

# Using products

## Introduction to Module 3

As many hair products and treatments contain dangerous substances, it is essential that hairdressers have both the literacy skills to follow instructions carefully and the numeracy skills to prepare products according to the instructions.

This module gives learners the opportunity to develop a range of skills required for using products. It includes:

- reading carefully and accurately
- measuring liquids accurately
- understanding hydrogen peroxide and its dilution.

The scenarios used in this module may not be familiar to all learners. However, the skills practised are transferable to many settings. Teachers should support learners to apply skills they learn here to their own work environment and encourage learners to bring their own experiences to bear when taking part in discussions and group work.

Hairdressing – Module 3: Using products					
Theme	Page reference	NOS/NVQ	Literacy	Numeracy	Key Skills
Labels	Ha 3:1–3:2	Unit G5; Unit G6; Unit H9; Unit H12; Unit H13; Unit H14; Unit H15	Rt/E3.5; Rt/E3.9		
Manufacturer's instructions	Ha 3:3–3:4	Unit G5; Unit G6; Unit H12; Unit H13; Unit H14; Unit H15	SLc/L1.3; Rt/L1.1; Rt/L1.2; Rt/L1.5		
Product data sheets	Ha 3:5–3:7	Unit G5; Unit G6; Unit H12; Unit H13; Unit H14; Unit H15	Rt/L1.1; Rt/L1.4; Rt/L1.5; Rs/L1.2; Rw/L1.1; Rw/L1.2		C1.2
Language and terminology	Ha 3:8–3:10	Unit G7; Unit H7	Rt/L2.1; Rw/L1.1; Rw/L1.3; Rw/L2.1; Rw/L2.2; Rw/L2.3		C1.2
Colour charts	Ha 3:11–3:12	Unit H13	Rw/E3.1	N1/E2.2	
Measuring liquids	Ha 3:13–3:14	Unit G1; Unit H12; Unit H13; Unit H15		MSS1/L1.4	N1.1
Measuring colour from tubes	Ha 3:15–3:16	Unit H13		N1/L1.6; N2/L2.1; N2/L2.3; MSS1/L1.4; MSS1/L2.3	N1.1; N2.1
Hydrogen peroxide strengths	Ha 3:17–3:18	Unit H13		N1/L1.6; N2/L1.8	N1.1
Diluting hydrogen peroxide	Ha 3:19–3:20	Unit H13		N2/L1.2; N2/L2.3	N1.2; N2.2

# Skills checklist

The final effect of your client's hair may depend on how you mix and use different products. If you do it well you will have a satisfied client. It may be a different story if you make a mistake!

The skills listed below will help you to find out about the products you use and how to prepare them. Tick the skills you feel confident about now. Complete the activities in this module to help you improve on the skills you have not ticked. Return to the list later to check any areas where you still need some practice.



Skills for using products	Now	Later
Finding information on product labels		
Following written instructions		
Reading information on product data sheets		
Finding out what technical words and phrases mean		
Using the codes on colour charts		
Measuring liquids		
Measuring products from tubes		
Understanding hydrogen peroxide solutions using both vol. and %		
Diluting hydrogen peroxide		



## PAGES 3:1–3:2

# Labels

### Occupational setting

Product labels and packaging contain essential information. They can contain very dense text in a number of languages. The print style and size can also be off-putting. However, it is important that the purpose and content of this information is understood and adhered to. This theme demonstrates how to use format to navigate a label using text features so that relevant information can be located quickly. Learners should be made aware that the labels used on the focus page and in the Source material may not be complete and are provided as examples only, and should not be relied on as the most up-to-date version. Each product will have its own instructions which must be adhered to.

The learning in this theme supports learning in Units H9, H12 and H13 of the *Habia Learning Support Pack for Hairdressing*.

