
3. Both labs are modern. Which is .....?
4. The towns are important for different product. Which is .....?
5. The town hall and the church are beautiful. Which is .....?
6. Both methods are useful. Which is .....?
7. Smoking, alcohol and drugs are bad for you. Which is .....?
8. Pollution and stress and dangerous to man's health. Which is .....?
9. Cancer and heart diseases are serious illnesses. Which is .....?
10. Both understanding and speaking are difficult. Which is .....?

### MOST x THE MOST



IX. Decide whether the following sentences refer to number or quality. Mark them N (number) or S (superlative)

1. John is the most intelligent student in this class. \_\_\_\_\_
2. Most intelligent students passed the test. \_\_\_\_\_



3. Only the most intelligent student passed the test. \_\_\_\_\_
4. We agreed on most important questions. \_\_\_\_\_
5. We agreed on the most important questions. \_\_\_\_\_
6. Most expensive cars are no more reliable than cheaper models. \_\_\_\_\_
7. Even the most reliable cars sometimes need repairs. \_\_\_\_\_
8. The most attractive women marry quite ordinary men. \_\_\_\_\_
9. Most attractive women marry quite ordinary men. \_\_\_\_\_

Observe:

Thank you for a **most** enjoyable party. = Thank you for a very / extremely/ highly enjoyable party.  
The party was **most** enjoyable.  
It is / was **most** kind of you to invite me.

*X. Suggest suitable Czech equivalents for the following sentences:*

1. He made a most unsuitable remark.
2. The documentary I saw yesterday was most disturbing.
3. She told us a most absurd story.
4. It's most kind of you to let me come.
5. The results of your test are most encouraging.
6. Paul is a most promising student.

**PART 3**

**SENTENCES: COMPARISONS, CONTRASTS AND PARALLELISM**

Observe some common ways in which comparisons and contrasts can be expressed between sentences:

COMPARISON BETWEEN SENTENCES	CONTRAST BETWEEN SENTENCES
This machine is expensive to buy.	
<b>Similarly</b> , it is expensive to operate. <b>Likewise</b> , it is expensive to operate. <b>Correspondingly</b> , it is expensive to operate.	<b>On the other hand</b> , it is cheap to operate. <b>In contrast</b> , it is cheap to operate. <b>Conversely</b> , it is cheap to operate.

*XI. Put the following linking words into the appropriate groups according to their meanings.*

while, like, however, yet, at the same time, despite, nevertheless, also, unlike, similarly, in the same way, even though, again, compared to, in contrast, regardless, in like manner, correspondingly, contrasted with, likewise, on the contrary, although, still, but, conversely, similar to, on the one hand ... on the other hand

<b>expressing similarity:</b>	<b>expressing difference:</b>
-------------------------------	-------------------------------

**Expressing parallelism**

Observe:

a)	<b>The more</b> you learn, <b>the more</b> you know. The more you know, the more you forget. The more you forget, the less you know. So why learn?
b)	<b>The longer</b> the tape (is), <b>the more</b> information it can store.
c)	<b>The longer</b> the night, <b>the shorter</b> the day. <b>The sooner, the better.</b>

*VIII. Using this pattern, express parallelism between:*

- |   |   |
|---|---|
| 1. the price of a camera and its reliability              | 4. the speed of a car and the duration of a journey                         |
| 2. the degree of automation and the need for manual work. | 5. the simplicity and elegance of an apparatus                              |
| 3. the size of a house and the cost of heating            | 6. the sophistication of a device and the likelihood that it will go wrong. |

**UNIT 3**

**SHAPE, SIZE AND POSITION**

**PART 1**

**POSITION AND SHAPE**

**VOCABULARY**

<b>POSITION</b>	
<b>ADVERBS/ADVERBIAL EXPRESSIONS</b>	<b>ADJECTIVES</b>
<p>in the middle x between x among                      at the top of (x on top of), at the bottom of                      on the right/left hand side of, on either side                      opposite</p> <p>near (to), close to, by</p> <p>behind, in front of, at the back of                      under, over, on top of                      beneath, underneath</p> <p>above, below, diagonally above</p>	<p>touching, adjacent to, attached to                      suspended above/over                      looking down on, looking up to                      fitting into</p> <p>half hidden, partially hidden,                      three sides visible x covering</p> <p>at an angle of 30 degrees,</p> <p>outer – inner                      upper – lower                      front – rear                      inverted, upturned, upside down</p> <p>level with                      equidistant from                      parallel to/with                      perpendicular to</p>
<b>SHAPE</b>	
<b>ADJECTIVES</b>	
<p>circular, semi-circular                      rounded                      curved                      curvilinear                      elliptical, oval                      diagonal</p> <p>pointed                      tapered</p>	<p>shaped like, sail-like, heart-shaped, star-shape                      horizontal, vertical</p> <p>slanting, sloping                      inclined</p> <p>zigzag</p> <p>solid                      hollow</p>

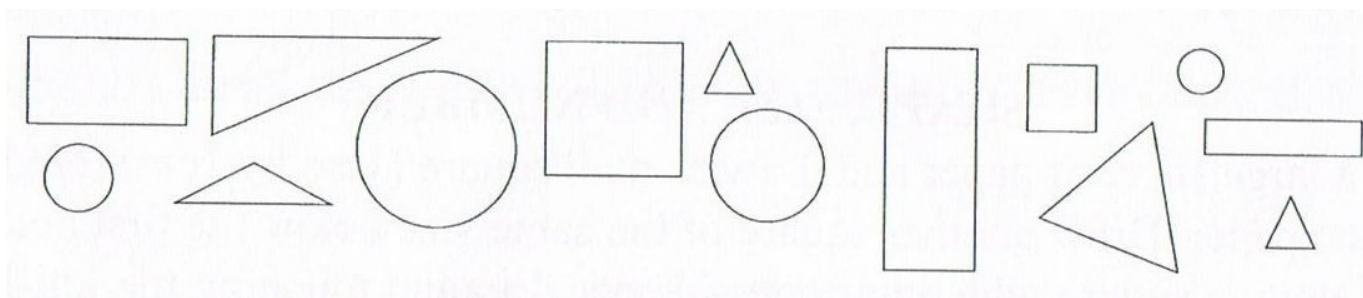
OTHER USEFUL WORDS		
NOUNS	VERBS	ADVERBS
sphere, ball semi-sphere block, prism cube cone pyramid cylinder edge face	bulge taper	approximately, roughly, virtually nearly easily by far

I. Work in pairs.

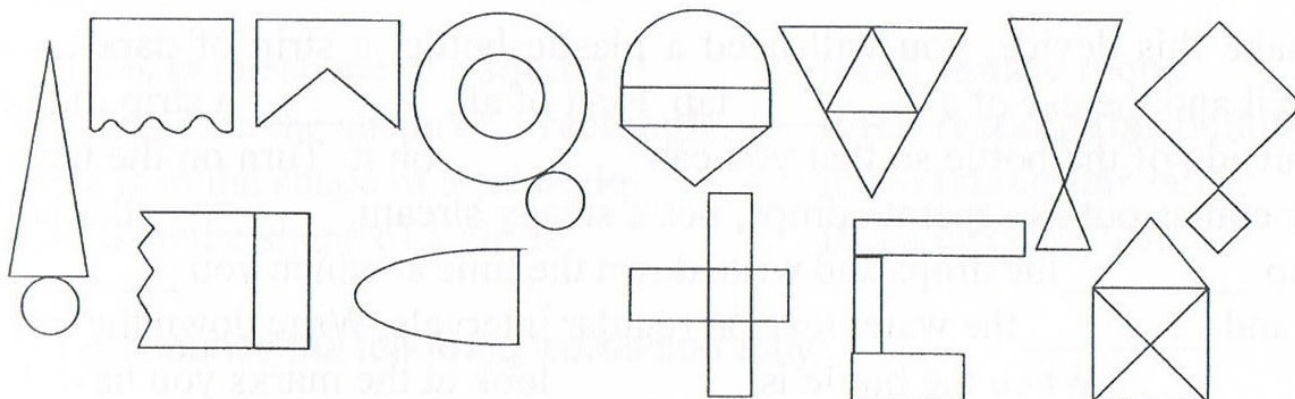
a) Ask your partner to find a particular figure: **a small / big square, triangle, circle, rectangle.**

b) Say where it is. Use the expressions:

**above, under, next to, on the left, on the right, in the middle of, between**

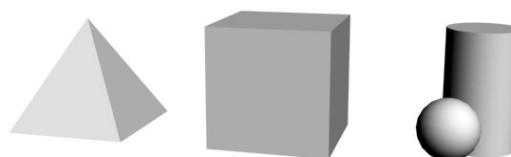


II. Choose one of the shapes below. Tell your partner how to draw it, use the vocabulary from the table above. Then compare your figures.



III. Read the description of the figure below:

There is a cube between a pyramid on the left and a sphere on the right. They are level with the cube and equidistant from it. There is a vertical cylinder behind the sphere, slightly to the right of it and partially hidden.

