

Basic Skills and Communication for Construction Workers



Guidelines and Training Materials

Basic Skills for Work

Combined Basic Skills and Communication Training for Low-Skilled Workers in
Five Different European Work Sectors



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Preface

In the past years, the issue of “Basic Skills” has gained particular attention in most European countries. Of particular concern are what is generally called ‘functional literacy’ and ‘functional numeracy’ defined as *“the ability to read, write and speak in the respective language and to use mathematics at a level necessary to function at work and in society in general”*.

At least one of every four adults in Europe fails to reach minimum literacy levels for coping with everyday life and work in a complex, advanced society. Basic skills programmes combat social exclusion, but most of them remain restricted to a general level. The European Basic Skills Network recommends “labour force participation, literacy trainings in the workplace, participation in formal adult education and training, and the use of literacy skills at home. Programs in these areas would have a positive impact on the literacy skills of the population.”

There are specific training needs for certain work sectors, as demand for unskilled and low-skilled workers declines. The increasing complexity of work processes requires higher literacy, numeracy and communication skills also at the lowest work levels, especially to meet quality and safety aspects.

This Curriculum has mainly been designed for adult education providers, trainers and teachers. It consists of different modules, the main chapters dealing with information on the target group, literacy, numeracy and social skills, that allow for flexible utilisation according to various specific requirements.





Part 1

Guidelines

Didactic Background



OBJECTIVES

The main objective is to empower employees with improved basic skills in both numeracy and literacy (numbers, measures, calculations, reading comprehension, short writing tasks). The Curriculum will also focus, however, on important social and communication skills particularly required in this profession.

Work on numeracy in this course is related to tasks and duties included in actual jobs in the construction area. Since it is, for example, of crucial importance to be able to mix materials correctly, learners are confronted with different exercises on volumes and measurements and are trained how to work out ratio and direct proportion. One of the aims of these trainings is to increase the learners' awareness and knowledge of how to use mathematical information and language and how to identify suitable calculations to achieve an appropriate outcome (this is, for instance, important for doing or completing a materials list).

Reading comprehension includes exercises and classroom activities dealing with how to obtain information from instructions and/or catalogues (e.g. of manufacturers). Learners also practice understanding and checking delivery notes, as well as passing on related messages to colleagues. There will also be practise on reading texts and notices about safety (e.g. safe lifting), handling and storage procedures. Learners also train to carefully read and summarise to colleagues/fellow learners.

As for writing skills, it is important to consider that a high number of workers in the construction area are of East European origin and are partly used to different alphabets and scripts. Literacy training therefore starts work on a rather basic (entry) level. Practical exercises concentrate on how to fill in forms, keep lists and maintain accurate, legible and complete records.

As to social and communication skills, there is particular emphasis on different aspects of conflict management and reflection on communicative behaviour. Group work (role plays, imitation of job situations etc.) concentrates on both speaking skills (how to express oneself, respond properly, give relevant information to colleagues, superiors, employers, representatives of other companies etc.) and listening comprehension (understanding simple explanations and instruction in order to be able to carry out duties).

All elements of the curriculum can be introduced or accompanied by teaching and training contents concerning team-building, team-awareness, team-spirit and social responsibility of the individual within a group of working colleagues. Cooperation among colleagues/fellow students, mutual assistance (tutor system) with literacy and numeracy knowledge or any other element mentioned above is a major element of the curriculum.



DEFINITIONS

The generally accepted definition of *basic skills* knowledge is as follows:

The ability to read and write (literacy), as well as to speak a respective language, and to use mathematics (numeracy) at a level necessary to function at work and in society in general.

The definition of *functional illiteracy*, according to a definition by the UNESCO, is as follows:

A person is functionally illiterate who cannot engage in all those activities in which literacy is required for effective function of his or her group and community and also for enabling him or her to continue to use reading, writing and calculation for his or her own and the community's development.



INFORMATION ON THE TARGET GROUP

Who are the Learners?

Nearly everything we know about the life situation of functional illiterates comes from people who have already done their “outing” by registering as students at different institutes offering basic skills courses. In addition to this, there is some information available from several studies on affected individuals. It is, generally speaking, not possible to describe the typical background of a functionally illiterate person, since these people do show different characteristics. Nevertheless, we can make statements on main tendencies concerning, for example, educational careers, social and professional status, typical jobs etc. At the same time it is important to distinguish several groups of affected people (e.g. juveniles, women, migrants etc.).

Although the majority of basic skills course participants are aged between 30 and 50, there is clear evidence that functional illiteracy can be found in practically any age group of society. Up to the age of about 35, there are more male than female students in basic skills courses, whereas with participants older than 35 distribution is vice versa. This can be explained by the specific situation of most affected (younger) women, who, in case they realize their reading and writing problem and do want to attend a respective course, are more likely to be confronted with organizational problems (child care, family duties, double burden family/job).

The situation of young people affected by functional illiteracy is in many ways different from the one of those being older. The young have often just made frustrating experiences at school. They do not really know, however, all the negative effects of reading and writing problems in the world of work. For this reason, they are still less motivated to take part at basic skills courses than those who have, due to striking disadvantages (sometimes even loss of job), already decided to “out” themselves and find a solution to their problem.

Nevertheless, since there are increasing demands in any professional area, it is nowadays as hard to get a chance to enter the labour market as a young person facing illiteracy as it is for others to keep their jobs.

Most people showing functional illiteracy have either attended a school for special needs or (partly) gone through secondary education. For special needs schools, the number of affected people younger than 35 is much higher, which indicates that general learning problems and deficits have, in the past 10 or 20 years, obviously been dealt with more carefully than earlier by detecting and “filtering” these pupils and teaching them in separate classes. It is still evident, however, that even at those special needs schools major reading and writing problems of individual students are not sufficiently detected and/or solved.

The majority of functional illiterates aged older than 35 went to “common” primary and secondary school. It can therefore be assumed that also at that time their reading and writing problems were either not (fully) discovered or even neglected by teachers and that under such conditions they were somehow “taken along”.

In any case, a striking number of affected people (nearly 80%) have not actually finished school by going through all classes. Most of them are older than 35.

Due to increasing demands on the labour market, it is, of course, also the migrants who are especially



affected by the problem of functional illiteracy. Migrants/refugees, however, do not represent a homogenous group among illiterates, but they consist of different groups:

- There are, first and foremost, people who actually got little or even no school education in their respective home countries. This means that they are not only confronted with a language problem in their new country, but are actually unable to read and write as such. Among this group, there are more women than men (which indicates that their educational chances have been even worse or that they have often not attended school at all).
- There are, secondly, also an increasing number of young functional illiterates coming from migrant families (“second generation of migrants”), whose education has, for different reasons and under different circumstances, been neglected.
- Finally, there are migrants who are well able to read and write in their mother language, but have become functionally illiterate due to the fact that they cannot speak/understand the language in their new home country.