### Materials

Product labels

*Luocolor* label from the Source material (0:33)

Access to computers and Internet (Extension)

### Learning outcomes

- 1 To use format to locate information in a text (focus page, Tasks 1 and 2)
- 2 To use illustrations to aid understanding (focus page, Task 3)

### Suggested teaching activities

#### Introduction

- Begin by asking the group whether they usually read the label before they start using a product – at work or in their daily lives. Discuss the importance of doing this and the possible consequences for employers and employees if this isn't done.
- Bring in a selection of product labels. Show the group a label (too far away to read) and ask them what information they think they will be

able to find on it. Write the answers on the board/flipchart.

- Give small groups of learners a product label each. Ask them to write down a key word for each different kind of information they find on the label.
- Report back to the whole group (but remain in small groups for the discussion), referring to the ideas on the whiteboard. Did they find more or less information than they expected on the product label? Did some groups find more information than others? How did they decide on the key words to look for?

#### Focus page

- Give learners a copy of the focus page and the *Luocolor* label from the Source material.
- Lead the discussion on to talk about how the information was presented.
- Discuss the use of other languages on the label. How can learners spot the part they need to read? (GB)
- Talk about the use of headings. Ask learners whether the key words they wrote down had anything to do with the different headings on the product labels.
- Talk about illustrations and symbols. Was their meaning and purpose clear? Did they help learners to understand what information was being offered?
- Were there any tables of information? Were these easy or difficult to understand? If learners have difficulty accessing tables, spend some time identifying columns, rows and headings and demonstrating how to find information.
- Talk about different fonts. Ask small groups to look at their labels again and count how many different sizes of font they can see. Do the different sizes have any significance? Is there any 'small print'? Headings often vary in size according to the importance of the information they convey. Discuss the use of capital letters and how the similar size of the letters makes them difficult to read. Ask who knows what a 'subheading' is and what it is used for. Are there any subheadings on the labels?

- Discuss the use of colour in labels. It can be used to show the colour of the product – is this a true reflection? It can also be used to demonstrate the importance of a section, or can be used to draw attention to a warning or danger signal. It can also be used to make the product more attractive to the purchaser. Ask small groups how colour has been used on the labels they are looking at.
- Talk about lists, which are often easy to pick out because they use bullet points. Where bullet points aren't used, commas will separate listed items. Point out the different kinds of punctuation on the label and how they are used. Ask learners to look for any lists on their labels and whether they have bullet points.
- Finally, discuss contact information. How many different ways on each label are there to contact the manufacturer? Ask learners to look for addresses, website addresses, email addresses and telephone numbers. Were they easy to find? Why? Is a reason given for using any of the addresses or telephone numbers? What are these reasons?
- Remaining in their small groups, ask learners to create a label for an imaginary product. They will need to decide what the product does, how it can be used and any health and safety information that needs to be relayed. Ask them to use different features to present information as clearly as possible. Each group could present their label to the whole group, discussing why they have chosen to lay out the information in the way that they have. Where ICT is available, labels could be designed on screen and printed out. Ensure learners are in mixed-ability groups so that the task is manageable for everyone.

Curric. refs	NOS/NVQ	Key Skills
Rt/E3.5	Unit G5	N/A
Rt/E3.9	Unit G6	
	Unit H9	
	Unit H12	
	Unit H13	
	Unit H14	
	Unit H15	

### Task 1

Use headings to find information on a product label

Rt/E3.5

- Explain that the headings in the questions are from the *Luocolor* label. Learners should find the matching heading and look for the information to answer the question.
- Remind learners that it is not necessary to read and understand the whole label to answer the questions. They need to scan the small sections to find key words that will help them answer the questions.

### If the learner has difficulty

- If learners have difficulty finding the correct headings, encourage them to look at the features of the word. What is the beginning and ending of the word they are looking for? How many words and how many syllables are there? Give them a piece of paper with a rectangle cut out of the middle and have them move it over the label until they have found the correct heading. Learners could then highlight the headings.
- Once they have found the correct heading, if learners are struggling to extract the information, ask them to cut out the section they are reading. Read the question carefully and decide which key words to look for. Slowly scan the section, looking for the key word, and try to understand what has been written by comparing what they are reading to their knowledge of the world.
- It may be necessary to enlarge the 'small print' for some learners. Discuss with them how they could cope when reading labels at work.