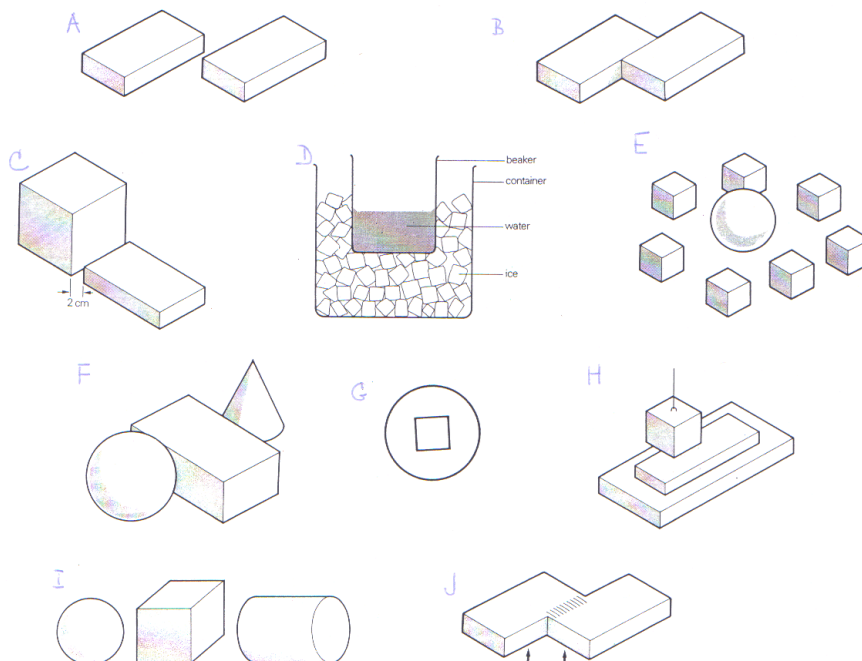


IV. Now write a description of the following figure.

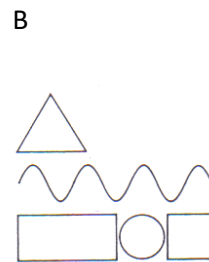
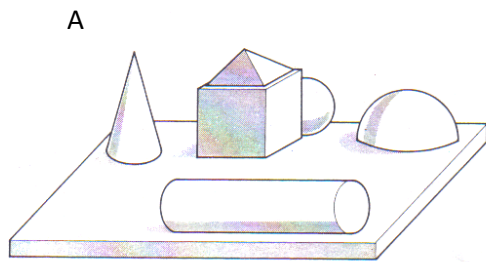


V. Match the following descriptions with the figures below:

1. The cube is suspended above/over the small rectangular block.  
The small rectangular block rests on top of the large rectangular block, under/below/beneath/underneath the cube.
2. The cone is behind/at the back of the rectangular block.  
The sphere is in front of the rectangular block.
3. The cube is between the sphere and the cylinder.
4. The square is in the middle /centre of the circle.
5. The rectangular block is near to/close to/on the right (-hand side) of/by the side of/beside the cube.  
The cube is near to/close to/on the left (-hand side) of/by the side of/beside the rectangular block.
6. There is water inside the beaker. The beaker stands in/inside a container of ice. There is ice around the beaker.
7. There is a sphere among/amongst the cubes.
8. These blocks are touching (each other).
9. These blocks are separate/apart.
10. These blocks are joined. These two sides are adjacent (to each other).



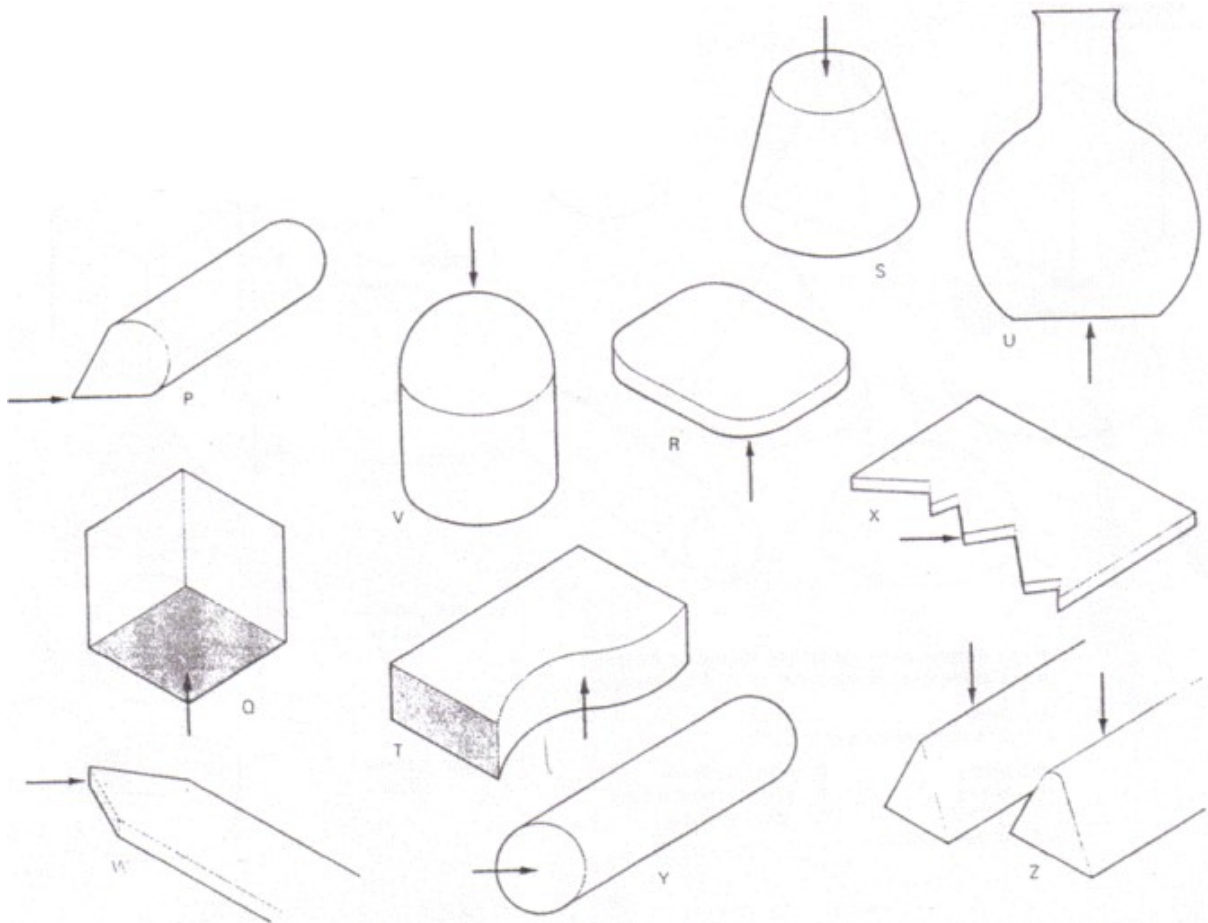
VI. Describe the following figures. Write your descriptions on a separate sheet of paper.



VII. Make simple drawings of the following:

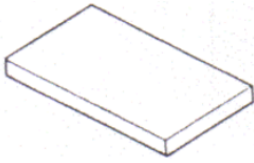
- |                                   |                          |
|-----------------------------------|--------------------------|
| 1. an acute-angled triangle       | 6. a two-pronged fork    |
| 2. an irregular five-sided figure | 7. a three-legged stool  |
| 3. an S-shaped tube               | 8. a star-shaped crystal |
| 4. a flat-headed screw            | 9. a flat-bottomed ship  |
| 5. a wide-toothed saw             | 10. a four bladed fan    |

VIII. Describe the shapes of the parts of the following object which are marked with an arrow. For example: The end of P is pointed.

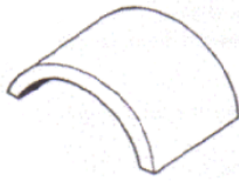


IX. Study the pictures and then complete the sentences with appropriate adjectives.

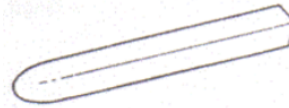
A



B



C



D



1. While A is a ..... plate, B is a ..... plate.
2. C is a rod which is ..... at one end. On the other hand, D is .....

X. Fill in the chart. Then underline the adjective or noun from which the verb is derived.

ADJECTIVE	NOUN	VERB
	width	
		broaden
deep		
short		
	length	
		strengthen
weak		
thick		

XI. Fill in suitable verbs (from the chart above) in these sentences:

1. The time interval between buses has been \_\_\_\_\_ to five minutes.
2. Outside the town the road \_\_\_\_\_ and turned south.
3. On its way to the sea the river \_\_\_\_\_ and is used by ships.
4. Close to the beach the sea \_\_\_\_\_ gradually.
5. Frequent washing \_\_\_\_\_ the life of any textile.
6. Lack of exercise \_\_\_\_\_ the body.
7. What other arguments did she use to \_\_\_\_\_ her point?
8. They are going to \_\_\_\_\_ High Street.

XII. Fill the sentences with the appropriate words:  
**dash-and-dot, wavy, solid, zigzag/jagged, dotted, broken, curved**

1. This line is .....



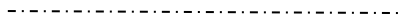
2. This line is .....



3. A ..... line.



4. A ..... line.



5. A ..... line.



6. A ..... line.



7. A ..... line.



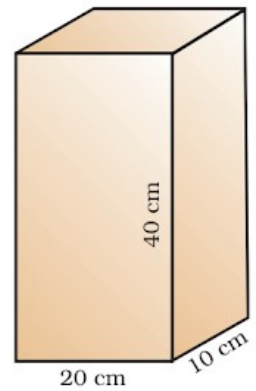


**PART 2**

**SIZE AND SHAPE**

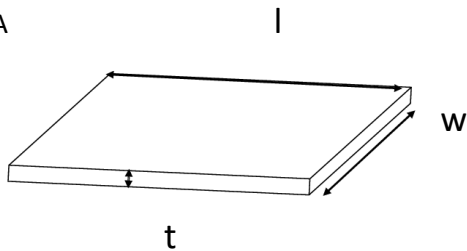
Study the description below:

1. A is a solid wooden block **40 cm high, 20 long and 10 cm wide.**
2. A is a solid wooden block of **height 40 cm, length 20 cm and width 10 cm.**
3. A is a solid wooden block. **It is 40 cm in height, 20 cm in length and 10 cm in width.**
4. A is a solid wooden block which **has a height of 40 cm, a length of 20 cm and a width of 10 cm.**
5. **The height of A is 40 cm, the length is 20 cm and the width is 10 cm.**



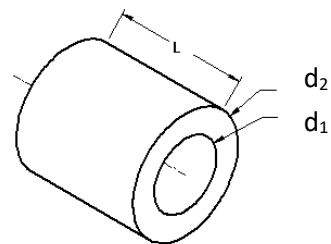
*XIII. Now make similar statements about the following objects:*

A



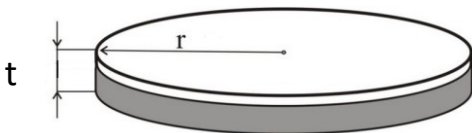
t (thickness) = 0.03 m  
 w (width) = 1.0 m  
 l (length) = 5.0 m  
 (steel)

C



L = 0.75 m (copper)  
 $d_1$  (diameter) = 0.2 m  
 $d_2$  (diameter) = 0.4 m

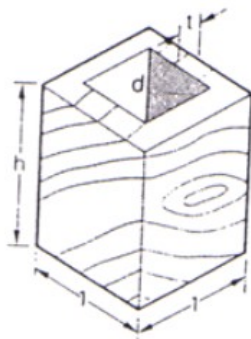
B



r = 20 cm  
 t = 4 cm  
 (plastic)

