



### Simon Hartl

Simon Hartl is fifteen years old. He started his new job as an apprentice plumber in Linz, on 1 September.

"I like to work with tools and I also think this is a safe job for the future. People will always need installations or repairs."



### Gina Parker

Gina Parker is sixteen years old. She is an exchange student at Simon's school.

In a special training programme she'll work on sites or in customers' homes.

"I've always wanted to know how things work. On this programme I'm going to learn about all the plumbing jobs."

### Plumbers

install and repair appliances in bathrooms, kitchens and toilets. They also install and maintain heating and ventilation systems.

## STAFF INFORMATION CARD

Name:

Age:

Position:

Entry date:

Signature:

### 1 A safe job

Read the text about Simon Hartl and fill in his **staff information card**.

Talk to a partner about Gina and Simon.

How old are they? What do they do?

Do they work or do they go to school?

### 2 Carry parts and pipes



Listen to Simon talking to Gina on his first day.

Who does what? Connect the boxes.

Gina

A senior plumber

Simon

- is an exchange student.
- is a new trainee.
- works on sites.
- takes care of the tools.
- helps the senior plumbers.
- worked as a plumber in England.
- shows new trainees around.
- carries parts and pipes and ...
- takes trainees along to customers.
- tries to help the plumbers.
- helps installing a heating system.

### 3 My job

Where do you work?

When did you start?

What do you do at work?

Who is your boss?

How many colleagues do you have?

### Metal fitters

manufacture and install all kinds of metalwork in industry and in buildings. They need to be familiar with all metals and metalworking processes.

### Tilers

tile walls and floors in private homes and public buildings. They need to know about the different types of tiles and adhesives.

#### 4 Plumbing and other jobs

Who does what?

Read the passages at the bottom and connect the boxes.

|                              |  |
|------------------------------|--|
| Draughtsmen/women ●          | ● repair bathroom appliances.<br>● install drainage systems.     |
| Plumbers ●                   | ● work on drawing boards.<br>● work on roofs and gutters.        |
| Sheetmetal workers ●         | ● manufacture ... metalwork.<br>● tile walls and floors.         |
| Metal fitters ●              | ● specialize in renewable energy.<br>● maintain heating systems. |
| Tilers ●                     | ● need to know about metals.<br>● draw plans of heating systems. |
| Waste and drainage experts ● | ● know different types of tiles.                                 |



Compare your results with a partner.

#### 5 What do you do?

What kind of work do you do in your company or workshop?

Are there special things that apprentices have to do?

Discuss these questions in a group of 3 or 4.

Take notes in your copybook.

|       |  |
|-------|--|
| Simon | repairs and maintains boilers.         |
|       | knows about metalworking.              |
|       | installs drainage systems.             |
|       | designs new bathrooms.                 |
|       | tiles walls in kitchens and bathrooms. |
|       | works with heating systems.            |
|       |  |



Compare your notes and report what members of your group do.

Write a **paragraph** about yourself, your training at school and on the job, and about your colleagues at work and/or at school (about 50 words). Combine the questions and your answers and link the sentences.

#### Draughtsmen/women

draw plans of buildings, heating and ventilation systems. They work on drawing boards and computers.

#### Sheetmetal workers

are experts on sheetmetal work in construction and industry. Some concentrate on roofs and gutters.

#### Waste and drainage experts

install drainage systems and specialize in recycling of waste water or renewable energy.

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## 1 From blocked drains ...

Which services are offered on this and the opposite page?  
Connect the names of the **companies** and the **services**.

|  |  |
|--|--|
| <p>Kepplinger ●</p> <p>Parker Drainage ●</p> <p>Sowga ●</p> <p>Payne &amp; Mighall ●</p> <p>Graham ●</p> <p>Barton ●</p> <p>D.N. Prosser ●</p> <p>Bainbridge ●</p> | <p>● clear blocked drains.</p> <p>● specialize in pipework.</p> <p>● deal in alternative energies.</p> <p>● sell fittings and tools.</p> <p>● replace boilers and radiators.</p> <p>● install air conditioning systems.</p> <p>● tile walls and floors.</p> <p>● offer free estimates.</p> |
|--|--|

## 2 ... to heating and cooling systems

Read the **services** below and find a company for each service.  
Write down name, place (city) and/or telephone number.

They sell fittings, tools and equipment.

\_\_\_\_\_

They install heating and cooling systems.

\_\_\_\_\_

They tile walls and floors.

\_\_\_\_\_

They specialize in pipework for heating and ventilation.

\_\_\_\_\_

They repair and exchange boilers and radiators.

\_\_\_\_\_

They offer free estimates and emergency service.