In any case, affected migrants/refugees are confronted with various problems in addition to the problems generally faced by functional illiterates. Dealing with people of this target group, it is definitely of importance to know about all of their special difficulties:

- insecurity about their status
- public ignorance of their status and misconceptions fuelled by ill-informed media coverage
- public ignorance of reasons for leaving their countries
- lack of recognition of qualifications and previous experience
- their lack of knowledge about the systems in their new country of living
- separation from family and friends (isolation)

Getting to know the learners

Most persons facing basic skills deficits have in common that they have made negative experience in family and at school. These negative experiences very often result in a person’s lack of or only little confidence in his/her own competences. Negative self-image is in many cases accompanied by a feeling of inferiority and resignation (“I cannot do this”, “I am not clever enough for this”, “I’ll never be able to learn this”). As a consequence, fear of continuing failure and discrimination is a predominant emotion of people showing reading and writing problems.

In the following list, typical excuses and elements of behaviour shown by functional illiterates in situations that could/would require reading and/or writing are listed and described:



The most frequent avoidance patterns

- People say that they have forgotten their glasses. They then ask the person who gave them the form to complete it.
- If they know that their inability to read or to write is going to become apparent they may bring distractions with them, e.g. a dog, a child or a mobile phone that keeps ringing.
- They say that they are in a hurry and ask if they can take the form or document away and bring it back later. They then get someone else to complete it.
- They may say something like, "I will have to ask my husband/wife about this before I fill it in, so please can I take it away and bring it back later"?
- They bring a friend, partner or parent who 'does this sort of thing'.
- They ask where to sign a form with no attempt at reading what they are signing.
- They become evasive and distracted if asked questions about qualifications, certificates etc.
- People become aggressive or frustrated, pretending that this is because of the interview process.
- They say that they only want to go on courses where they do not have to fill in forms.
- They keep on being late or missing appointments.
- They are unsure about when they did things in the past, e.g. previous jobs etc.
- Having to deal with institutions like banks, people with low literacy levels have a strong preference for face-to-face contacts and prefer to return to the same branch and the same member of staff.
- They are very reluctant to use automated phone systems and computerized kiosks or workstations.
- People are happier dealing with a company when they can develop a good relationship with the one person who they meet on each visit.
- The first contact with an official in an organization is often critical, but if they show sensitivity and are not condescending, the relationship is likely to develop.
- They never do written things right there, but take forms etc. with them to bring them back when they come next time.
- They repeatedly ask you to explain what they have just read.
- Their eyes fail to move right while "reading".
- They fail to respond to mailed notices, bills, etc.
- They ask you to call rather than mail the information to them.
- They generally turn down opportunities that require reading and/or writing.
- From a social point of view, they often appear shy, awkward and may be tongue-tied.
- They may act aggressively or continuously make jokes to cover low levels of confidence.
- If they do write something, they make spelling errors, there are reversals of letters and words, omissions of letters.
- They say that they have hurt their arm or hand, sometimes even to the extent of having it bandaged or in a sling.



How can we recognize reading, writing and numeracy problems?

The more indicators can be observed from the behaviour of a learner, the more likely he/she is to show considerable social skills problems. Most of the indicators listed below are connected to hiding strategies typically used by learners being aware of their deficits in order to avoid being detected.

Reading problems

- States he/ she cannot read or has great difficulty in doing so
- Deciphers a word at a time without understanding
- Reads hesitantly and slowly
- Does not seem to understand the information contained in the document
- Cannot find information in a document (diagrams, timetables, leaflets...) without resorting to going through the whole document
- Has to read aloud or uses lip movements, murmurs ...
- Repeatedly makes excuses linked to eyesight (forgotten glasses, writing that is too small...) and may ask the interlocutor to tell them what is written.

Writing problems

- Cannot form letters or does so very slowly – holds pen awkwardly
- Everyday words (name, address, familiar place names) are barely recognizable when written spontaneously or copied
- Form filling causes difficulty
- Numerous spelling mistakes
- States he / she cannot write or does so with difficulty



Numeracy problems

- Cannot read or write figures
- Cannot count
- Cannot add or subtract
- Simple mental arithmetic seems impossible or is a source of frequent error

How can we recognize social skills?

How can we recognize social skills problems among learners also showing reading and writing deficits? Which behavioural patterns are there?

Without having to conventionally “test” learners to detect certain social skills deficits, trainers can pay attention to specific indicators of respective problems. These indicators can, most strikingly, be found in the following areas of communication and social behaviour:

- Oral expression
- Listening
- Logical reasoning
- Sense of time
- Sense of space

Oral expression difficulties

- Uses a limited vocabulary and substitute words
- Uses only the present tense
- Confuses certain sounds and words (may need speech therapy)
- Makes basic grammatical errors
- Unable to speak spontaneously and with ease
- Difficult to understand
- Has problems when introducing himself / herself



Listening difficulties

- Mishears sounds and words (may have hearing problems)
- Inappropriate responses to questions and instructions
- Often asks to have questions and directions repeated
- Inaccurate understanding of questions, instructions and information
- Seems agitated and restless
- Lacks concentration
- Does not seem attentive when spoken to

Logical reasoning difficulties

- Is incapable of making comparisons between two or more elements
- Cannot take account of various aspects of a problem simultaneously
- Cannot identify the different aspects of a question
- Cannot imagine different possibilities
- Cannot formulate hypotheses
- Makes no link between cause and effect
- Does not use the conditional tense
- Is unable to combine dual notions (place / time; time span /distance; double entry table)
- Attitudes appear contradictory
- Has difficulty arguing

Sense of time difficulties

- Cannot situate events in relation to the present moment (notions of before, during after)
- Cannot assess whether he / she will be on time (too early, too late)
- Does not grasp the notion of chronological order or divisions of time (hour, day, month, year)
- Cannot read and write the time in different ways
- Cannot estimate how long something will last
- Cannot make the connection between age and date of birth
- Cannot situate several events chronologically
- Is unable to look ahead to the future



Sense of space difficulties

- Unable to give details of places mentioned
- Cannot distinguish top / bottom, right / left, front / back , far/ near
- Cannot place writing correctly on a page or board
- Incapable of estimating distances
- Unable to identify features on a town or road map



WORKING WITH THE TARGET GROUP

There are psychological studies that say that the sense of shame associated with not being able to read is as powerful as that associated with incest. “I feel like melting into the floor, when an intelligent person discovers my reading problems”, a basic skills course participant said in an interview.

The learner is, first of all, very unlikely to admit his problems if directly approached about his literacy or numeracy deficits (e.g. by questions like “are you able to read and write?”). He/she might even deny in case there is clear evidence, such as a concrete situation in which he/she is unable to carry out a reading or writing task (e.g. filling in a form). It is therefore much more appropriate for the “detecting” person to “step back” and act cautiously by avoiding direct questions, in order to create an agreeable and constructive atmosphere for the client. Most importantly, it has to be made clear to the learner that he/she is in no way confronted by the representative of a testing, accusing or even punishing institution.