### Extension

Give learners another product label and ask them to find as many headings as they can and to list one or two points of information found under each heading.

### Task 2

Use headings to find information

Rt/E3.5

- Ask the group to answer the first question together. Decide which key words to look for, look for the information and the heading.
- Ask learners to answer the next questions individually or in pairs. Reiterate that they don't need to read and understand the whole label, but should read the question carefully and decide which key words to look for.

***If the learner has difficulty***

- Ask learners to cut the label into sections, with each section relating to a heading. Highlight the headings. Decide which key words to look for in each section, and to highlight these once found.
- Answer one question at a time.

***Extension***

Ask learners to rename the headings using different words but meaning the same thing.

**Task 3**

Use symbols to find information

Rt/E3.9

Ask the group to look for the symbols on the labels.

***If the learner has difficulty***

Ask learners what clues they can use to decide which symbol is related to which question. When they have successfully matched the symbols to the questions, help them to read and understand each word by relating it to the symbol and their own knowledge of the world.

***Extension***

- Ask learners to look at other product labels for symbols and illustrations and to create a table of illustrations/symbols and what they represent (cutting them out where appropriate).
- Alternatively look at the images used on manufacturers' websites. Are they clear? Do they give you more information?
- Ask learners to give a short presentation for colleagues on their findings. Compare this site with other trade sites.

**Theme assessment**

- Ask learners to look at a product label from their own workplace. Ask them to compare it with the one from the Source material. Are there more or fewer headings? Which features are common and which are different? Is the information clearer and more understandable on one than the other?
- Ask learners to present their findings to the whole group or their small group. Be sensitive when asking dyslexic learners to present their findings to the whole group.

- Ask learners to produce an annotated poster of the label from their workplace to help other learners navigate the labels.

# Labels

## Focus

A few minutes spent reading a label can save time in the long run.

A first look at the label will tell you what the brand is and give you a general idea about the product.

Find your way around the label using the:

- CAPITAL LETTERS
- *different styles of print*
- different sizes of **print**
- bullet points
- different colours
- **bold words**
- numbers
- underlining.

## Preparation advice

## Handling and cleaning up advice

Product name

What it is  
used for

### Colour reference

## Features and benefits

## Symbols

Quantity

Health and safety and environmental information

## Ingredients

You don't have to read the whole label. Use the **HEADINGS** and subheadings to help you find your way through the information and locate the part that you do need to read in more detail.

The small print gives more detailed information.  
The advice on labels is for your safety and for  
the safety of others.

You can find even more detailed information on the manufacturer's instruction leaflet and the data sheets that go with it.

Make sure you choose  
the right language to  
read it in!





# Labels

## Task

You will need the *Luocolor* label from the Source material for these tasks.

### Task 1

Look under these headings to answer the questions.

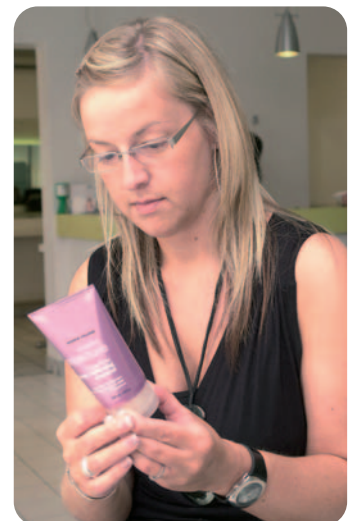
#### GB SAFETY INSTRUCTIONS IMPORTANT:

- Who could be affected by an allergic reaction to the product?  
a you ☐ b your client ☐ c you and your client ☐
- Is this product suitable for colouring eyelashes? Yes/No
- INGREDIENTS** What is the main ingredient of the product?  
\_\_\_\_\_

### Task 2

Find this information on the label.