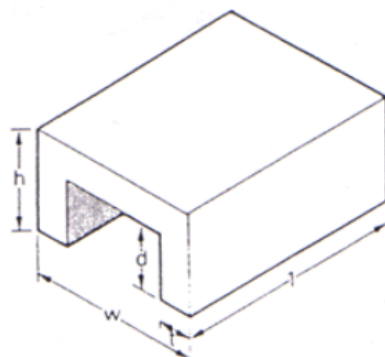
D

h = 10 cm  
 l = 8 cm  
 t = 1 cm  
 d = 9 cm  
 (wood)



l = 0.72 m  
 h = 0.20 m  
 d = 0.28 m  
 t = 0.04 m  
 w = 0.32 m  
 (aluminium)

E

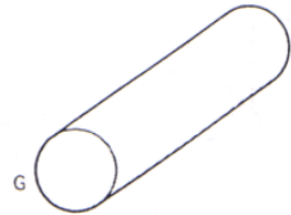
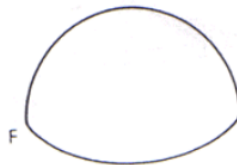
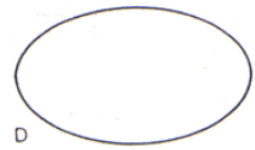
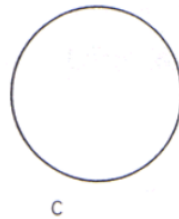
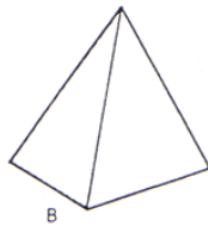
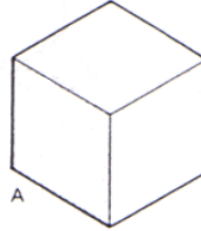


XVI. Here are some important 3-dimensional objects (= bodies/solids). If the objects are made of the following materials, make statements about them as in this example:

A metal

A is a metal cube.

- A steel
- B wood
- C rubber
- D copper (solid)
- E iron (hollow)
- F plastic (hollow)
- G glass (solid)



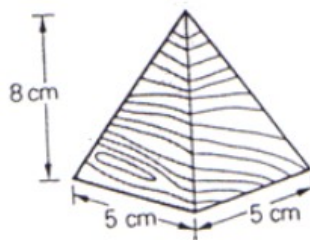
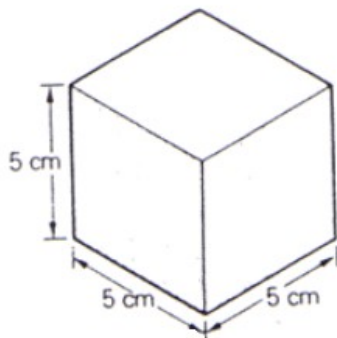
XV. Now describe these objects.

Example: A is a solid steel cube of side 5 cm.  
 having a side of 5 cm.  
 which has a side of 5 cm.

A - cube: solid, steel

B - block: solid, wood

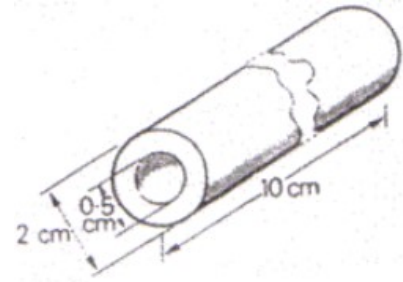
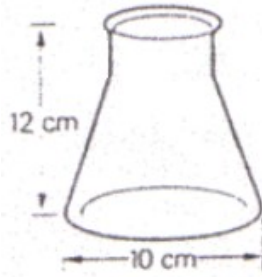
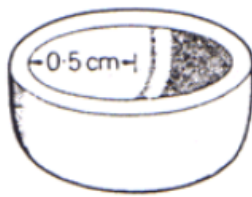
C - ball: hollow, rubber



D – cup: hollow, silver

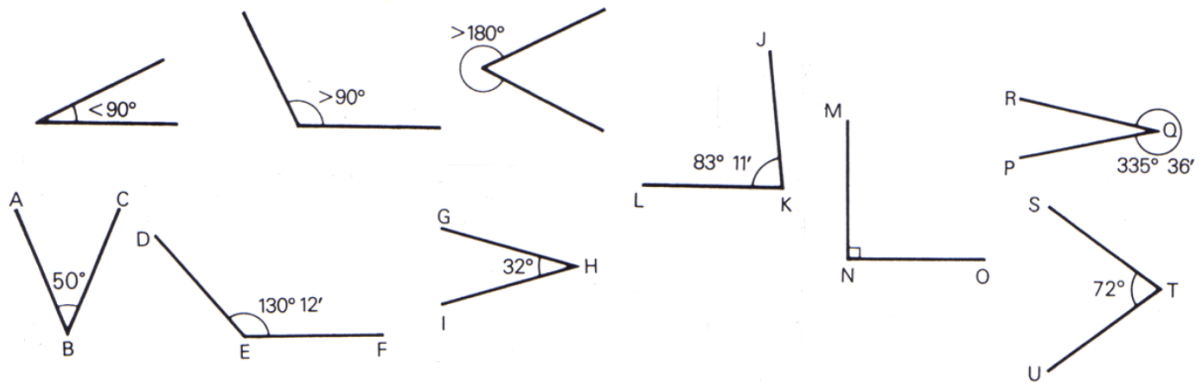
E – flask: empty, glass

F – tube: hollow, copper



XVI. Describe the angles. Use the following expressions:

acute angle, obtuse angle, reflex angle, right angle, full angle, flat angle, arm/leg of an angle, an angle of  $90^\circ$ , an angle of less than  $90^\circ$ , an angle greater than  $90^\circ$ ; vertex (pl. vertices/vertexes)



**The language of approximation**

XVII. Write sentences as indicated below.

Example: The length of  $AB = 9.03$  cm (just over). –  $AB$  is just over 9 cm long.

- |                                       |                   |                           |
|---------------------------------------|-------------------|---------------------------|
| 1. $x = 2.08$ cm long                 | (a) exactly       | (b) approximately         |
| 2. $y = 4.9$ cm deep                  | (a) about         | (b) just under            |
| 3. The value of $\pi = 3.14159$       | (a) approximately | (b) slightly over         |
| 4. The width of the tube = $0.316$ m  | (a) under         | (b) just over (c) exactly |
| 5. The speed of the plane = $622$ kph | (a) a little over | (b) very approximately    |

**Physical features**

XVIII. Fill in the missing items in the right-hand column to form meaningful sentences.

Example: **When we say** a 40-watt bulb, **we are talking about** wattage.

**When we say**

- the road is 8 metres wide,
- the device needs the mains electricity supply of 230 volts,
- this structure is more than 2,000 years old,
- this container holds 120 cubic metres of liquid when full,

**we are talking about**

- .....
- .....
- .....
- .....

- 5. the fence is 150 metres long, .....
- 6. Ben Nevis is 1,345 metres high, .....
- 7. the church tower is seventy seven metres tall, .....
- 8. the country estate is eleven miles from Bath, .....
- 9. The lecture hall can seat two hundred and fifty people, .....

**A/The ..... OF + numeral + unit**

XIX. Read the following sentences and fill in the following words + of, as appropriate: age, altitude, capacity, depth, height, length, price, speed, weight.

Example: The animal grew to a **height of** over a metre and a half.

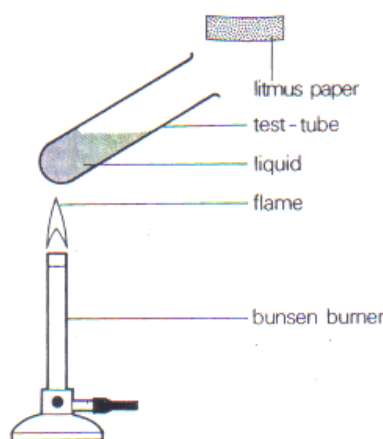
- 1. Is the ..... of 1,700 pounds for an office laptop reasonable?
- 2. The motorcycle was running at a ..... over 220 kph.
- 3. The hot-water tank has a ..... 180 litres.
- 4. British children leave school at the ..... sixteen.
- 5. Loch Ness reaches a ..... 230 metres in the middle.
- 6. The settlement lies at an ..... about 2,700 metres.
- 7. An elephant can grow to a ..... four metres and reach the ..... of 5,000 kilos.
- 8. This kind of shark grows to a ..... four or five metres.
- 9. The mountain rises to a ..... over 6,000 metres
- 10. Isaac Newton died at ..... of eighty-five.

**DESCRIPTION OF A FIGURE**

**Study the following figures and their descriptions:**

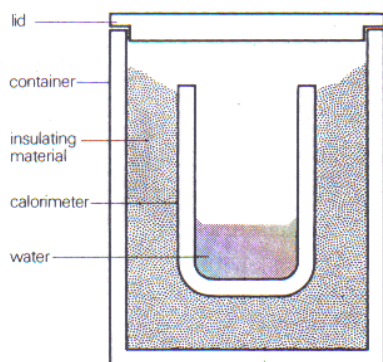
A

A test-tube containing a small quantity of a liquid is held over/above a bunsen burner flame. It is held at an angle of about 45°. A piece of litmus paper is held over the open end of the test-tube.



B

The apparatus below is used for measuring quantities of heat energy. The apparatus consists of a calorimeter, which is made of aluminum or copper, inside a container. The calorimeter holds a quantity of water. There is a space between the inner calorimeter and the outer container, which is filled with insulating material. The top of the apparatus is covered by a lid. The inner calorimeter is therefore completely enclosed by the outer container, and is surrounded by insulating material.

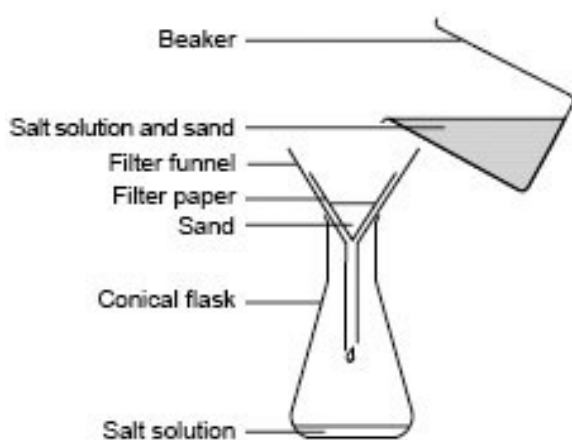


XX. Now study the following description of an apparatus and then draw a diagram of it.

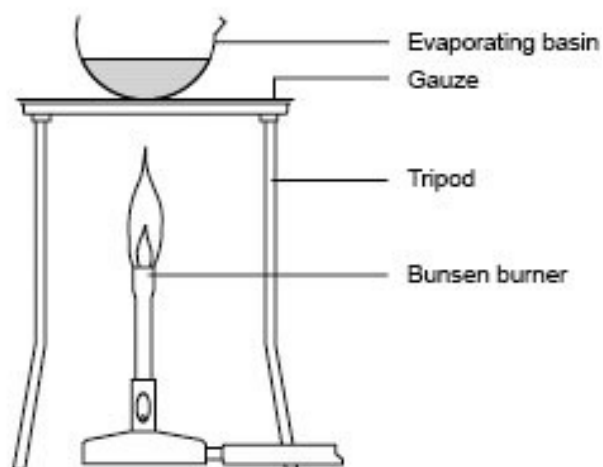
A beaker holds a small quantity of a liquid. It stands on a tripod, over a Bunsen burner. An inverted funnel is suspended over the top of the beaker. The top of the funnel is connected to a tube, which passes into a test-tube beside the apparatus. The test-tube, which also contains a small quantity of liquid, is at an angle of 45° to the horizontal. The end of the tube is below the surface of the liquid in the test-tube.