On the contrary, these people should be offered a relationship and atmosphere for talking which is characterized by trust and a feeling of security. They should sensitively and carefully, that means „step by step“, be confronted with less direct questions (e.g. “what do you think about your situation?”, “what do you think is going on here?”). By this, they will be motivated to speak openly and honestly about their literacy problems. According to statements of many functional illiterates, talking – for the first time - about their reading and writing difficulties to somebody from „the public“, i.e. a person of trust who does not belong to their close surroundings, is an essential experience providing, despite all insecurities and efforts, a feeling of enormous relief.

Providing motivation and incentives!

It is most interesting that many functional illiterates who have finally had the chance to talk about their situation also show one, or even several, motivations for change. These different elements of motivation must be found out by the trainer, they must be pointed out and repeatedly emphasized as arguments of external motivation and encouragement. For this reason it is essential to know that one or more of the following points is true for most people in an “outing situation“ like this:

They do not want to depend on somebody else any longer (that means from the person who has carried out reading and writing activities for them so far). In some cases people have lost their “helping figure“ because of divorce, death or for other reasons. Therefore they suddenly have to become independent and find new solutions.

- They want to keep their job (or get a new one), or generally improve their professional situation. In some cases special trainings have become necessary.
- They would at last like to be able to read papers and books, that means to make use of society’s information offers.
- They would like to help their children with their homework.



At last, they would like to go through life without having to hide something from their surroundings. Once the literacy and/or numeracy deficits have been talked about openly and the learner has shown willingness to improve his/her reading and writing abilities, special assistance is required in order to maintain motivation during the learning phase and provide suitable escort. Once the trainer has managed to develop a bond of trust with the learner, he/she is also the ideal “assistant mentor” to escort the learner in this crucial period of his/her life.

Most importantly, learners will need continuous positive feedback on their learning progress, as well as new or adjusted goals and targets set together with their trainer. These new targets and challenges could include opportunities to actually employ the skills they have acquired in the meantime in real life situations, such as going shopping, visiting places where they would need to try out their reading and writing competences, or simply perform more qualified tasks at their job.

Finally, it will in some cases be important for the trainers to organize combined efforts of learning advisors and also the respective team leaders, personnel managers or company directors, in order to find best solutions for their learners. Uniting efforts, cooperation between various partners will bring about a fruitful result in combating learners’ literacy, numeracy and social skills deficits.

Learning within a social process: Focus on teamwork

Knowing about special psychological characteristics and social behavioural patterns being shown by this specific target group (low self-esteem, fear, feeling of shame, tendency to isolate oneself etc.), basic skills workplace training should permanently be based on motivating learners to actively interact and work as a team in numerous ways in order to fight respective problems in a most efficient and constructive way.

In order to achieve maximum learning outcomes, trainers should therefore focus on continuously implementing the following didactic principles and approaches:

- Learners can/want to take responsibility for themselves and the group
- Each individual can make his/her productive contribution to the learning success of the whole group
- Joint orientation towards problem solving (instead of pointing out mistakes and weaknesses)

Focusing on these principles, many methods and exercises being made use of in the course of training (see methods and sample tools below) should therefore be based on the idea of pair work, group work, mutual assistance and the tutor system (students temporarily take over teaching roles, corresponding to special skills, interests and fields of knowledge they show). In this way, the idea of team-building, team-awareness, team-spirit and social responsibility of the individual within a group of working colleagues is particularly fostered.



Family and community learning

Family and community learning are both examples of a simple but radical concept – that learning should be delivered where people are, rather than forcing or inviting people to come to a location, such as a college, that is outside their everyday way of life.

In some cases, people are unable to leave their localities – for example, because of caring responsibilities, geographical isolation and poor transport links, poverty. There can be other difficulties with locating learning in a college, such as unfamiliarity with or fear of such institutions. In other words, the situational, dispositional and institutional barriers that affect the take-up of learning by adults may work even more strongly when they are expected to leave their family or area in order to undergo a course of learning that in itself is frightening for some people.

There are several ways in which learning can be delivered locally. These include:

- The holding of classes in places such as community centres, community flats, village halls, traveller camps, prisons and hospitals;
- E-learning, where learners access learning principally or entirely via the Internet, either in their own homes or in local access points such as public libraries;
- Workplace learning;
- Mixed-mode delivery, with e-learning supported by the opportunity to attend classes locally or in the workplace.

Use of ICT as a useful tool for learning basic skills

Increasingly, employers view computer literacy as a basic skill. Even the ability to use a keyboard is a useful start. Using ICT in the delivery of basic skills, therefore, in itself adds to the skills of the learners. In addition, learners who have acquired basic skills through ICT will be able to play computer games, send emails, use chat-rooms and write their own weblogs. For people with dyslexia, word processing packages are very useful because of their spell-checkers and auto-correct tools. Learning to use a spreadsheet can speed up simple calculations using just a few commands. Online forms can be used with learners developing skills in completing forms.

More, immediately, however, learning through ICT can make learning fun – FUN! The value of making learning enjoyable cannot be over-estimated.

There are both challenges and advantages in using ICT. The challenges, however, can be turned into useful learning exercises in themselves:

- Using a computer for the first time can seem daunting – so basic tuition will be needed in the use of computers and the Internet.



- Working alone at a computer means good time management and ability to resist distractions and temptations – but learning to manage time is a useful skill in itself.
- Flexibility: learners can access materials not only when in class but also by using computers at home, in an Internet café or in a library. They can learn at their own speed. They can learn on their own while the tutor is giving individual attention to one of the students. They can learn individually or in groups.
- Confidence-building: in a class some learners get discouraged or feel pressurised when others appear to be learning more quickly than they are – learning at a computer takes away these feelings – careless mistakes can easily be corrected when using a computer
- Adding interest to the sessions: ICT makes lessons more dynamic, interactive and adds interesting variations to the material.

There are certain prerequisites for success in using ICT to help develop both basic skills and motivation. These include:

- A welcoming learning environment;
- Tutors who have knowledge and experience in using ICT in basic skills teaching
- Learning resources of good quality;
- Good quality hardware and software, with technical support easily available.

Respecting diversity

Diversity management' is generally put forward as ways of ensuring that the positive benefits of a diverse workforce are both promoted and facilitated, through making equal opportunities central to policy and practice.

Managing diversity involves:

1. Identifying the issues that arise from this diversity;
2. Developing ways to address these issues.

Thus, the diversity approach involves:

- recognising that people are not all the same in terms of their social situation;



- recognising that individuals have different needs, which arise partly from their social situation;
- valuing all individuals equally;
- giving all people opportunities to reach their full potential;
- and tailoring provision of these opportunities to take account of diverse needs.