- Where would you look to see if the product contains ascorbic acid? \_\_\_\_\_
- How long does the product take to work? \_\_\_\_\_
- Write down the three differences that the grape seed oil makes.  
•  
•  
•



### Task 3

Use the symbols on the label to answer these questions.

- Can the product be recycled?  
\_\_\_\_\_
- What must you do before using the product?  
\_\_\_\_\_

#### Tip

If there are words that you don't recognise, look them up or ask somebody who might know.

## PAGES 3:3–3:4

## Manufacturer's instructions

## Occupational setting

Having located particular instructions on a label, it is often necessary to read and understand more detailed instructions on a manufacturer's leaflet. The order and accuracy with which these instructions are followed is often critical to the successful application of a product. The leaflet may also include information and advice as well as charts, tables and other graphical information. This focus aims to demonstrate the features of written instructions and to practise reading for specific detail. Learners should be made aware that the labels used on the focus page and in the Source material may not be complete and are provided as examples only, and should not be relied on as the most up-to-date version. Each product will have its own instructions which must be adhered to.

Learning in this theme will also support learning in Units H12 and H13 of the *Habia Learning Support Pack for Hairdressing*.

## Materials

Manufacturer's instructions from products used by learners

*Koleston Perfect* manufacturer's leaflet from the Source material (0:34)

*Socolor* safety information from the Source material (0:35)

## Learning outcome

- 1 To recognise and follow different types of instructions found in manufacturer's instruction leaflets (focus page, Tasks 1–3)

## Suggested teaching activities

## Introduction

- Ask the group to give you instructions on how to perform a task common to everyone (e.g. shampooing hair). Write the instructions on the board/flipchart or whiteboard as they are given to you.

- Ask the group whether they would change the order the instructions are in. Talk about the importance of giving instructions in the right order. Ask the group to identify words that indicate the order to do things in (e.g. first, next, then, begin, before, after, while, during, start, end, finish, finally, secondly, thirdly, etc.).
- Reorder the instructions, using bullet points to mark each one. Ask learners to help you pick out the command words on each line (e.g. wash, massage, etc.).
- Ask learners to find the words that modify the commands (e.g. lightly, carefully).
- Look for sentences that have more than one command – where 'and' or 'or' has been used or where there are commas.
- Elicit some conditional instructions if they have not already been proposed (e.g. 'If the client needs a conditioner ...'). Talk about words that indicate conditional instructions (e.g. 'if', and 'when') and practise sentences that include them.
- Discuss the importance of reading and following instructions in the workplace. Talk about how products and circumstances change with time, requiring a change in working methods. Emphasise the importance of reading instructions all the way through first, then following them step by step, making sure you understand each step and how it relates to the previous step.

## Focus page

- Read through the rationale statement at the top of the focus page. Show an example of a manufacturer's leaflet that provides instructions so that learners recognise the work context of this theme.
- Point out that the leaflets usually provide the same information written in several languages and they need to look for the abbreviation GB (Great Britain) for the English version.
- Go through the examples of direct and indirect instructions, supporting learners to note the connection between these two instructions.

Point out that the direct instruction gets straight to the point by starting with the instruction word 'perform'. Discuss the meaning of the phrase 'is recommended' in the indirect example and how these instructions essentially mean the same thing. Ask learners to find further examples of both types of instructions from the *Koleston Perfect* leaflet from the Source material (or other leaflets), or provide some examples of direct and indirect instructions for them to compare.