\_\_\_\_\_

They clear blocked drains.


\_\_\_\_\_

Compare your results with a partner.




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### 3 Where do you work?



Look at the **advertisements** on this and the opposite page and listen to Jenny, Mark and David, Gina's friends in England.

What do they do?

Where do they work?

Connect the following statements.

|                             |           |  |
|-----------------------------|-----------|--|
| Jenny <input type="radio"/> | works at  | <input type="radio"/> D.N. Prosser Plumbing & Heating. |
| Mark <input type="radio"/>  |           | <input type="radio"/> Graham, the plumber's merchant.  |
| David <input type="radio"/> | works for | <input type="radio"/> Sowga Engineering Ltd.           |
|                             |           | <input type="radio"/> Barton D & M Tiling Ltd.         |
|                             |           | <input type="radio"/> Parker Drainage.                 |

Tell your partner about Jenny and the others.

### 4 Advertising

Choose the **advertisement** you like best.

Design your own advertisement for the company you work for.

Discuss your results with a partner.

### 5 My company

Find a student in your class who does not work at your company. Ask him or her the following **questions** and take notes in your copybook.

What's the name of your company?

Where is it located?

How many people work in your company?

How many apprentices are there?

Which services does your company offer?

Introduce your interview partner to the class.

Write a **paragraph** about the company you work for, the products and services they offer. Combine the questions and your answers and link the sentences (about 50 words).

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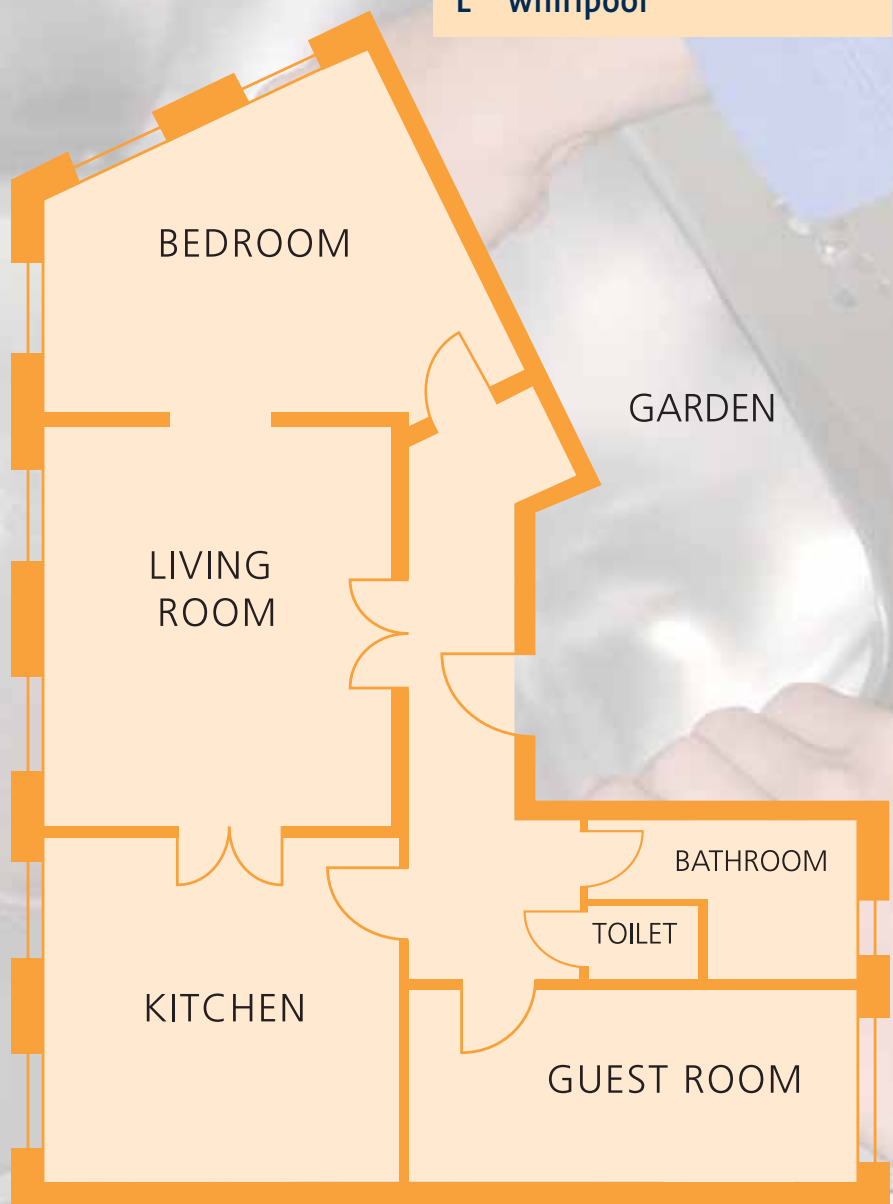
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### Plumbing facilities

- A bathtub
- B bidet
- C combination boiler
- D dishwasher
- E radiator
- F shower
- G sink
- H toilet bowl
- I toilet flush
- J wash basin
- K washing machine
- L whirlpool



### 1 Plumbing facilities

Look at the plumbing facilities listed on the opposite page.  
Do you know what they are called in English?  
Find the facilities in the photos on this and the opposite page.