Examples of groups considered 'diverse' include:

- Women, especially those who are carers;
- People with limited access to transport - particularly home based parents;
- Rural and isolated people;
- Shift workers who are unable to commit to or attend regular classes;
- People with physical disabilities;
- People with psychiatric or learning disabilities or difficulties;
- Older people;
- Lesbian, gay, bisexual and transgendered people;
- People from non-English/German/Italian/Latvian etc speaking backgrounds, including both refugees and immigrants;
- People from disadvantaged socio-economic backgrounds;
- People with low literacy, numeracy and social skills
- Long-term unemployed people; AND
- In the context of education, different learning styles.

Three important points to note:

1. Some individuals face multiple disadvantages;
2. Some individuals from social groups regarded as disadvantaged may have no difficulties
3. Some individuals have extremely low self-esteem and may believe that 'learning is not for them'.

Learners should not be stereotyped according to the social group to which appear to belong. Provision of learning should focus on individual needs – but with due consideration for issues that may arise from their social situation.



Teachers/trainers need to develop diversity competencies :

1. Be self-aware: a) identify factors in their upbringing that might create difficulties; b) recognise times when their own biases are affecting their judgment or behaviour.
2. Treat everyone with respect and as unique individuals: a) pronounce personal names correctly; b) learn which words are offensive and which are acceptable to describe diverse groups; c) learn what kind of behaviour might be – unintentionally - offensive.
3. Carry on learning, for example: a) feedback from colleagues; b) exploration of diverse viewpoints; c) study of other cultures and views; d) learning from their mistakes.
4. Develop good communication: a) understand cultural difference in communication; b) adapt speech for non-native speakers of their language; c) listen carefully; d) check that their messages have been understood.
5. Be inclusive: a) make sure no-one is being left out; b) create an atmosphere in which learners feel safe to speak freely; c) welcome new points of view.
6. Be assertive: a) challenge discrimination in others; b) encourage victims of harassment or discrimination to speak out.
7. Extend their networks: develop personal and professional contacts with people from diverse backgrounds.

Gender mainstreaming aspects

To summarise, gender mainstreaming rests on a foundation of equal treatment and positive action, and all three should be in place. Essentially, instead of the 'male model' (for example, men as main breadwinners with careers uninterrupted by caring responsibilities) being assumed to be the norm into which women, whatever their circumstances, are required to fit, it is recognised that there are many models, of equal value. Furthermore, there are men who do not fit into the 'male model' (for example, the long-term unemployed) and there are women who do. So this is an issue for both men and women, and they cannot and should not be pigeonholed or stereotyped.

Some of the practical ways in which gender mainstreaming can be put in place include the following actions:

1. Involve both men and women in decision-making.
2. Consider if the impact of your decisions impacts differently on women and men in the particular sector for which the course is aimed. For example, if more women than men work part time, the course almost certainly needs to be part time too.



- 3 Think about stereotyped notions of 'women's work' and 'men's work' –women in the West are not associated with carrying out manual labour but in the past and elsewhere in the world today it is women who carry out much of the manual labour. Nor are Western women thought of as potential plumbers or electricians or computer technicians, but there is no reason they should not enter these lucrative trades. So widen your recruitment policies and re-focus your publicity to attract both sexes.

Check policies to see if they might impact differently on men and women. For example:

- 4 If classes are held only at night, or if they are in places which cannot be reached by public transport, can women attend as easily as men?
- 5 If classes are held in the daytime, can men who are employed full-time access them as easily as women who work part-time or are occupied in the house?
- 6 If the timetable is inflexible, can men fit classes into their existing timetable more easily than women?
- 7 Is there any provision for childcare, where women are more likely than men to care for children?
- 8 Do prevailing norms and values inhibit the participation of men or women in the educational programme being evaluated?
- 9 Look at the ratio between men and women on the course. Does the learning environment facilitate both sexes?
- 10 Consider carefully the language to be used: is it gender-neutral or does it imply that one sex is inferior to the other or is allegedly innately more suited to the occupation or the learning task than the other?

When the course is in progress, ensure that:

- 11 Women and men receive equal treatment and equal amounts of the tutor's attention.
- 12 Generalisations about men and women are challenged and sexist jokes are not accepted



LITERACY: DIDACTIC BACKGROUND

Learning contents and purpose

Reading and understanding signs and symbols: Focus on health and safety issues!

- 1 Inform learners about different types of signs and symbols that are important when working in the construction area
1. (prohibition signs, mandatory signs, warning signs, safe condition signs, fire equipment signs) to enable them to differentiate
- 2 Enable learners to associate signs and symbols with specific and correct meanings
- 3 Enable learners to convey respective messages to their colleagues or other people possibly involved (clients, representatives of other companies, suppliers, passers-by etc.)
- 4 Respective contents should always be related to the actual workplace of your learners (when choosing examples, always consider the context of learners' everyday work experience)
- 5 Dealing with signs and symbols relevant for the construction area, generally increase your learners' awareness of health and safety issues

Starting out on a basic literacy level (alphabet, alphabetical order): Focus on relation to workplace surroundings!

As for writing skills, it is important to consider that a high number of workers in the construction area are of East European origin and are partly used to different alphabets and scripts. It is therefore necessary to start work on literacy training on a very basic (entry) level.

Consider the following:

- Practical relevance and closeness to actual experience of all materials used and all examples given (e.g. tool about alphabetical order: names should be the actual names of the working team involved)
- To make learning contents relevant for students and demonstrate their actual employability: focus on workplace related contents (e.g. the vocabulary being taught and dealt with during training: it is most important for the learners to be confronted with terms denoting concrete items of their work, such as work tools, machines etc.)



Basic writing exercises: Focus on relevance for everyday life!

Practical exercises concentrate, among others, on how to fill in forms, keep lists and maintain accurate, legible and complete records.

Consider the following:

- Use authentic materials, i.e., for example, forms that learners will actually come across in their everyday life (forms used at certain offices, registrations, CV forms of actual companies etc.) to demonstrate relevance of learning contents
- Ask and motivate your learners to bring their own sample forms
- Exercises of how to fill in forms can always be made use of as a basis for joint exchange of experience, constructive reflection on learners' skills, strengths and weaknesses, discussion on past success and failure, future perspectives etc. Hence these basic writing exercises can be a starting point for communicative training units (combination with social skills training) in which learners practice how to effectively pass on information to each other
- Exercises (e.g. filling in CV forms) can be written preparation work for various role plays acted out in class (like job interviews etc.), i.e. intensive training of social skills

Reading exercises: Focus on filtering important information related to workplace surroundings!

Reading comprehension includes exercises and classroom activities dealing with how to obtain information from instructions and/or catalogues (e.g. of manufacturers). Learners will train, for instance, understanding and checking delivery notes, as well as passing on related messages to colleagues. There can also be practise on reading texts and notices about safety (e.g. safe lifting), handling and storage procedures. Various manuals can be carefully read and summarised to colleagues and fellow learners.