- Look at the example of a conditional instruction on the focus page. Ask learners under which circumstances they would follow this instruction. Remind learners that 'conditional' refers to something you do *in certain circumstances*. Point out the key word 'if' and discuss other words or phrases that might be used for this type of instructions such as 'in case of ...' (as used in the instruction at the bottom of the page).
- Move on to the example about the order of instructions. Discuss other words that might remind you of the order, such as 'first', 'next'. Ask what else might be used to show the order to follow (e.g. using numbers).
- Look at the examples of the different ways of setting out instructions (all taken from the leaflets in the Source material). Make sure learners understand how these formats should be read. For example, show how the two points can be thought of as two complete sentences with the introductory phrase 'do not use if ...' in front of them.
- Go through the reading strategy of matching columns and rows to find information from the table. To test this, ask learners questions relating to the information on the table. For example, *How much development time is needed for intensive reds without heat?*
- Ensure learners can identify the two separate instructions in the example of continuous text, as it is vital they do not mix up what must be done with what must not be done.
- Ask learners to explain the 'extra' instruction in their own words. Write this on the board/flipchart and compare the language. This should help learners to recognise that instructions are often written in a shortened form, leaving out words that are not essential to the overall meaning.
- Go through the final example, which highlights the action words. Ask learners to go back over the previous examples and pick out the action words. Write these as a list on the board/flipchart. Remind learners of the importance of noting those that are preceded by 'do not'.
- In small groups, ask learners to find other examples of these types of instructions in the *Socolor* and *Koleston Perfect* leaflets from the Source material. They can look for an example of each, or each group could look for an example of one type of instruction. Share information as a whole group.
- Read through the tips and invite learners to share any more tips that help them.
- Acknowledge the difficulties of:
  - reading instructions on flimsy paper where the print from the other side of the page shows through to the page being read – suggest laying it flat on a dark surface
  - reading small print – suggest ways of enlarging (magnifying glass, photocopy and enlarge).
  - ignoring all the instructions in other languages – suggest covering the unnecessary information or cutting the relevant information out.
- Ask the group to think of and try writing instructions for a more complicated and difficult process they use at work. Explain that instructions are not always written in a helpful and straightforward manner; doing this exercise will help learners to appreciate the difficulties.

Curric. refs	NOS/NVQ	Key Skills
Rt/L1.1	G5	N/A
Rt/L1.2	G6	
Rt/L1.5	H12	
SLc/L1.3	H13	
	H14	
	H15	

### Task 1

Read and understand an instruction

Rt/L1.1

SLc/L1.3

- If possible, pair learners with a colleague of similar ability. Ask the pairs to read the sentence and explain to each other what it means.

- Suggest that learners use the glossary or dictionaries (paper-based or on-line) to look up any unfamiliar words.
- Learners could rewrite the sentence in their own words.

#### *If the learner has difficulty*

- Read the sentence through, using the punctuation and phrasing to support the meaning. Ask learners to build up a picture of what they think the sentence is about. They should then read the sentence again, using the punctuation to chunk it, and underlining words they don't know the meaning of. Help learners to use the glossary or to look up words in a dictionary, particularly if they haven't used one before. Once they've got the general gist, ask them to write or say it in their own words.
- Learners may find it helpful to cut up the sentence and rearrange it into a series of short instructions and look at alternative ordering of words and phrases.
- Give learners some vocabulary practice using sentences from labels and the Source material.
- Explain 1 cm<sup>2</sup>.
- Encourage learners to keep individual notebooks or cue cards with new words and their definitions.

#### *Extension*

- If not already done, ask learners to write a version of the sentence – it can be rewritten as more than one sentence.
- Ask learners to pick out other complicated sentences from instructions on labels and the Source material leaflets and to explain or rewrite them.

### **Task 2**

Put instructions in the correct order

**Rt/L1.1**

- Introduce the scenario.
- Ask learners to read the section from the instruction sheet and remind them that they can refer to it as often as they need to.
- Ask learners to imagine how they would keep the client informed about what was happening during a skin sensitivity test.
- Remind learners that they are being asked to relate what they read in the instructions to what they would tell the client – and get it all in the right order.

- Point out to learners that the method for carrying out skin sensitivity tests will vary for different products and that it is important that they read the manufacturer's instructions for each product before carrying out a skin sensitivity test.

#### *If the learner has difficulty*

- Assist learners to read one instruction at a time and relate it to a speech-bubble.
- Photocopy the task and cut out the speech-bubbles. Ask learners to rearrange them until they are satisfied that the order is correct.
- Put the key sentences from the safety sheet on to cards or sticky notes for learners to match with the cut-out speech-bubbles.
- ESOL learners will need lots of practice in explaining a process verbally.