XXI. Write a description of the two pieces of apparatus below. Use impersonal language (omit words like "we", "you" etc.).

A



B



*XXII. Find the names of the objects described below.*

A

It is square. It is 12.5 cm long and 12.5 cm high. It is made of cardboard and is quite thin. There are pictures and words on both sides of the cardboard. At one end there is an opening. You put a thin, round, silver plastic disc into this opening. The diameter of the disc is 12 cm (almost the same width as the cardboard). There is a small hole in the centre of the silver plastic disk.

B

It is often an oblong, box-shaped object. It is usually 1 m 70 cm long, 70 cm wide and about 50 cm in height. It can be any colour, but it is very often white. When used, the object contains water, which is about 25 cm deep.

C

It is shaped like a triangle. The length of the bottom of the triangle is usually about 40 cm. The other two sides make an angle of about 30°. All three sides are made of straight, thin pieces of metal, wood or plastic. On top of the triangle there is a small curved piece that looks like a question mark.

*XXIII. Which word (in capital letters) is being described below? Describe other words in the same way.*

*First letter*

One full-length perpendicular line is joined at the top and at its centre point by two parallel lines, the former slightly longer than the latter, extending to the right horizontally.

*Second letter*

A symmetrical, wedge-shaped figure: two straight but oblique lines slanting down to the base from a common point at the top; these are bisected by a single horizontal line.

*Third letter*

A long vertical line is connected at two points – at the top and halfway down – to a curved, semi-circular line running to the right. From the centre intersection a sloping line drops to the baseline at an angle of 45 degrees to the perpendicular, again to the right.

## UNIT 4

### PROPERTIES OF MATERIALS

#### PART 1

#### VOCABULARY

1. Match the materials and their properties.

solids, liquids, gases		properties		
glass	wool	resistant	strong	flexible
rubber	paper	stiff	sticky	brittle
oil	porcelain	oily	poisonous	hard
polythene	water	soluble	weak	elastic
wood	steel	thick	viscous	tough
glue		fragile	rigid	thin
		inflammable	resilient	soft

PROPERTIES		
ADJECTIVES	NOUNS	ADJECTIVES (resistance)
absorbent	absorbency	impact-absorbent
ductile	ductility	heat-tolerant
malleable	malleability	bulletproof
durable	durability	childproof
rigid	rigidity	fireproof
elastic	elasticity	ovenproof
flexible	flexibility	waterproof
plastic	plasticity	corrosion-resistant
flammable/inflammable	flammability/inflammability	impact-resistant
non-flammable	non-flammability	shock-resistant
tolerant	tolerance	heat-resistant
resistant to	resistance	stain-resistant
responsive		water-resistant
lightweight		
strong in compression	compressive strength	
strong in tension	tensile strength	
strong in torsion	torsional strength	
strong in shear	shear strength	

## VERBS

absorb	tolerate resist	stretch
--------	--------------------	---------

### II. Match the adjectives with their definitions

1. absorbent	a) can stretch and then return to its usual length or size
2. ductile	b) can resist loads without bending
3. durable	c) can be pressed or pulled into shape without needing to be heated
4. elastic	d) burns easily
5. flammable	e) easy to press or pull into a new shape
6. flexible	f) can reduce the effect of a sudden impact
7. malleable	g) can bend or be bent easily (without breaking)
8. rigid	h) staying in good condition for a long time, even if used a lot

### III. Complete the expressions using "resistance" adjectives from the table above. They may be more possible than one possible answer.

Example: **waterproof** jacket

- ..... safety lock in a car
- ..... laboratory worktop surface
- ..... jacket for fighting soldiers
- ..... dish for cooking
- ..... foam lined pad
- ..... boat hull
- ..... watch for wet weather
- ..... door, required for hotels
- ..... camera, for filming on location
- ..... cooking pot
- ..... upper of a football boot

### IV. Study the language box on page 85 in your textbook and then complete the following task.

Look at the information about different materials and their properties. Write sentences about them in the table below, using appropriate language.

	burn	bend	stretch	break	absorb impact	resist impact
aramid fibre			a little	no		yes
carbon fibre		yes		no		
polyurethane foam					yes	
thermoplastic polyurethane (TPU)		yes	yes	no		
nylon synthetic fibre			a little	no		
wood	yes	yes	no			
metal		yes		no		
rubber		yes	yes	no		



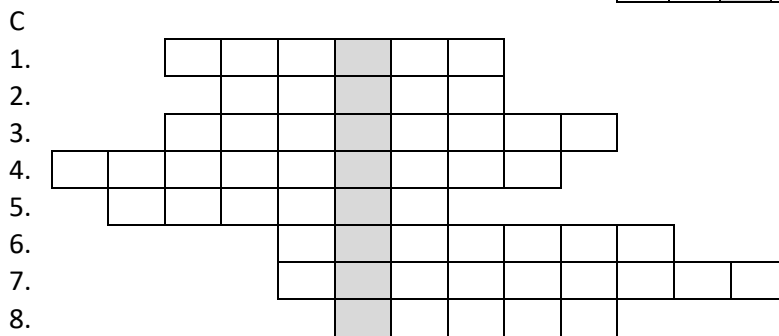
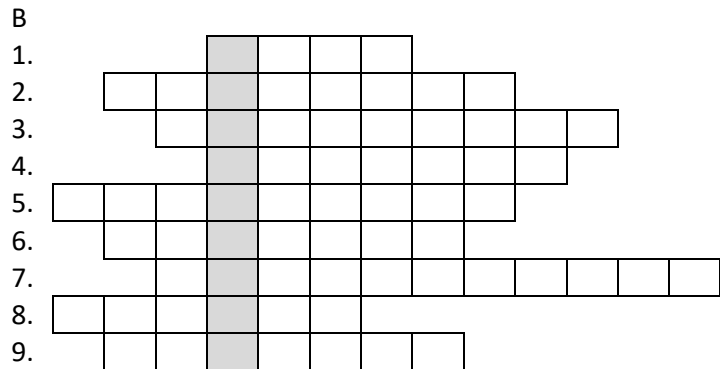
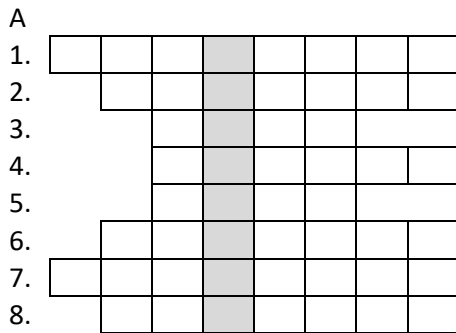
Language	Sentences
present simple active	1. (aramid fibre) <i>Aramid fibre resists impact.</i> 2. (polyurethane foam) _____
<i>can / cannot + active</i>	3. (carbon fibre) _____ 4. (rubber) _____
<i>can / cannot + passive</i>	5. (aramid fibre) _____ 6. (TPU) _____
active with passive meaning	7. (nylon synthetic fibre) _____ 8. (wood) _____

V. Complete the following table using a good dictionary.

adjective	verb	noun
hot		
warm		
	cool	
cold		
		weakness
	toughen	
soft		
hard		
		roughness
		strength
		resilience
	embrittle	
	make something flexible	
elastic		
		pliability
	smooth	
	make something rigid	
		ductility
malleable		
	liquefy	
	solidify	
	vaporize	
	gasify	

**PART 2**

**MATERIALS AND THEIR PROPERTIES**



- A
1. *strong* → N
  2. a substance which can dissolve in a liquid (A)
  3. opposite of *strong* (A)
  4. opposite of *rough* (A)
  5. hot → V
  6. strong in tension → ..... strength (A)
  7. a metal which can be pressed or pulled into shape without needing to be heated (A)
  8. a property typical of honey, asphalt, or oil (A)

- B
1. synonym of *cool* (A)
  2. *cool* → N
  3. brittle → V
  4. able to bend without breaking or cracking (A)
  5. polyurethane foam is impact ..... (A)
  6. make something rough (V)
  7. burning very easily (A)
  8. become firm or stiff (V)
  9. in the form of gas (A)

- C
1. the heat something produces
  2. firm, hard, or difficult to bend (A)
  3. something that can bend or be bent easily (A)
  4. the meaning of *water-proof* is generally stronger than the meaning of *water-.....* (A)
  5. a mass of very small drops of a liquid which float in the air (N)
  6. a property of glass (A)
  7. strong and not easily damaged by being pulled, pressed (A)
  8. a firm object or substance that has a fixed shape, not a gas or liquid

N – noun, A – adjective, V - verb

## Reading

### The properties of ....., ....., and .....

A substance may be an element, a compound, or a mixture. An element, such as nitrogen or iron, cannot be broken down into simpler substances. When two or more elements combine, they form a compound.

When elements combine to form compounds, there is a chemical reaction. Some properties of the elements change during the chemical reaction. For example, the element chlorine (Cl) is a poisonous yellow gas. Sodium (Na), on the other hand, is a soft silvery-white metal which reacts violently with water. However, if these elements combine, they form sodium chloride, or salt. This is a harmless white substance.

When substances are mixed without a chemical reaction, they do not change their properties. Thus a mixture of sand and salt is yellowish-white in colour. It tastes both salty and gritty. If we put the mixture in water, the salt will dissolve because it is soluble. But the sand will not dissolve.