Consider the following:

- 1 Take examples from actual work life (catalogues etc.)
- 2 Always point out and demonstrate the relevance and usefulness of reading practice to your learners (how to make things easier for them in everyday job life)
- 3 In order to achieve efficiency and ideal learning results and to provide for change in a sufficient way:
 2. again and again combine reading and writing activities in class
- 4 Often motivate your learners to compare results, i.e. at the same time carry out communication training and reflection work (see sample methods and tools below)



Learning materials for literacy

The following exercises can be found in the part 2 of this Curriculum (Toolbox). They cover the following sectors:

- 1 Signs and Symbols
- 2 Alphabetical order
- 3 Filling in forms
- 4 Filtering important information
- 5 Understanding information



NUMERACY

Learning contents and purpose

Focus on relation to workplace surroundings and relevance for everyday work!

In order to empower employees with improved basic skills in numeracy, methods and tools in a course for construction workers shall primarily be related to tasks and duties included in actual jobs in this work area. Since it is, for example, of crucial importance to be able to mix materials correctly, learners shall be confronted with different exercises on volumes and measurements and be trained how to work out ratio and direct proportion. One of the aims of such trainings shall be to increase the learners' awareness and knowledge of how to use mathematical information and language and how to identify suitable calculations to achieve an appropriate outcome (this is, for instance, important for doing or completing a materials list).

The exercises attached are dealing with the following aspects:

- 1 Basic numeracy skills, using mathematical information
- 2 Using the basic arithmetical operations
- 3 Practising common measures
- 4 Practising common measures by converting
- 5 Working out metric units of lengths
- 6 Working out perimeter and area
- 7 Working out ratio

Other major elements of basic skills training for construction workers are:

- Shape and space
- Dealing with whole numbers
- Negative numbers
- Fractions
- Decimal measures



- Everyday percentages
- How to work out metric units of width
- Basic numeracy, arithmetic, calculation skills (e.g. for working out correct amounts of materials)

Consider the following:

1. Provide for an overall brush-up of basic mathematics (explanation and demonstration) and make sure each individual student understands contents (adding, subtracting, multiplying, dividing etc.)
2. No pressure, provide enough time for students to do respective exercises
3. Practical relevance and closeness to actual experience of all learning materials used and all examples given (e.g. exercise on doubling amounts, take cement or sand as an example)
4. To make learning contents relevant for students and demonstrate their actual employability: focus on workplace related contents (see methods and sample tools below)
5. Use authentic materials, i.e., for example, forms that learners will actually come across in their everyday job life (forms used at certain companies etc.) to demonstrate relevance of learning contents
6. Ask and motivate your learners to bring their own sample forms
7. Exercises can always be made use of as a basis for joint exchange of experience, constructive reflection on learners' skills, strengths and weaknesses, discussion on past success and failure, future perspectives etc.
8. Hence these basic numeracy exercises can be a starting point for communicative training units (combination with social skills training) in which learners practice how to effectively pass on information to each other.
9. Exercises can be written preparation work for various role plays acted out in class i.e. intensive practical social skills training
10. The exercises are to be done individually as a comprehension check. Compare the results in class.



Learning materials for numeracy

The following exercises¹ can be found in the part 2 of this Curriculum (Toolbox). They cover the following areas:

- 1 Basic numeracy skills, using mathematical information
- 2 Using the basic arithmetical operations
- 3 Practising common measures
- 4 Practising common measures by converting
- 5 Working out metric units of lengths
- 6 Working out perimeter and area
- 7 Working out areas for walls
- 8 Working out ratio

¹ Numeracy materials have been taken from three *Target Skills for Work* resources: *Care, Hospitality and Construction*. Copyright © Tribal Education Limited 2005. Used with permission. Target Skills® is a registered trade mark of Tribal Education Limited.



COMMUNICATION SKILLS

Learning contents and purpose

Focus on the relevance for everyday working life!

In order to empower learners within a basic skills course for construction workers with relevant social and communication skills, there shall be particular emphasis on reflection on communicative behaviour and different aspects of conflict management. Group work (role plays, imitation of job situations etc.) shall concentrate on both speaking skills (how to express oneself, respond properly, give relevant information to colleagues, superiors, employers, representatives of other companies etc.) and listening comprehension (understanding simple explanations and instruction in order to be able to carry out duties).

Major elements of social skills training for construction workers shall, in addition, be the following:

- Team building
- Team awareness
- Team spirit
- Social responsibility of the individual within a group of working colleagues
- Cooperation among colleagues/fellow students
- Improvement of mutual assistance

Consider the following:

1. Provide for an overall positive atmosphere of openness and trust and make sure each individual student feels comfortable and free to work on reflection and communication
2. No pressure, provide enough time for students to communicate
3. Make your students aware of the fact that effective spoken communication is essential in construction work and that passing on information clearly is essential to everyone's safety and successful work outputs in your team.
4. Therefore focus on conveying the following principles:
 - a. always speak clearly
 - b. report things quickly but also carefully and always in an understandable way



- c. keep to the facts
 - d. remember to report all necessary facts
 - e. keep facts in order
5. Always refer to practical relevance and closeness to actual experience of all learning materials used and all examples given:
 6. To make learning contents relevant for students and demonstrate their actual employability: focus on workplace related contents (see methods and sample tools below)
 7. In order to demonstrate relevance of learning contents: Use authentic materials dealing with contents learners will actually come across in their everyday job life
 8. Ask and motivate your learners to bring their own materials and examples

Raise your learners' awareness of different roles and functions within a team:

- Who does what at a building site?
- Who takes which responsibility?
- How do we all act as a team?
- Who has working relationships with whom?
- Who gives orders and who receives them?
- Are the roles organised on the same levels or not?

When practising to describe images and listen to descriptions, focus on:

- learners' ability to catch distance, proportion and similarity relationships
- their ability to adopt the viewpoint of others
- learners' ability to represent with accuracy the verbal description of others

Exercises can always be made use of as a basis for joint exchange of experience, constructive reflection on learners' skills, strengths and weaknesses, discussion on past success and failure, future perspectives etc.

Exercises can be written preparation work for various role plays acted out in class, i.e. intensive practical social skills training



Learning materials for communication skills

The following exercises can be found in the part 2 of this Curriculum (Toolbox). They cover the following areas:

1. Team building and team awareness
2. Team spirit
3. Cooperation among colleagues
4. Improvement of mutual assistance



Part 2

Toolbox **Exercises and** **Learning Materials**



1

Signs and symbols

Please match the signs and symbols on the following page to the correct explanation. Write the matching explanation next to the symbols below:

No access for unauthorised persons

Caution: high voltage

Highly flammable

First aid

Fire alarm

Wash your hands before starting your work

Slippery floor













<h1>2</h1>	<h2>Signs and symbols</h2>
------------	----------------------------

Talk about places at work where you can find these symbols.



3

Signs and symbols

Please insert the correct answer from the list below:

- Prohibition signs
- Mandatory signs
- Warning signs
- Safe condition signs
- Fire equipment signs

Which signs

..... have a white symbol inside a green rectangle?