Look at the floor plan of the house.  
In which rooms would you find the facilities?  
Write the letters into the appropriate rooms.

Compare your results with a partner.



### 2 The sink is blocked



Listen to the conversation between the plumber and his customer.  
What's wrong?  
Connect the boxes.

|                           |                       |                                       |
|---------------------------|-----------------------|---------------------------------------|
| The tap of the wash basin | <input type="radio"/> | <input type="radio"/> is blocked.     |
| The tap of the bathtub    | <input type="radio"/> | <input type="radio"/> doesn't work.   |
| The toilet flush          | <input type="radio"/> | <input type="radio"/> is dripping.    |
| The kitchen sink          | <input type="radio"/> | <input type="radio"/> needs checking. |

Check your results with a partner.  
And what about a washing machine?

### 3 That's no problem



Which jobs will the plumber have to do?  
Listen again and complete the sentences.

The plumber will have to ...

|          |                      |
|----------|----------------------|
| clear    | <input type="text"/> |
| exchange | <input type="text"/> |
| repair   | <input type="text"/> |
| install  | <input type="text"/> |
| check    | <input type="text"/> |

### 4 Repairs

What kind of repairs can you handle?  
In a group of 3 or 4 discuss different plumbing problems and how you would solve them.  
Make notes in your copybook.  
Choose one problem for a presentation to your class.  
Write a short **memo** describing repair jobs you can do (about 50 words).



## A plumber's tools

- A adjustable spanner
- B basin wrench
- C blow lamp
- D combination pliers
- E drain auger, drain snake
- F files
- G hacksaw
- H hammer
- I measuring tape, tape measure
- J monkey wrench
- K pipe-bender
- L pipe-cleaning brush
- M pipe cutter
- N pipe wrench
- O radiator key
- P rasp
- Q screwdrivers, plain-slot
- R screwdriver, cross-slot
- S shears for plastic hoses
- T slip-joint pliers
- U socket wrench, set
- V spanners
- W spirit level
- X utility knife
- Y vice
- Z vice for pipes



### 1 A professional's tools

Look at the **photos** and the **list of tools** on the opposite page.

What are the tools called in German?  
And in English?

Write the appropriate letter around the photos, next to each tool.  
Work with a partner.



### 2 Checking the tools

Look at the **photos** of tools and listen to Gina and Simon.

What are they doing?  
Tick the tools they mention.

Compare your results with a partner.



### 3 A monkey and a snake?

Which tools do they need for the following jobs?  
Connect the statements.

They use ...



|                     |                                       |
|---------------------|---------------------------------------|
| spanners ●          | ● for cutting pipes.                  |
| a monkey wrench ●   | ● for tightening nuts and bolts.      |
| pipe cutters ●      | ● for dealing with bathroom fittings. |
| files and brushes ● | ● for cleaning rough edges.           |
| pipe benders ●      | ● for sawing through metal.           |
| a hacksaw ●         | ● for clearing pipes.                 |
| A drain snake ●     | ● for bending pipes.                  |

Compare your results with a partner, then report to the class.



### 4 The right tool for the job

Look at the following jobs and tick the ones you can do.

|                         |                              |
|-------------------------|------------------------------|
| ● measure pipe lengths. | ● cut through metal.         |
| ● clean tools.          | ● check radiators.           |
| ● make a sketch.        | ● change water taps.         |
| ● carry tools.          | ● clear a toilet bowl.       |
| ● solder pipes.         | ● connect a washing machine. |
| ● <input type="text"/>  | ● <input type="text"/>       |

Which tools do you need for each of these jobs?

Take notes in your copybook and discuss them in a group of 3 or 4.

Present one of the jobs and the tools you need to your class.

Listen to the other presentations and take notes of the **jobs** described and the **tools** used.

Based on your notes write a **memo** listing jobs you can do and tools used (about 50 words).