Every substance has a melting point and a boiling point. The former is the temperature at which it changes from solid to liquid. The latter is the temperature at which it changes from liquid to gas. These changes are called changes of state. Sometimes the properties of a substance change when it changes its state. For example, if the temperature of oxygen falls below  $-183^{\circ}\text{C}$ , it changes from a colourless gas to a bluish liquid which is highly magnetic.

*VI. Answer the questions according to the text.*

1. What is the difference between an element and a compound? Give examples of each
2. What is the difference between a compound and a mixture? Find two things about compounds which are not true about mixtures.
3. List the descriptions of properties which you have found and use them to describe other substances.

Example: colourless – oxygen is a colourless gas.

Water is also colourless, but it is a liquid.

*VII. Write out a continuous description of alloys, choosing one alternative each time.*

Alloys are metallic substances composed **BY – OF – FROM** two or more elements. At least one of the elements must be a **SOLID – ROCK – METAL**. Standard steel is an example of an alloy of a **METALLIC – NON-METALLIC** element (iron), and a **METALLIC – NON-METALLIC** element (carbon). Usually, **IN OTHER WORDS – HOWEVER – THEREFORE**, alloys consist of two or more metal elements. A common example is **BRONZE – INVAR – BRASS** which is an alloy of copper and zinc. A rarer alloy is gunmetal, which contains approximately **90% - 8%** copper, **8% - 80%** tin, and **2% - 12%** zinc. Alloys are widely used because they often possess more useful properties than **PURE – IMPURE – SOLID** metals. For instance, they frequently have greater **STRENGTH – STRONG** and **HARD – HARDNESS**.

## Chemical elements and compounds

VIII. Find the correct English names for.

Ag	a 25th wedding anniversary
Al	light to carry and silvery to look at
Au	an Olympic winner
Zn	a bluish-white metal
C	present in all living creatures
Ca	think of your teeth
Cl	an additive to drinking water
Cu	maybe the first metal used by man
F	again think of your teeth
Fe	the most widely used metal of all
H	think of the bomb
Hg	used in thermometers
N	80% of the air
Ni	and an American coin
O	life supporting
P	gives out light in the dark
Pb	may be poisonous
Pt	describes a particular type of blond hair
Pu	nuclear power can come from this
S	think of matches
Si	a valley in California
Sn	and also a can
U	named after a planet
W	a fibre in an electric bulb
CO <sub>2</sub>	breathe out
NaCl	commonly known as salt
H <sub>2</sub> SO <sub>4</sub>	the best known of all the acids
HNO <sub>3</sub>	has a high oxidation effect
NH <sub>3</sub>	has a strong characteristic smell

## Modifiers used in statements and comparisons:

extremely, not very, considerably, quite, slightly, very, fairly, far, much/a lot

IX. Divide the sentences into two groups (statements / comparisons). After that, put the sentences into the correct order according to the intensity of the modifier.

- Glass is extremely brittle.
- Wool is considerably softer than wood.
- Rubber is quite a tough material.
- Paper is not a very strong material.
- Cardboard is slightly stronger than paper.
- Polythene is very resilient.
- Steel is much/a lot stronger than wood.
- Wood is a fairly strong material.
- Rubber is far tougher than paper.

## Describing surfaces

Objects have different types of surface or appearance. Surfaces can be:

**bright - shiny - dull - glossy - smooth - rough - uneven - abrasive**

Examples:

1. Glass is a transparent/clear solid which usually has a smooth shiny surface.
2. Chalk is a porous solid which has a rough powdery surface.
3. The inside of a camera has a matt black surface.
4. Mercury is a liquid metal which has a bright shiny silvery appearance.
5. Sandpaper has a rough abrasive surface.
6. A piece of rubber has a smooth matt surface.

### X. Match the parts of sentences.

- |  |   |
|--|---|
| 1. If a material is corrosion-resistant,                                     | A. it is elastic.                               |
| 2.                    hard,  | B. it allows light to pass through.             |
| 3.                    non-conductive,  | C. it conducts heat or an electric current.     |
| 4.                    opaque   | D. it breaks easily.                            |
| 5.                    fragile,   | E. it withstands abrasion.                      |
| 6.                    transparent,   | F. it does not get rusty.                       |
| 7.                    conductive   | G. it is resilient.                             |
| 8.                    is easy to stretch,                                    | H. it does not allow heat or a current to flow. |
| 9.                    is quickly returned to its<br>previous good condition, | I. it does not allow light to pass through.     |

### XI. Fill in logical connectors.

as well as - since - when - whereas - that is - as a consequence - because  
on the other hand - however - thus - eventually - before - both - although

1. Acids are compounds, .....sulphur is an element.
2. ....copper and aluminium are good conductors.
3. Water is colourless .....odourless.
4. ....rubber is elastic, it can be easily stretched.
5. ....mercury is a metal, it is liquid.
6. Metals contract .....cooled.
7. The modulus of elasticity is a parameter that reveals how „stiff“ a material is, ....., it expresses the resistance of a material to elastic bending or elastic elongation.
8. Brittle materials, (e.g., glass) are said to have a very low fracture toughness. ...., tools (hammers, screwdrivers, etc.) should not be manufactured from brittle materials ..... they may break or cause injuries.
9. Ductile materials (e.g., many metals), ....., withstand a large amount of permanent deformation (strain) ..... they break.
10. If metals, alloys, or some polymeric materials are cold worked, that is, plastically deformed at ambient temperature,.....they become less ductile and .....harder and even brittle.
11. The resistance of metals rises with higher temperatures. At near-zero temperatures, the electrical resistance does not completely vanish, ..... (except in superconductors).

XII. Fill in the suitable infinitive of purpose.

to soften - to smooth - to strengthen - to harden - to increase

1. ....the durability of the appliance, clean it regularly.
2. ....the surface of wood, use fine sandpaper.
3. ....carbon steel, heat it to high temperature and then quickly cool (quench).
4. ....the construction, support it with metal rods.
5. ....wax, warm it up.

### DESCRIBING COLOURS

Copper is reddish brown.

Copper is of reddish-brown colour.

Copper is reddish-brown in colour.

~~Copper has a reddish-brown colour.~~

Things can **be, look, go** or **turn** a particular colour.

You can **make something** or **colour, dye, paint** or **stain something** a colour.

### BUT

You have a bit more colour in your cheeks now.

The walk brought some colour to your face. = put some colour in your face.

*Note:*

*BE spelling: colour, grey*

**X**

*AE spelling: color, gray*

## Reading

### Fundamental Mechanical Properties of Materials

A qualitative distinction between ductile, brittle, and elastic materials can be achieved in a relatively simple experiment using the *bend test*, as shown in Figure 2.1. A long and comparatively thin piece of the material to be tested is placed near its ends on two supports and loaded at the center. It is intuitively obvious that an elastic material such as wood can be bent to a much higher degree before breakage occurs than can a brittle material such as stone or glass. Moreover, elastic materials return upon elastic deformation to their original configuration once the stress has been removed. On the other hand, ductile materials undergo a permanent change in shape above a certain threshold load. But even ductile materials eventually break once a large enough force has been applied.

To quantitatively evaluate these properties, a more sophisticated device is routinely used by virtually all industrial and scientific labs. In the *tensile tester*, a rod-shaped or flat piece of the material under investigation is held between a fixed and a movable arm as shown in Figure 2.2. A force upon the test piece is exerted by slowly driving the movable cross-head away from the fixed arm. This causes a **stress**,  $\sigma$ , on the sample, which is defined to be the force,  $F$ , per unit area,  $A_0$ , that is,

$$\sigma = \frac{F}{A_0}. \quad (2.1)$$

Since the cross section changes during the tensile test, the *initial* unit area,  $A_0$ , is mostly used; see below. If the force is applied parallel to the axis of a rod-shaped material, as in the tensile tester (that is, perpendicular to the faces  $A_0$ ), then  $\sigma$  is called a **tensile stress**. If the stress is applied parallel to the faces [as in Figure 2.5(b)], it is termed **shear stress**,  $\tau$ .

Many materials respond to stress by changing their dimensions. In the present case, the rod becomes longer in the direction of the applied force (and eventually narrower perpendicular to that axis). The change in longitudinal dimension in response to stress is called **strain**,  $\epsilon$ , that is:

$$\epsilon = \frac{l - l_0}{l_0} = \frac{\Delta l}{l_0}, \quad (2.2)$$

where  $l_0$  is the initial length of the rod and  $l$  is its final length.

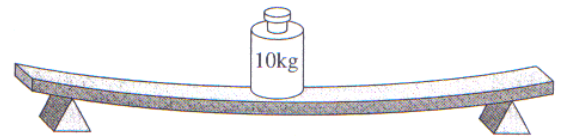


FIGURE 2.1. Schematic representation of a bend test. Note that the convex surface is under tension and the concave surface is under compression. Both stresses are essentially parallel to the surface. The bend test is particularly used for brittle materials.

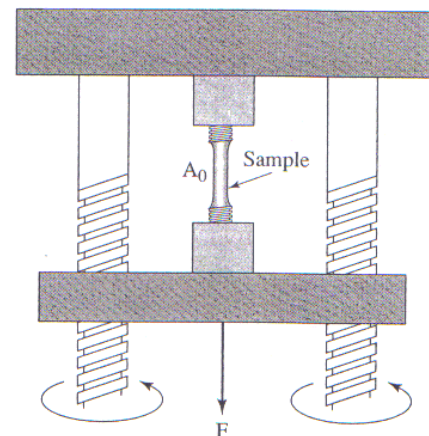


FIGURE 2.2. Schematic representation of a tensile test equipment. The lower cross-bar is made to move downward and thus extends a force,  $F$ , on the test piece whose cross-sectional area is  $A_0$ . The specimen to be tested is either threaded into the specimen holders or held by a vice grip.

## UNIT 5

### PARTICIPLES

#### A = a verb phrase plays the role of an attributive adjective

##### Present participle (-ing)

There is a box **containing** samples.  
 They will have to mend the **leaking** pipe.  
 In psychology, we attempt to state the laws **underlying** human behaviour.

##### Past participle (-ed; past participle of irregular verbs)

One drawback of the basic research is the amount of time **spent** on experiments that lead nowhere.  
 The results **obtained** / **obtained** results show a small temperature dependence.  
 Let us develop the above **mentioned** example.  
 A pen is a thing **used** for writing.