#### *Extension*

- Ask learners to role-play communicating what they were doing to a client as they perform a skin sensitivity test.
- In pairs or small groups, ask learners to role-play how they would talk a client through a set of instructions for a different task.

### **Task 3**

Recognise and understand features of instructions

**Rt/L1.1**

**Rt/L1.2**

- Remind learners about bullet points so that they can identify the correct section of text.
- Remind learners of the three categories of words they are looking for without identifying them in the text.
- Ask the group to scan the label and circle the words that indicate a command or instruction.
- It may be necessary to complete this exercise off the page.

#### *If the learner has difficulty*

- With the aid of the learner, write each instruction on a separate card, reminding them that some sentences contain more than one instruction. Ask the learner to sort them into the three categories.
- Write the kinds of words that learners are looking for on a prompt sheet. Then, using a guide, ask them to scan the label one line at a time for the correct words. When they have found and circled all the words, ask them to

read the instructions for understanding, using the circled words as a clue to the meaning of each line, before sorting them into the categories.

**Extension**

Ask learners to find and list a range of words that may indicate negative instructions. Can they think of their opposites? (e.g. never/always; should/shouldn't, ought/ought not).

**Theme assessment**

Give learners a relevant set of written instructions that they can actually carry out (e.g. how to use the washing machine, tumble drier, hairdryer, steriliser). Ask learners to follow the written instructions, using the features covered in the session (e.g. ordering words and technical language).

# Manufacturer's instructions

Focus

The leaflet that goes with a product provides information and advice as well as instructions. The instructions might be written in different ways.

**Perform** a skin sensitivity test at least 48 hours before applying this product.

direct

A skin allergy test is **recommended** 48 hours prior to using this product.

indirect

**If lightening**, begin in the areas where the strongest degree of lightening is required.

conditional

in a **certain order**

**When development is complete** emulsify the colour with a little warm water and rinse out well.

Instructions might be set out in different ways. They might also tell you what to do and what **not** to do:

**What not to do**  
set out as bullets

• **DO NOT USE IF:**

- your client has previously experienced a reaction to a hair colourant
- your client has a sensitive, itchy or damaged scalp.

**What to do** set out in a table

## Development time

	with heat	without heat
Nature/Classic	10 mins.	20 mins.
Special blondes/Reds/Intensive reds	15 mins.	30 mins.

**Do not** shampoo the hair.  
Apply the colouring mixture immediately from roots to ends.

**Both** set out as continual text

**HINT:** For best results when lightening, ensure you apply sufficient product.

**'extra' instruction**

In case of contact with eyes, **rinse** immediately with water. **Wear** suitable gloves.

In **direct** instructions, action words help you to work out the number of things to do.

## Tip

- Read instructions all the way through before you start.
- Find out the meaning of any unfamiliar words.
- Picture the whole process in your head.
- Put instructions into your own words to check you know what to do.



# Manufacturer's instructions

## Task

You will need the *Socolor* safety information from the Source material for these tasks.

### Task 1

Read this sentence to get the gist of it. Look up any words you need to. Tell a colleague what it means.

#### **SKIN SENSITIVITY TEST (see diagram)**

Clean (with surgical spirit) 1cm<sup>2</sup> behind the ear and apply to it, before mixing, using a cotton bud, a small amount of colourant.

### Task 2

Read the section with the title **SKIN SENSITIVITY TEST**. The speech-bubbles tell the client what is happening. Put them in the right order by writing numbers in the boxes.

☐

First of all I'm just going to clean a small patch behind your ear with this surgical spirit.

☐

Right, that's all. Get somebody to have a look at it in a couple of days' time. If you notice any itching or if it goes red, let us know and we'll try another product.

☐

I'll just seal the tube up tight so that it's OK for you when you come back for your treatment.

☐

We'll wait for that to dry. Then I've got to do it again another couple of times.

☐

I've got a little bit of colourant on this cotton bud. I'm going to dab it on the spot I've just cleaned.