## Household appliances

- boiler
- combination boiler
- extractor hood
- gas cooker
- gas oven
- dishwasher
- washing machine
- water heater

## Materials & machine parts

- A connector
- B drain
- C drain hose
- D feet
- E hose clamps
- F nuts
- G screws
- H tap
- I water supply hose

## Safety tip

Household appliances must be installed by an authorized technician according to the safety standards in force. All appliances must be earthed!

### 1 Household appliances

Look at the household appliances on the opposite page.

What are they called in English?

Write the words next to the photos.

Have you ever used one of the appliances?

Or installed one?

### 2 What is it called?

Look at the photos on this page.

What appliance is this?

Where would you find it in a customer's home?

What are the parts called in English?

Mark each part in the photos with a letter.



### 3 Connect it to the tap

Look at the photos and listen to Gina and Simon installing a washing machine.

Read the instructions and number the steps in sequence.

- Connect the water supply hose to the tap.
- Connect the drain hose to the drain pipe.
- Insert the washers.
- Put the machine in place.
- Tighten the drain hose with hose clamps.
- Check with a spirit level.
- Adjust the feet.

Listen again and check your results with a partner.

Which tools do they use for the job?

### 4 Step by step

Write a set of **instructions** for installing a washing machine or a dishwasher (50-100 words).

Instruct a colleague how to install a washing machine or a dishwasher.

Describe the procedure step-by-step and list the tools needed.

Use the photos to show the parts you are talking about.

## Step by step





HVAC – heating, ventilation and air conditioning – is one of the areas of metalworking, even though more and more plastic parts are being used.

Iron and steel are still widely used. Cast iron was used for radiators and bathtubs for many years. You can see them in old buildings and in museums.

Now steel is used for radiators and stainless steel for kitchen sinks. Iron, steel or plastics are used for cold-water pipes, and copper (or plastic) is used for heating pipes. Plastic pipes are used for drains and sewage.

Ceramics and porcelain were always used for wash basins and toilet bowls, and for some historic bathtubs and stoves. Nowadays bathtubs are mostly made of plastic, some of enamelled steel.

Most fittings, such as water taps and stopcocks, are made of brass or bronze, most of them are chromium-plated. Brass and bronze are alloys: brass is made from copper and zinc, bronze from copper and tin.

Copper has become ever more important: it is rather soft and can be worked easily in all kinds of shape; it is a good conductor of heat and electricity.

Stainless steel is an alloy made primarily from iron and chromium: it is much harder than copper and very strong.





### Installation materials

- aluminium
- alloy
- brass
- bronze
- cast iron
- ceramics
- chromium-plated (brass)
- chromium
- copper
- enamel
- iron
- lead
- nickel
- plastics
- porcelain
- steel
- tin
- zinc



### 1 Stopcock?

Look at the photos on this and the opposite page. What are the **objects** called? Can you guess?

Look at the **parts list** and write the appropriate words below the photos. Work with a partner.

| parts              |                | materials |
|--------------------|----------------|-----------|
| ● radiators        | are made of    |           |
| ● kitchen sinks    | can be made of |           |
| ● cold-water pipes |                |           |
| ● heating pipes    |                |           |
| ● drain pipes      |                |           |
| ● wash basins      |                |           |
| ● toilet bowls     |                |           |
| ● bathtubs         |                |           |
| ● fittings         |                |           |
| ● water taps       |                |           |
| ● stopcocks        |                |           |

Look at the photos: what are the **parts** made of? Read the text on the opposite page and fill in the **materials** in the frame above. Work with a partner.

### 2 What's it made of?



Look at the **parts list** above and listen to the students. First tick the parts in the list above. Listen again and tick the materials in the list on the left.

### 3 Conducts heat and electricity?

Read the text on the opposite page and look at the words in the frame. They describe the materials used in HVAC. What do you know about the materials? Find one material for each of the words.

|        |  |                      |  |
|--------|--|----------------------|--|
| heavy  |  | conducts heat        |  |
| hard   |  | conducts electricity |  |
| soft   |  | easy to bend         |  |
| strong |  | lightweight          |  |

Compare your results with a partner.