#### B = participles expressing circumstances

##### ACTIVE PARTICIPLES

<b>Present participle</b>	(not) using, (not) writing	used when the circumstances is simultaneous with the action in the main clause
<b>Past participle</b>	(not) having used, (not) having written, (not) having been using, (not) having been writing	used when the circumstance precedes the action in the main clause

<b>time</b>	<b>Going to work</b> , I met Chris. <b>Having read</b> the instructions, he set to work.
<b>cause / reason</b>	<b>Being</b> a history student, she was naturally interested in museums. <b>Having heard</b> the news before, he was not surprised when Sheila came to inform him.
<b>manner</b>	She went out, <b>slamming</b> the door.
<b>result</b>	The helicopter crashed, <b>killing</b> six people.
<b>unspecified</b>	We deal only with the main parts, <b>not considering</b> the details.

##### PASSIVE PARTICIPLES

<b>Present participle</b>	(not) used (not) written ( <i>being used, being written</i> )	used both for a simultaneous and a preceding circumstance
<b>Past participle</b>	(not) having been used, (not) having been written	used when the circumstance precedes the action in the main clause

<b>time</b>	He entered, <b>accompanied</b> his wife. <b>Having been weakened</b> by successive floods, the bridge was no longer safe.
<b>cause / reason</b>	<b>Convinced</b> that he was right, he repeated his arguments. <b>Weakened</b> by successive floods, the bridge was no longer safe.
<b>manner</b>	He was sitting on his bed, <b>buried</b> in thought.
<b>unspecified</b>	<b>Built</b> in the late 14 <sup>th</sup> century, Charles Bridge is the second oldest stone bridge in Bohemia.



## Reading

1. Read the text. Underline participles & study how they are used.

### Temperature Scales

The most commonly used scales of temperature are the Celsius and Fahrenheit scales. The original prototype thermometer defining each of these scales was a glass bulb with a capillary extension closed at the end. The enclosure was charged with mercury, all air being excluded, so that liquid mercury filled the bulb and extended to a meniscus in the capillary. Beyond the meniscus there was mercury vapour.

It was observed that the position of the meniscus in the tube was sensitive to heat interactions between the thermometer and other systems, but was insensitive to ordinary variations in barometric pressure on the glass or to other influences such as electric or magnetic ones. Therefore, the mercury-in-glass thermometer became a system with a single independent variable, namely, the position of the meniscus in the tube. This property could, therefore, be used as a measure of the temperature of the thermo-meter and of any system in equilibrium with it.

A temperature scale was then defined by giving numbers in sequence to marks placed at regular intervals along the capillary tube, the numbers being higher the farther the mark from the bulb. The definition of any such temperature scale is, of course, purely arbitrary. The Celsius scale was originally defined by assigning the number 0 to the mark corresponding to the temperature level of melting ice at atmospheric pressure and the number 100 to the mark corresponding to the temperature level of boiling water at the same pressure. On the Fahrenheit scale the corresponding levels were assigned the numbers 32 and 212, respectively. In each, the length of the stem was divided into equal intervals each of which was called a degree.

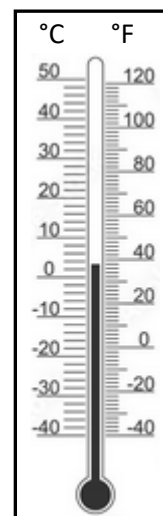
Four scales of thermodynamic temperature are frequently used. These are the Kelvin, Celsius, Rankine (or absolute Fahrenheit), and Fahrenheit scales. In Table 1 these scales are compared at certain identifiable levels of temperature. Three of these levels are reproducible levels which are fixed by the following conditions of systems:

Ice point: the temperature of equilibrium between ice and air-saturated water under a pressure of one standard atmosphere (101, 325 newtons/meter). Originally it was an independent point on the Celsius scale fixed at zero exactly. On the thermodynamic Celsius scale of 1948, it is  $0 \pm 0.0001$ . Similarly, on the thermodynamic Fahrenheit scale, it is  $32 \pm 0.0002$ .

Triple point: the temperature of equilibrium between ice, liquid water, and water vapour.

Boiling point: the temperature of equilibrium between liquid water and its vapour under a pressure of one standard atmosphere.

	Thermodynamic Temperature Scales (1954)			
	Kelvin (K)	Celsius (C)	Rankine (R)	Fahrenheit (F)
Lower limit	0	-273.15	0	-459.67
Ice point	273.150	0.000	491.670	32.000
Triple point	273.16	0.01	491.688	32.018
Boiling point	373.15	100.00	671.67	212.00



## Reading

### Smart oil fields

If an oil company discovers a large single reservoir of oil and gas, the solution is simple: drill a vertical well down to the reservoir and bring up the oil. But what can be done when an oilfield consists of hundreds or even thousands of small **isolated** pockets of oil? It would be too expensive to drill hundreds of vertical wells to reach all the small pockets.

The innovative solution to this problem is the “snakewell”. Unlike the **conventional** vertical well, this is a horizontal well that weaves **laterally** back and forth across a number of oil-containing zones. Guided by smart technology, a single snake well can access multiple pockets of oil and achieve output **equivalent** to several individual wells, which has the **dual** advantage of reducing cost and ensuring that no oil is overlooked.

A snake well uses **steerable** drills that can be positioned with great accuracy. Special imaging software generates detailed computer models of underground geology and reservoirs. This enables drills to hit a target far underground that is less than two metres across.

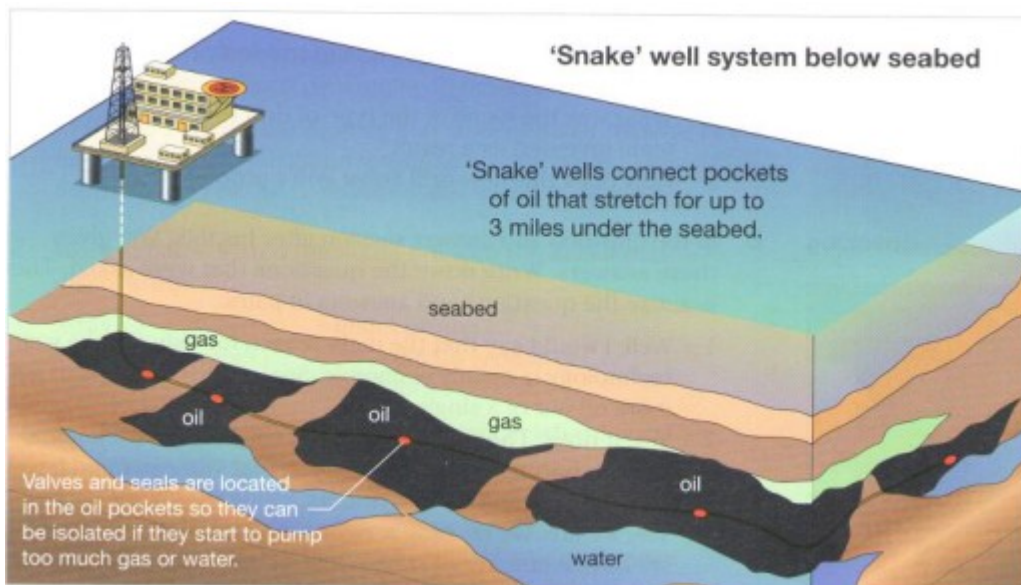
Located 90 km off the coast of Brunei, the Champion West oilfield is Shell’s flagship project using Smart Fields technology. For 30 years, Champion West lay dormant, its rich oil reserves **locked** 2,000 to 4,000 m beneath the seabed in a **complex** web of small reservoirs (see illustration below).

In the past, these small pockets of oil were too expensive to develop. But now Champion West has been changed into one of the world’s most advanced oil and gas fields by means of Smart Fields technology and new drilling techniques.

Buried deep beneath Champion West’s seabed, sensors relay digital information about temperature, pressure and other factors to control centres on land by means of a network of fibre-optic cables.

This enables continuous monitoring of production and engineers can make speedy decisions on how best to extract the maximum amount of oil, monitor its movement within the reservoir and instantly notice production problems, such as blockages.

They can take action to solve problems, for example by the remote electronic activation of hydraulic well valves. If gas or water threatens to break into the well, for example, the valve for that section can be closed down using a remote control. **Swellable** seals are used to isolate the zones from one another and prevent fluid from one zone flowing into another **adjacent** zone



II. Match the words or phrases with their synonyms (in bold) in the article.

- |                              |                               |
|------------------------------|-------------------------------|
| 1. capable of being expanded | 6. having two parts           |
| 2. complicated               | 7. trapped                    |
| 3. capable of being guided   | 8. separated from one another |
| 4. neighbouring              | 9. horizontally sideways      |
| 5. normal                    | 10. equal in value            |

III. Answer the questions about the article.

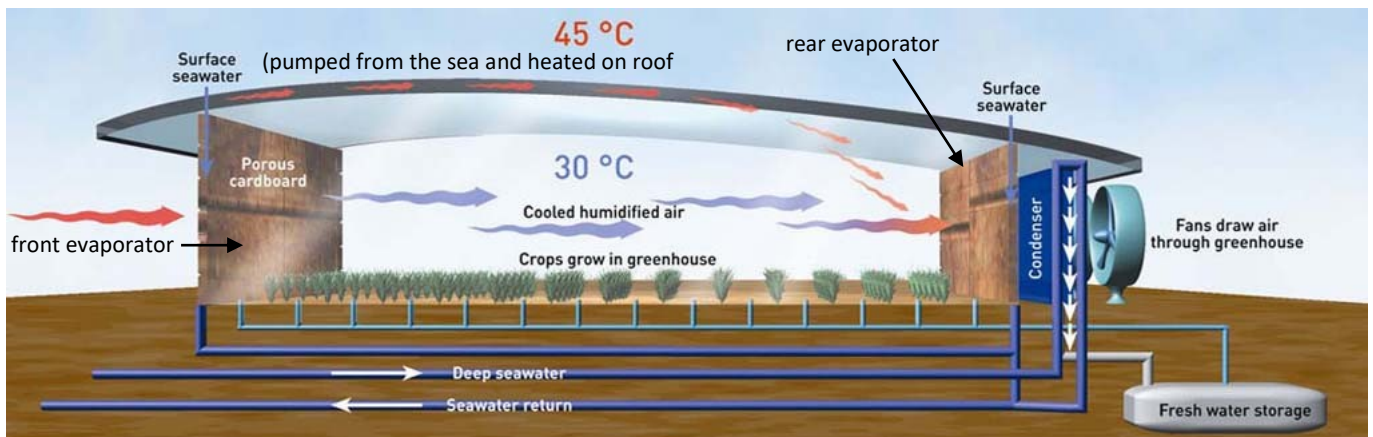
1. What are the two main economic reasons for drilling a snake well?
2. How accurate is the drill of a snake well when it is guided remotely?
3. For how long was the Champion West oilfield left unused following the discovery of oil there? Why was it left unused?
4. How is data about conditions inside the snake well transmitted to the surface?
5. How do engineers stop the oil in the well being contaminated with water or gas?