..... have a white symbol inside a blue circle?

..... have a black symbol inside a yellow triangle?

..... have white symbols in a red rectangle?

..... have a black symbol inside a circle with a red border?

4

Signs and symbols

Now talk to your colleagues in class which signs of the different types you know.



5 Signs and symbols

Please fill in: What do these signs mean and what type of sign are they?















6 Alphabetical order

On the right side of the table, please order these names alphabetically:

Paula	
Steve	
Anthony	
Clare	
Daniela	
William	
Karin	
Nora	
Marc	
Jessy	

**7****Alphabetical order**

On the right side of the table, please order these words alphabetically:

hammer	
screw	
nail	
brick	
wall	
cement	
sand	
concrete	
street	
building	



8

Filling in forms

CURRICULUM VITAE	
Personal data (full name, birth date, birth place)	
Address (street, number, post code, city, country)	
Educational Qualifications (school, additional qualifications)	
Job Experience (former companies)	
Hobbies and Interests	



9

Filling in forms

REGISTRATION FORM

BUILDING AND CONSTRUCTION WORK LTD

October 2006

Name: (please write clearly)

(Last) (First)

Birth Date: _____

Birth Place: _____

Mailing Address:

(Street, Number, Post code, City)

Work Experience in Building and Construction:

Please tick areas in which you have already worked:

- Formwork
- Painting
- Carpenter
- Iron work
- Roofing
- Bricklayer
- Metal work
- Machine Operation
- Electrical work
- Plasterer
- Cement Mason
- Others (please specify):

Date

Signature



10 Filtering important information

Read the following accident report.

In the lines below, write down only those sentences you think are relevant and necessary for an accurate report:

The whole team had had some nice breakfast before work. We started our activities with pavement repairs. Right at the beginning our team leader warned us about slip hazards due to the rainy weather. During the first break I had a nice chat with my colleague Mick about the Cup game the night before. At 10:15 I was about to carry the big case with the rotary hammer inside to my two colleagues Walter and Steve on the other side of the street. When I crossed the road, I suddenly slipped and fell. I sprained my wrist and hurt my knee. I was worried that everybody would laugh at me and treat me like an idiot. My colleagues immediately informed the team leader who organized my transport to the doctor.

Relevant sentences:



11 Filtering important information

Fill in the following report form.

Accident Report Form	
Name of injured person	
Occupation	
Birth date	
Date joined company	
Nature of injury	
Part of body	
Object(s) causing injury	
Date of accident	
Time of accident	
Location of accident	
Brief description of the event:	
.....	
.....	
.....	
.....	



12 Filtering important information

You want to read about how to protect your head, eyes, hands and feet when working on your building site. To find this information you do not have to go through the whole of this handbook. You can look at the table of contents to look for key words.

Which page do you need to read to find out more about proper equipment?
Please write your answer below:

Building Site Safety Handbook	
Contents	Page
Introduction	2
National Guidelines	4
Employee Duties	7
Employer Duties	8
Orientation and Training	9
Personal Protective Equipment	11
Stairs and Ladders	12
Scaffolds and Other Work Platforms	14
Fall Protection	17
Work on Roofs	19
Tools	22
Vehicles	23
Fire Prevention	25

Your Answer :

Page



13 Understanding information

Please read the following two product descriptions from a catalogue presenting electric equipment for construction workers. Answer the questions listed below in written form. Compare your results in class.

PRODUCT 1:

Rotary Hammer Drill Medium Electric

Popular Applications:

Drilling masonry, concrete and bricks up to 38mm
Light demolition work

Main features:

Quicker and more robust than light hammer drills but still light enough to be used overhead. Hammer action drills masonry quickly. Uses standard 240v power. Medium vibration. Medium noise.

Warning: Avoid using wet areas.

Included: Carry case

Weight: 9 kg

PRODUCT 2:

Diamond Core Drill

Popular Applications:

Drilling concrete (especially test and ventilation holes).
Drills concrete up to 100mm thick.

Main features:

Good for wet drilling.
Very portable.
Low noise.
Low vibration, can be used hand held for horizontal drilling

Weight: 4 kg



14 Understanding information

Which materials can you drill with product 1?

Answer:

15 Understanding information

Which material can you drill with product 2?

Answer:

16 Understanding information

What kind of work can you do with product 1?

Answer:



17 Understanding information

You want to do drill in wet areas. Which product do you use?

Answer: _____

18 Understanding information

Which of the two products includes a carry case?

Answer: _____

19 Understanding information

Which of the two products is lighter?

Answer: _____

20 Understanding information

With which product can you drill thicker concrete?

Answer: _____



21 Understanding information

Which of the two products produces more noise?

Answer:

22 Understanding information

What is a main use of hammer action of product 1?

Answer:

23 Understanding information

Which of the two products has less vibration?

Answer:



24

Basic numeracy skills

Please order these numbers, starting with the smallest:

23

56

8

279

3450

100

99

2861

2618

64



25 Basic arithmetical operations

Please fill in the correct answer from the list given below:

3×7	
$17 + 9$	
$28 : 2$	
$33 - 9$	
$44 + 23$	
$48 : 8$	
12×3	
$38 : 2$	
$99 - 13$	
42×2	

14

67

84

86

21

24

26

6

19

3



26 Basic arithmetical operations

You want to use double the amount of sand than last time (left side of the table). Please insert the correct amount on the right side:

20,5 kg cement	
11 kg cement	
8,6 kg cement	
12,5 kg cement	
19 kg cement	
6,2 kg cement	
10,3 kg cement	
28 kg cement	
7 kg cement	
15,2 kg cement	



26 Basic arithmetical operations

Please tick all the multiples of 9, that is numbers in the nine times table:

- 16
- 18
- 24
- 49
- 54
- 63
- 89
- 90

27 Practising common measures

Please draw lines between the abbreviations and corresponding words:

m	centimetre
cm	metre
mm	millimetre



28 Practising common measures

Please tick the correct sentences:

- A metre is the same as 100 millimetres.
- A metre is the same as 1000 millimetres.
- A centimetre is the same as 10 millimetres.
- A millimetre is the same as 10 centimetres.
- A centimetre is the same as 100 millimetres.
- A metre is the same as 1000 centimetres.
- A metre is the same as 100 centimetres.
- A centimetre is the same as 10 metres.