### 4 Materials at your shop

What parts do you work with at your company or workshop? What are the parts made of? Take notes in your copybook. Present your results to your class. Based on your **notes** write a memo about the parts you work with and what materials they are made of (about 50 words).

| I can | Listening  | I need more practice | Unit | Level |
|-------|--|----------------------|------|-------|
|       | understand simple phrases and information relating to what trainees in plumbing, heating and ventilation engineering do. |                      | 1B   | A1-A2 |
|       | understand simple phrases and information from a dialogue about the work trainees in a plumbing company do.              |                      | 2B   | A1-A2 |
|       | understand simple phrases and information relating to basic plumbing facilities, simple problems and repairs.            |                      | 3B   | A1-A2 |
|       | understand simple phrases and information from a description of basic plumbers' jobs and tools needed.                   |                      | 4B   | A1-A2 |
|       | follow a simple description of connecting a washing machine to the water supply.   |                      | 5B   | A2    |
|       | follow a simple description of basic plumbing parts and fittings and what they are made of.                              |                      | 6B   | A2    |

| I can | Reading  | I need more practice | Unit | Level |
|-------|--|----------------------|------|-------|
|       | understand words and phrases relating to what trainees and students in plumbing, heating and ventilation engineering do. |                      | 1B   | A1-A2 |
|       | pick out familiar words and phrases in classified advertisements, e.g. company, goods and services offered.              |                      | 2B   | A1-A2 |
|       | understand words and short phrases relating to basic plumbing facilities, simple problems and repairs.                   |                      | 3B   | A1-A2 |
|       | understand words and short phrases relating to basic plumbers' jobs and tools needed.                                    |                      | 4B   | A1-A2 |
|       | understand words and short phrases relating to basic household appliances and parts I need to connect them.              |                      | 5B   | A1-A2 |
|       | pick out words and phrases in an illustrated text about installation parts and fittings and what they are made of.       |                      | 6B   | A1-A2 |

| I can | Speaking   | I need more practice | Unit | Level |
|-------|--|----------------------|------|-------|
|       | ask and answer simple questions about my place of work, my colleagues and the kind of work we do.                        |                      | 1B   | A1-A2 |
|       | ask and answer questions about the company I work for, my colleagues and about the goods and services they offer.        |                      | 2B   | A1-A2 |
|       | ask and answer simple questions about basic plumbing facilities, simple problems and repairs.                            |                      | 3B   | A1-A2 |
|       | ask and answer simple questions about basic jobs I can do and tools I use.   |                      | 4B   | A1-A2 |
|       | give (very) simple step-by-step instructions how to install a washing machine or a dishwasher and list the tools I need. |                      | 5B   | A1-A2 |
|       | give a short rehearsed presentation of parts I work with and what they are made of.                                      |                      | 6B   | A1-A2 |

| I can | Writing   | I need more practice | Unit | Level |
|-------|---|----------------------|------|-------|
|       | write a short paragraph about myself, my colleagues at work and at school and about the kind of work we do.         |                      | 1B   | A1-A2 |
|       | write an advertisement and a short paragraph about the company I work for, about the goods and services they offer. |                      | 2B   | A2    |
|       | write a short memo describing basic plumbing problems and how I would solve them.                                   |                      | 3B   | A1-A2 |
|       | write a short memo listing basic jobs I can do and the tools I can use.   |                      | 4B   | A1-A2 |
|       | write a short set of instructions for installing a washing machine or a dishwasher and list the tools I need.       |                      | 5B   | A2    |
|       | write a short memo about the parts I work with and what materials they are made of.                                 |                      | 6B   | A1-A2 |

Unit 6B **Materials in HVAC****Self assessment**

Let's talk about materials in HVAC: heating, ventilation and air conditioning is one of the areas of metalworking, even though more and more  are being used. Now steel is used for radiators and  for kitchen sinks. Iron,  are used for cold-water pipes, and  (or plastic) is used for heating pipes.  pipes are used for drains and sewage. Ceramics and  were always used for wash basins and toilet bowls, and for some historic bathtubs and stoves. Nowadays bathtubs are mostly made of , some of enamelled . Most fittings, such as water taps and stopcocks, are made of  or bronze, most of them are .

Look at Unit 6B in your book and read the text about materials in HVAC. Then read the text on the left carefully. What kind of words are missing?

Try to fill in the gaps without looking at Unit 6B.

Compare your results with a partner, taking turns reading the sentences to each other:

If your results don't match, consult a pair near you or check in Unit 6B.

How many of the answers did you get right at first?

And in the end?

Practise reading your text to the class.

How would you grade your performance?

Teacher's grade & signature:

**Portfolio ideas**

Did you produce something in Units 1-6B that you would like to keep for later? For instance, the paragraph you wrote in Unit 1B about your **training** at school and on the job, and about your **colleagues** at work or at school. Add the **advertisement** you designed and the paragraph about the company you work for, the **products** and **services** they offer (Unit 2B). You could also revise the **memos** about the (repair) **jobs** you do at work (Unit 3B), the **tools** you use (Unit 4B), the **parts** and **materials** you work with (Unit 6B) and the set of **instructions** for installing a washing machine or dishwasher you wrote in Unit 5B. Put a date on your text(s) and keep them in your **Portfolio**.