IV. Match the reference words (1-6; in italics in the text) from the article with the correct words or ideas (a-j) that they refer to.

- |                 |   |
|-----------------|---|
| 1. <i>this</i>  | a) increased output from many oil zones |
| 2. <i>which</i> | b) conventional vertical well           |
| 3. <i>that</i>  | c) engineers                            |
| 4. <i>This</i>  | d) snake well                           |
| 5. <i>This</i>  | e) blockages                            |
| 6. <i>They</i>  | f) transmission of data                 |
|                 | g) computer model generation            |
|                 | h) underground reservoir                |
|                 | i) steerable drills                     |
|                 | j) network of cables                    |

V. Find participles in the article and explain why particular forms are used.

## Seawater greenhouses



VI. Put these paragraphs in the correct order (according to the diagram above).

A

The air heats up as it travels across the greenhouse, until it reaches the rear evaporator. Here, having been heated by the sun, more seawater trickles down the cardboard evaporator, saturating or filling up the air with water vapour.

B

Having been pumped to the top of the greenhouse, the seawater trickles down the cardboard of the front evaporator and evaporates, cooling and humidifying the air inside the greenhouse.

C

The warm super-saturated air then passes through the condenser, where the vapour condenses in to fresh water, which flows down to an underground tank that stores it until it is needed.

D

Seawater is pumped to the greenhouse roof above the front evaporator and the wind blows through the greenhouse, assisted by a simple fan.

E

The technology used in a seawater greenhouse consists of two simple evaporators made of cardboard and a basic condenser.

### Linking (perfect participial phrase + present participial phrase)

Having been pumped to the top of the greenhouse, —————> earlier event  
**the seawater trickles down the cardboard and evaporates,** —————> **main event**  
 cooling and humidifying the air inside the greenhouse. —————> later event

*The **earlier event** uses a perfect participle and the **later event** uses a present participle.*

*VII. Link each group of sentences into a single sentence. Use participles as above, plus linkers such as which/that and before/after.*

1. The air is cooled and humidified by seawater. The seawater trickles down the front evaporator. Then the air travels across the greenhouse. It becomes warmer. Then it reaches the rear evaporator.
2. Seawater is heated by the sun on the greenhouse roof. Then seawater trickles down the rear evaporator. Then it evaporates. This heats and humidifies the air that passes through it to the condenser.
3. The water vapour reaches the cold seawater pipes of the condenser. Then it condenses. It forms drops of fresh water. The drops trickle down the pipes. Then the drops flow into an underground storage tank.

*VIII. Read the following sentences and decide what kind of circumstance the participle phrase expresses. Suggest suitable Czech equivalents of the sentences.*

1. Having spent all our money, we started looking for a job.
2. Knowing he wouldn't be able to buy food on his journey, he took large supplies with him.
3. I was engaged for fifty dollars a concert, paying my own travelling and hotel expenses.
4. People wearing these primitive glass contact lenses could only see properly when looking straight ahead.
5. Not wanting to borrow money from her parents, she asked me for a loan.
6. He took the letter from me, his hand shaking.
7. Using similar techniques to those described, dictionary editors have to make decisions about how words should be spelled.
8. She campaigned tirelessly for many years, trying to persuade farmers to adopt more harmonious methods of agriculture.
9. The mistakes he made as a Prime minister were severely criticized by the opposition, leading, eventually, to his downfall.
10. I fell, striking my head against the door and cutting it.
11. All pupils in this class did their work, the attitude being that you couldn't "get anywhere" without a good grade.
12. Having arrived at a decision, he dismissed the matter from his mind.
13. Having been reading till long after midnight, I felt rather sleepy in the morning.

*IX. Suggest suitable Czech equivalents of the following sentences.*

1. Alarmed by rising cost, the company abandoned the project.
2. Compared with animals that are used for experiments, humans are exposed to many influences that may affect the results.
3. Fascinated by the idea, she decided to do her own research.
4. Known in Britain since 1820, the machine consisted of two wheels connected by a crossbar.
5. The car got three severe bumps while parked in the street in London.
6. Having been asked that question many times before, I have a ready answer.
7. Used economically, the tin will last for at least six weeks.
8. Born in Germany in 1750, Caroline Herschel was one of the very first women to become an honorary member of the Royal Society.
9. If asked for an explanation of a video recorder, I would definitely find it difficult.
10. Although prepared very carefully, the experiment failed to produce definite results.
11. He stood behind the desk, his eyes fixed on her face.

## UNIT 6

### INSTRUCTIONS

#### PART 1

#### PERMISSION, OBLIGATION, LACK OF OBLIGATION, PROHIBITION

*I. Listen carefully and tick the correct option. Then check your answers with the tapescript.*

INSTRUCTION	DO	DON'T
1. Have a valid membership card		
2. Wear Wellington boots inside the hostel.		
3. Bring a cup, plate and some pots.		
4. Wash the dishes as soon as you have finished eating.		
5. Make noise before 7 a.m.		
6. Ask for permission if you want to hold a barbecue on the hostel grounds.		
7. Park your car anywhere near the hostel.		
8. Play the radio in your room.		
9. Help with some housework.		
10. Before you leave, pick up your membership card.		

*II. What does may mean in the two highlighted sentences?*

*III. Find the everyday equivalents of the underlined formal expressions.*

*IV. Identify the sentences which are used in the text to express the four meanings listed below and make a list of the verbs used. (The expressions are characteristic of formal language and are used in written rules.)*

Permission

---

---

Obligation

---

---

Lack of obligation

---

---

Prohibition

---

---

Observe the informal way of talking about regulations:

<b>Permission</b>	you can, you are allowed to, they let you
<b>Obligation</b>	you have to, you've got to
<b>Lack of obligation</b>	you don't have to, you don't need to
<b>Prohibition</b>	you can't, you're not allowed to, they don't let you

V. Armed with the above mentioned factual knowledge, tell your friends about the rules and regulations of youth-hosteling.

1. If you want to go youth-hostelling, you \_\_\_\_\_
2. When you arrive at the hostel, you \_\_\_\_\_
3. When you arrive by car or motorbike, you \_\_\_\_\_
4. As far as cooking is concerned, you \_\_\_\_\_
5. At night and in the early morning, they \_\_\_\_\_
6. With regard to smoking and drinking, \_\_\_\_\_
7. If you want to have a barbecue party, you \_\_\_\_\_
8. As far as animals are concerned, \_\_\_\_\_
9. If you want to play music, \_\_\_\_\_
10. Before leaving for the day, \_\_\_\_\_

VI. Read these public notices and explain their meaning.

Example: No smoking → It means that smoking is not allowed here.  
 → It means that nobody is allowed to smoke her.  
 → It means that you can't smoke here.  
 → It means that you mustn't smoke here.

No parking  
 No entry  
 No overtaking  
 No left turn  
 No U turn

No bathing  
 No trespassing  
 No dogs  
 Keep off the grass  
 Keep clear

Private property  
 Do not litter  
 Speed limit 80m  
 Public footpath  
 Keep to the path

## Expressing (absence of) necessity

Observe:

	It is <b>necessary to do</b> smth.	It is <b>not necessary to do</b> smth	It is <b>necessary no to do</b> smth
PRESENT TENSE	must have to have got to	need not/needn't do not/don't have to have not/haven't got to do not/don't need to	must not
FUTURE TENSE	shall/will have to	shall/will not have to shall/will not need to	shall/will not be allowed or permitted to
PAST TENSE	had to	did not/didn't have to did not/didn't need to	was/were not allowed or permitted to

VII. Read the following sentences and decide which of them express:

- a) it is necessary to do smth
- b) it is necessary not to do smth
- c) it is not necessary to do smth

1. We must try to find a solution to our problems.
2. The National Park Authority has to deal with the problem.
3. On entering the hostel, they have to change their shoes.
4. I must work as hard as I can.
5. My sister doesn't have to go to work.
6. Students mustn't bring dictionaries into the examination room.
7. The effect of tourism on wildlife must not be ignored.
8. People staying at a youth hostel have to prepare their own meals.
9. You needn't ask the warden for permission if you want to leave early.
10. Visitors mustn't park their cars outside car parks.
11. You needn't turn on the light; I can see quite well.
12. Before you leave the office, all lights must be turned off.
13. You mustn't talk to other candidates during the exam.
14. You don't have to water the plants every day.

VIII. Change this passage so that it refers a) to the past, b) to the future.

During the reconstruction of a town, some old buildings must be knocked down, sub-standard houses must be modernised or replaced by new one. A new and efficient road transport must be built, too. An advantage of such reconstruction is that we need not lose more farmland. Also we need not invest money in new shops, clinics, schools, etc., if these are adequate.

IX. Change the passage so that it refers to the future.

Daniel must go back to college next year to complete his history course. He has to do a lot of reading and he must do some teaching practice as well. He need not take all subjects at this stage. He can specialise in his own field of modern history for his finals. He needs to counterbalance all the brain-



work with some physical exercise, but he must not spend too much time on extra-curricular activities, as student usually do.

X. Change impersonal way of speaking into personal using the subject we. Do not change the tense.

Example:

On the first day **it was necessary to** undertake a medical check-up. → On the first day **we had to** undergo a medical check-up

1. During a stay at a youth hostel it was necessary to observe some rules.
2. It was necessary to sign our names in the hostel register and pay the charges.
3. It was banned to wear dirty clothes in the hostel.
4. It was possible to use the pots and pans in the kitchen, but it was necessary to use one's own knife, fork and spoon.
5. It was also necessary to tidy the kitchen up before leaving for the day.
6. Smoking in the common room was prohibited.
7. Playing musical instruments and making noise was prohibited, too.
8. It was necessary to observe silence at night.
9. It was impossible to take animals into the hostel.