29 Practising common measures

Which two measurements are the same? Please tick:

- 364 millimetres
- 3.64 metres
- 3640 centimetres
- 364 metres
- 3640 millimetres



30

Converting measures

Please convert metres to millimetres:

m	mm
2,50	
4,19	
1,35	
13,70	
4,90	
1,25	
11,40	
6,80	
9,90	
12,05	

31

Converting measures

Please convert metres to centimetres:

m	cm
3,85	
14,90	
2,20	
7,45	
11,05	
1,58	
7,10	
8,30	
10,70	
0,30	



32

Converting measures

Please convert millimetres to metres:

m	mm
	3900
	120
	4250
	30
	780
	8000
	12000
	2800
	25000
	770

33

Converting measures

Please convert centimetres to metres:

m	cm
	980
	1100
	80
	550
	640
	380
	90
	485
	13
	1350

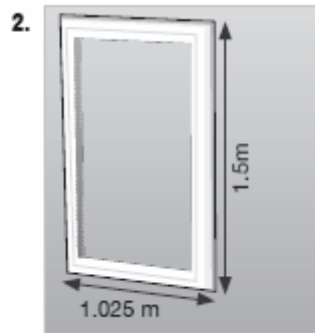


34 Converting measures

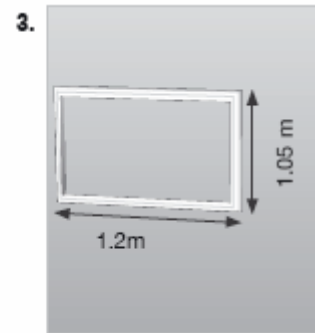
The measurements for these windows have been given in metres. Convert them into millimetres. Copyright ctad Cambridge, www.ctad.co.uk



Height: _____ mm
Length: _____ mm



Height: _____ mm
Length: _____ mm



Height: _____ mm
Length: _____ mm

35 Converting measures

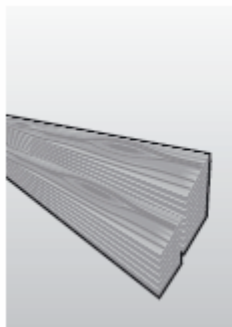
Convert the lengths of these materials into millimetres. Copyright ctad Cambridge, www.ctad.co.uk

Timber 10.5 m

Cable 120 m

Piping 12.75m

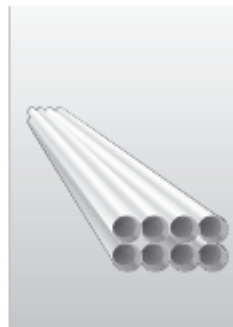
Skirting 50 m



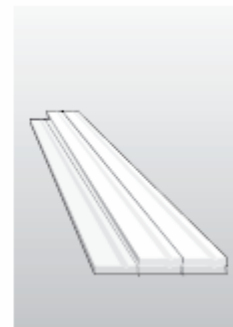
_____ mm



_____ mm



_____ mm



_____ mm



36

Converting measures

These are lengths of walls. Please tick the longest:

3, 60 m

410 cm

2890 mm

365 cm

5, 90 m

4880 mm

37

Converting measures

These are lengths of walls. Please tick the shortest:

2, 70 m

610 cm

3420 mm

3, 60 m

5 90 cm

1560 mm

**38****Perimeter and area**

The length and width of a rectangle are shown in each row of this table. Please complete the table by filling in respective perimeter and area:

Rectangle	Length (cm)	Width (cm)	Perimeter (cm)	Area (cm ²)
A	12	2		
B	5	4		
C	8	3		
D	11	5		
E	16	6		
F	7	1		

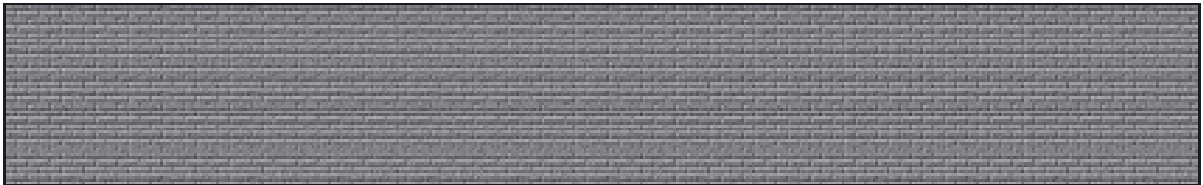


39
Area

Next you need to calculate how many blocks and bricks you need. The customer wants the garage built from concrete blocks with half-brick thick fascia walls. Allow 5% wastage for blocks and 10% wastage for bricks.

Copyright ctad Cambridge, www.ctad.co.uk

Half-brick thick fascia wall



60 bricks per m²

Area of the garage = 78 m²

Bricks needed = × = bricks

Wastage allowance = 10% of = bricks

Total bricks (including 10% wastage) = bricks

Block wall



10 blocks per m²

Area of the garage = 78 m²

Blocks needed = × = blocks

Wastage allowance = 5% of = blocks

Total blocks (including 5% wastage) = blocks



40 **Ratio**

Please tick the three in the list that are in the correct ratio:

- 9 sacks of sand, 2 sacks of cement
- 10 sacks of sand, 4 sacks of cement
- 12 sacks of sand, 5 sacks of cement
- 15 sacks of sand, 5 sacks of cement
- 9 sacks of sand, 4 sacks of cement
- 2 sacks of sand, half a sack of cement
- 6 sacks of sand, 2 sacks of cement
- 8 sacks of sand, 3 sacks of cement
- 9 sacks of sand, 2 sacks of cement
- 9 sacks of sand, 3 sacks of cement

41 **Ratio**

**Which amount of sand do you need to match the correct amount of cement?
Please fill in:**

20 kg cement	
15 kg cement	
28 kg cement	
130 kg cement	
240 kg cement	
35 kg cement	



42	Team building
----	---------------

Please fill in the correct word to complete the sentences about some skilled craft operatives in a building team:

A makes and repairs the timber parts in buildings.

- | | |
|-------------------------------------|------------------------------------|
| <input type="checkbox"/> bricklayer | <input type="checkbox"/> decorator |
| <input type="checkbox"/> formworker | <input type="checkbox"/> carpenter |

A covers a roof with slates or tiles.

- | | |
|-------------------------------------|------------------------------------|
| <input type="checkbox"/> painter | <input type="checkbox"/> roofer |
| <input type="checkbox"/> bricklayer | <input type="checkbox"/> plasterer |

A works with paint, paper and fillers.

- | | |
|------------------------------------|--|
| <input type="checkbox"/> carpenter | <input type="checkbox"/> painter and decorator |
| <input type="checkbox"/> roofer | <input type="checkbox"/> bricklayer |

A puts a smooth or textured finish on walls or ceilings.

- | | |
|------------------------------------|-------------------------------------|
| <input type="checkbox"/> plasterer | <input type="checkbox"/> roofer |
| <input type="checkbox"/> painter | <input type="checkbox"/> bricklayer |

A uses bricks and mortar to build walls.

- | | |
|------------------------------------|-------------------------------------|
| <input type="checkbox"/> carpenter | <input type="checkbox"/> decorator |
| <input type="checkbox"/> roofer | <input type="checkbox"/> bricklayer |

A makes a structure that supports wet concrete until it hardens.