### MUST X HAVE TO

Compare:

1.	<p>We <b>must</b> make an early start tomorrow. I <b>must</b> return the book by Friday.</p> <p>Soldiers on duty <b>must</b> wear uniforms. A trailer <b>must</b> have two rear lamps. Passengers <b>must</b> cross the line by the footbridge.</p>	<p><b>must</b> expresses the authority of the speaker</p> <p><b>must</b> expresses universal obligation – used chiefly in written orders and instructions</p>
2.	<p>We <b>have to</b> make an early start tomorrow. I <b>have to</b> return the book by Friday.</p>	<p><b>must to</b> expresses necessity or obligation coming from a person (or circumstance) other than the speaker</p>
<p><b>This distinction applies only in the present tense. (In the other tense <i>must</i> is not used.)</b></p>		

XI. Fill in must or have to as appropriate.

1. You \_\_\_\_\_ visit us again some time.
2. It's a pity you \_\_\_\_\_ leave so early.
3. We \_\_\_\_\_ hurry, or we'll be late.
4. "Application forms \_\_\_\_\_ be returned to this office within 15 days."
5. I can never remember people's phone numbers, I always \_\_\_\_\_ look them up.
6. You really \_\_\_\_\_ try to be more careful.
7. I haven't got much money, so I \_\_\_\_\_ find some cheap accommodation.

8. Unemployment is very high in this area and a lot of people \_\_\_\_\_ look for work elsewhere.

9. We \_\_\_\_\_ be there on time, or we'll miss the connection.

10. Reservations \_\_\_\_\_ be made in advance.

### Expressing ability

Observe:

PRESENT	<b>Can</b> you come to the meeting? <b>Can</b> your grandmother read without glasses? <b>Can</b> you speak Swedish?
FUTURE	<b>Will</b> you <b>be able to</b> come to the meeting? Do you think you <b>will be able to</b> read without glasses when you are eighty? By the time he finishes this course, he <b>will be able to</b> speak Swedish well.

Note: **Can** before **see, hear, understand** has no equivalent in Czech:

Can you see that white house at the end of the street?

I cannot hear what she is saying.

We can understand their point of view.

*XII. Say the following in the future tense.*

1. (I can travel) during my next holiday.
2. (I can let you have the details) tomorrow.
3. (You can speak English well) with more practice.
4. (She can read a great deal) during the holidays.
5. (We can play another game of chess) this afternoon.
6. (Can you lend me the book) tomorrow?
7. (We can't understand the problem) without further explanation.
8. (Can we go to a concert) next Friday?
9. (You can't speak Italian really well) without spending some time in Italy.
10. (You can't hold a barbecue) without the warden's permission.

## PART 2

### MODAL VERBS – GRAMMAR SUMMARY

To express instructions and recommendations, use:		
A) THE IMPERATIVE	B) MODALS:	C) MODAL PHRASES
<i>Assume x.</i> <i>Let us assume x.</i> <i>Switch on the light.</i>	<b>should</b> <b>ought to</b> <b>to be to</b> <b>must</b>	<b>it is necessary to,</b> <b>it is conditional upon,</b> <b>it is a requirement that,</b> <b>it is permitted, etc.</b>

The meaning and use of modal verbs in technical and scientific writing may slightly differ from general English.

MODAL VERBS		
VERB	COMMENTS / EXPLANATION OF THE USE	Czech equivalent
<b>CAN = MAY</b>	are often interchangeable and both can express possibility, but <b>may</b> is slightly more formal  <i>Can and may <b>can/may</b> often be interchanged.</i>	lze
<b>SHOULD = OUGHT TO</b>	a) express instructions and advice to operators and employees, are often used in manuals  <i>You <b>should</b> close the front panel.</i>	je nutno
	b) express specifications (i.e., what is required of something)  <i>The steel <b>should not</b> contain more than 5% of carbon.</i>	nemá, nesmí
	c) express expectations (i.e., what is expected to happen)  <i>The building <b>should</b> be completed by May.</i>	má (být)
<b>SHOULD</b>	expresses politeness when <b>must</b> is really meant, is less imperative and urgent than <b>must</b>  <i>You <b>should</b> check the results again, I think.</i>	musíš, je třeba
<b>TO BE TO</b>	expresses an expected/obligatory activity or situation  <i>You <b>are to be</b> present when the briefing <b>is to</b> start.</i>	musíte, má
<b>MUST</b>	expresses a generally accepted obligation/necessity/requirement, is more imperative than <b>should</b> and <b>therefore should be used only in such situations</b>  <i>You <b>must</b> observe the safety precautions.</i>	musíte

MODAL VERBS (NEGATIVES)		
VERB	COMMENTS / EXPLANATION OF THE USE	Czech equivalent
<b>SHOULD NOT</b> = <b>OUGHT NOT TO</b>	expresses prohibition or recommendation what not to do, is more polite than <b>must not</b> <i>Such words <b>should not</b> be used by young ladies.</i> <i>You <b>ought not to</b> use any force to close the lid.</i>	nemají nesmíš
<b>NOT TO BE TO</b>	express recommendation or what not to do, and especially in the past tense is often used instead of <b>must</b> <i>Dogs <b>are not to be</b> left running about.</i>	nesmějí
<b>MUST</b>	expresses indisputable prohibition <i>You <b>must not</b> drive when drinking.</i>	nesmíte
<b>MAY NOT</b>	expresses prohibition in a less imperative way <i>You <b>may not</b> use this instrument without permission.</i>	nesmíte

## UNIT 7

### CLASSIFICATION AND EXISTENCE

Observe the differences between meanings:

CZECH WORD	ENGLISH EQUIVALENT	
<b>klasifikovat</b>	<b>to classify</b> (divide objects into groups)	<b>X to mark, grade, assess</b> (the student's performance at school)
<b>existovat</b>	<b>there is</b>	<b>X something exists</b>  <i>There is no evidence that life really <b>exists</b> on other planets.</i>

#### Basic structures

There are	- three - several - a lot of	- kinds - types - sorts - classes - varieties	- of substances	
Substances are of			XXXXXX	
Substances can be	- classified - divided	into several - groups - classes - categories	according to	- their properties - whether they.....or not

#### Vocabulary:

Each of our students **falls into** one of three **categories**.

The lion is **one type of** large cat.

Effective use of metaphors is **a feature of** the poet's style.

**The nature of** her work means that she is under a lot of stress.

**The existence of** "dark matter" in the universe was first proposed in 1933.

Humans can be described as being at the top of **a hierarchy of** living creatures.

In this lecture we will study **the structure of** lasers.

Milk is **an essential component of** any young child's diet.

#### Example of a text:

There is **an enormous variety/diversity of** living organisms. To help study them, biologists have **devised** ways of **naming and classifying** them **according to** their **similarities and differences**. The system most scientists use puts each living thing into seven groups organized **from most general to most specific**.

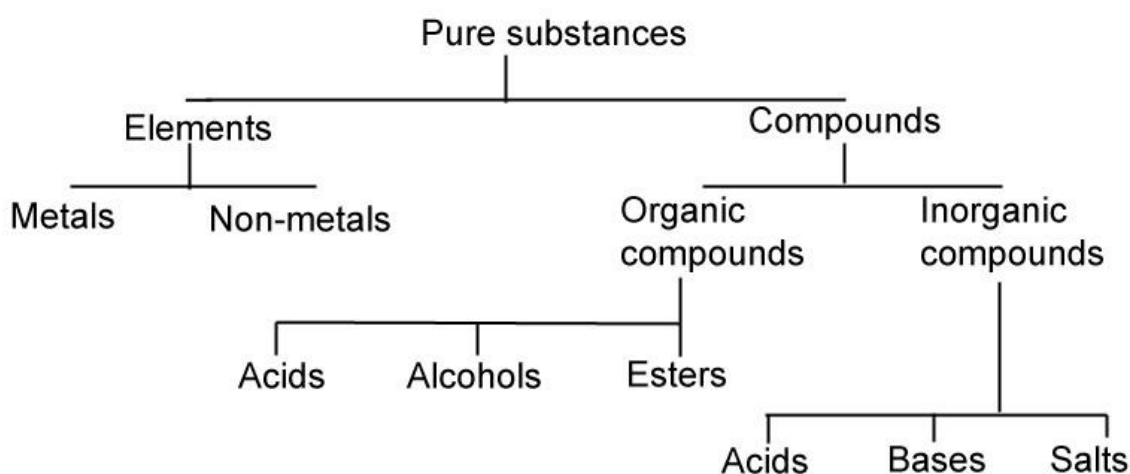
Therefore, each species **belongs to** a genus, each genus belongs to a family, each family belongs to an order, etc. Species are the smallest groups. A species **consists of** all the animals **of the same type** who are able to breed and produce young **of the same kind**; each species is **distinct from** all other species. Biologists **allocate** all organisms to a position in this system.

**Exercises**

*I. Classify the following items:*

1. Engineering (e.g. mechanical, electrical, chemical)
2. States of existence (four – solid, gas, liquid, energy).
3. Properties (different sorts).
4. Physical properties of solids (several – e.g., colour, solubility, melting point, etc.).
5. Properties of liquids (five – boiling point, density, mobility, odour, colour).
6. Physical properties of gases (several kinds – colour, taste, odour, density, and solubility in water).
7. Salts (many different kinds).
8. Metals (two - they conduct electricity or not).

*II. Use the above structures to classify substances:*



*III. Complete the following table:*

noun	verb	adjective	adverb
	XXXXX	similar	
		different	
	allocate	XXXXXX	XXXXXXX
	describe		

*IV. Using the words from the table, complete the following sentences:*

1. It is hard to .....between these two .....substances.
2. The professor persuaded the university to ..... more resources to his department.
3. There are some magnificent ..... passages in the writer’s later novels.
4. In your essay comment on the ..... and the .....between the two methods.

V. Use words of similar meaning instead of those in bold:

1. It is difficult to **categorise** human emotions as we know little about their **basic characteristics**.
2. They **belong to** a different generation.
3. Sensation and action can both be **included** under the term "behaviour".
4. Linguists **allocate** all languages to a place in the system of language families, based on their grammars and other key **aspects**.
5. The atmosphere of the planet **consists of** different gases.
6. The specimens were then **divided into** four groups.
7. The books in the library are **classified by** subject.
8. This strange vegetable **belongs to** the potato family.

VII. Translate into English, avoiding "we":

1. O existenci nějakého živočicha v jezeře Loch Ness neexistuje žádný vědecký důkaz.
2. Podle závažnosti a možných následků rozdělujeme nehody jaderných zařízení do několika kategorií.
3. Existuje několik základních typů počítačových programů.
4. Typickým rysem plastů je jejich elasticita.
5. Tento experiment se velmi liší od toho, který jsme prováděli minulý týden.
6. Posledně jmenovaný do této kategorie nepatří.
7. Pořád existují lidé, kteří věří, že ve skutečnosti člověk na Měsíci nepřistál.
8. Jevy stejného či podobného typu řadíme do stejné kategorie.

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