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> bricklayer | <input type="checkbox"/> painter and decorator |
| <input type="checkbox"/> formworker | <input type="checkbox"/> carpenter |



43

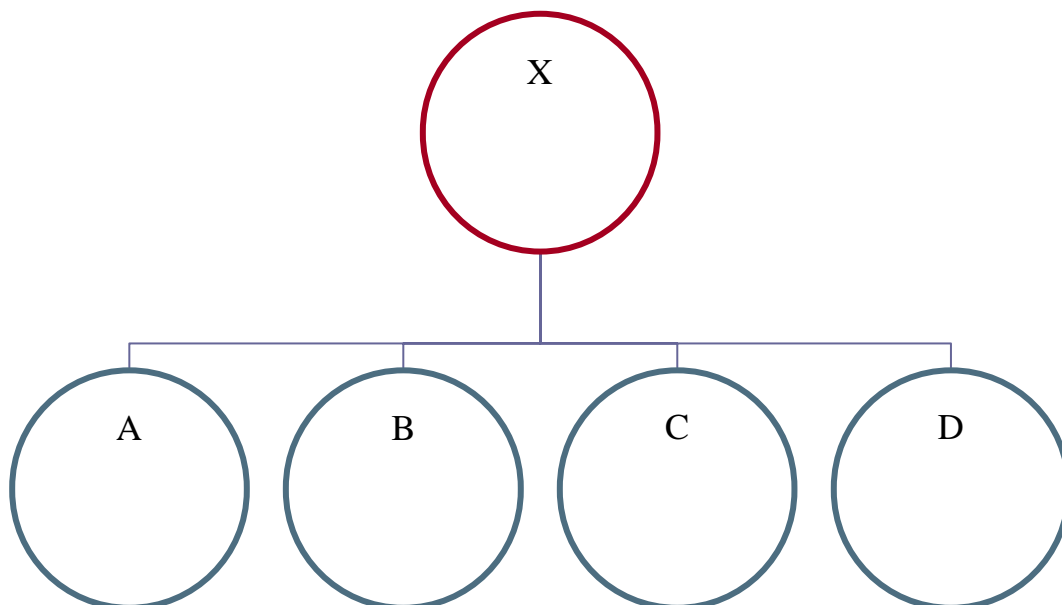
Team building

The organisation chart below graphically represents a working relationship typology.

Try to insert in the chart some professional roles that you know from your job situation and describe them.

Try to imagine the characteristics, for example:

- Who has working relationships with whom?
- Who gives orders and who receives them?
- Are the roles organised on the same levels or not?





44

Team building

Please fill in, prepare for discussion and role play:

What would you say in the following situations?

- An employee of another company comes to the building site you are working at and asks for your boss.

- An employee of another company comes to the building site you are working at and asks for a colleague who is not around.

45

Team building

Somebody wants to deliver material to your building site. He/she speaks so fast that you cannot understand him/her.

Somebody wants to deliver material to your building site. He/she is very angry, because obviously something has gone wrong.



46

Team building

A client appears at your building site and complains about the bad quality of your team's work

(e.g. client: "What kind of materials are you using? Aren't they that kind of cheap and useless ones...and you probably ignore quality to save money, and they are not eco-friendly I guess")

You pick up the telephone but cannot hear the other person, because the line is so bad.

47

Making contact

A passer-by is complaining to you about the noise around your building site.

48

Making contact

You come face to face with a colleague you have met before, but can't remember his/her name.



49

Making contact

At the end of a working day you are about to drive home in your car. Make an appropriate offer to a colleague who lives in the same district as you but has no car.

50

Making contact

Ask your colleague if you can use his/her mobile phone so that you can make an urgent phone call.

51

Making contact

You have been invited to a talk with the personnel manager. What do you say when you enter his/her office?



52

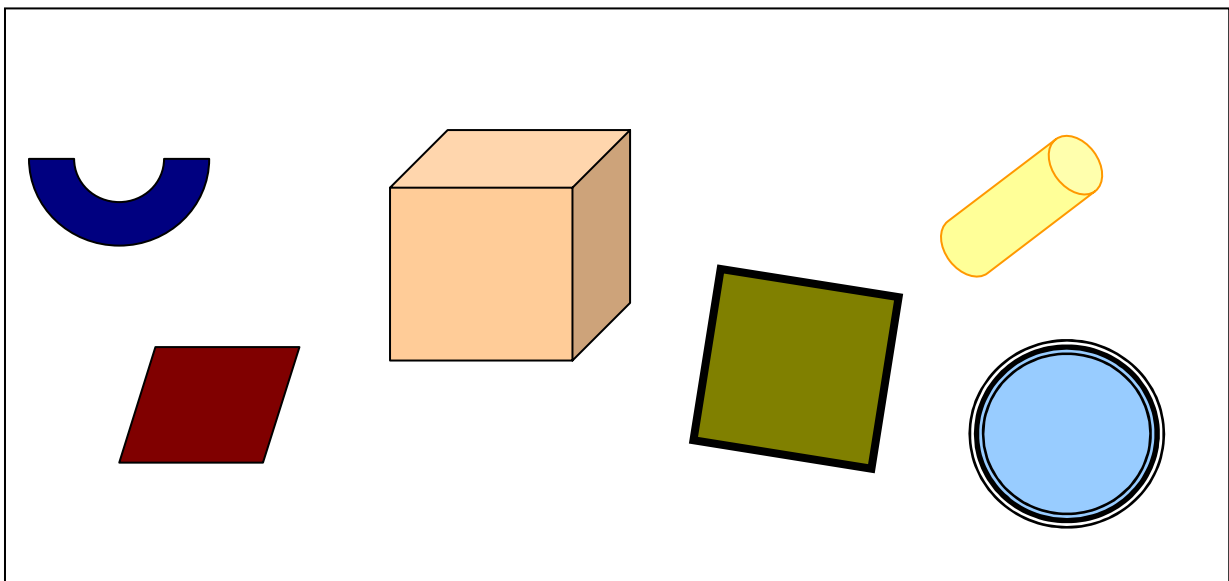
Making contact

One of your colleagues has just joined your working team. You know him/her already, but your fellow workers do not know him/her.

53

Co-operation among
colleagues

Describe the image represented in the illustration to your colleagues.
They have to draw it but cannot watch it.
Then compare the original image with drawings.





54

Co-operation among colleagues

Write a dialogue between you and your team leader.

You are phoning him to report an incident at one of the company's building sites (e.g. an accident, a major problem with one of your colleagues or with a supplier/client).

Prepare to act out your dialogue in class with your fellow learner.

Compiling this dialogue, please bear in mind everything you've learned about effective communication and passing on information so far in this course:

- always speak clearly
- report things quickly but also carefully and always in an understandable way
- keep to the facts
- remember to report all necessary facts

- keep facts in order:
 - give your name and position
 - name the place where you are speaking from
 - give your phone number
 - give details about the particular incident you are calling about (where, when has it happened? What exactly has happened? what is the situation right now?)