☐

Don't wash that patch for 24-48 hours.

### Task 3

Find the section that begins: ● IN CASE OF A REACTION DURING THE APPLICATION ... Sort the instructions into:

Six things you <b>must</b> do:	Six things you <b>must not</b> do:	Two things you must do if something else happens:
1	1	1
2	2	
3	3	2
4	4	
5	5	
6	6	

## PAGES 3:5–3:7

## Product data sheets

## Occupational setting

“Hair preparations should not present a risk to the health and safety of hairdressers or their clients if used sensibly and the manufacturers’ instructions are followed” (from *A Guide to the Health & Safety of Salon Hair Products*). This booklet is used in conjunction with product lists issued by manufacturers and should be read to check compatibility, handling and disposal guidelines and for information on how to deal with spillages and accidents. The information is complex and expressed in technical language. COSHH (Control for Substances Hazardous to Health) regulations apply to all people at work. This theme develops the skills needed to access this information and suggests techniques that can be used when reading in detail. Learners should be made aware that the labels used on the focus page and in the Source material may not be complete and are provided as examples only, and should not be relied on as the most up-to-date version. Each product will have its own instructions which must be adhered to.

## Materials

Copies of *A Guide to the Health & Safety of Salon Hair Products* (Hairdressing and Beauty Suppliers Association)

Copies of the COSHH requirements list from different manufacturers (these can be obtained from the manufacturers or via the Internet)

COSHH requirements list from the Source material (0:36)

Setting lotion and hair tonic information from the Source material (0:37)

Magazine/newspaper articles

## Learning outcome

- 1 To become familiar with the techniques of skimming, scanning and reading for detail (focus page, Tasks 1–3)

## Suggested teaching activities

## Introduction

- Discuss learners’ experience of product data sheets – ensure they understand what a data sheet is and that all products will have one, including the cleaning products in the salon. Do they know where the data sheets are kept in the salon? Could they tell a paramedic where to find the information if there were an accident that required medical treatment? Show some examples of data sheets from *A Guide to the Health and Safety of Salon Hair Products*. Confirm that these contain a lot of technical data and are not always easy to understand.
- *Why is it important to understand this data? What could happen if you didn’t read it at all or if you read it and didn’t understand it?*
- Model finding a particular product on a manufacturer’s COSHH requirements sheet. Remind learners of the structure of tables and how to find information using the headings, columns and rows.
- Demonstrate how the numbers on the table relate to the numbers in the booklet. Format and symbols are dealt with in ‘Product knowledge’ in Module 2.
- Ensure learners understand the subheadings – paraphrase them where necessary, for example ‘accidental release measures’ – what to do if the product is spilt. Ask learners for their own versions.
- Set learners challenges to find the correct page in the booklet relating to a particular product. Repeat until learners are familiar with the way the documents work together.

## Focus page

- Demonstrate these different reading techniques.
  - **Scanning.** Using a crowd scene from a magazine, who is the first person to spot a celebrity in a crowd photo? Using a manufacturer’s COSHH requirements list, who is the first person to find a key word on



a page? Using a particular page from the booklet, who is the first person to spot a particular symbol? Who is the first person to spot a particular subheading? Who is the first person to spot a particular key word?

- **Skimming.** Give examples of how we skim read information for gist or to see if it is of interest – it is like flicking through a magazine to see if it is worth buying. Give pairs of learners a newspaper or magazine article. Each learner spends a short time (e.g. 2 minutes) reading a newspaper article and then gives their partner a brief idea of what it is about. Swap roles.
- **Detailed reading.** Write on the board/flipchart a sentence from the booklet containing some technical vocabulary, information in brackets, commas, etc. Support learners to analyse what it means. List and acknowledge the techniques they used.
- Cut up a page from the *Guide to Health and Safety of Salon Hair Products* and try to match the information with the headings.
- Go through the steps described on the page one by one, exemplifying each one with a page from the booklet.
- Look at the tips on the page and discuss how these can help learners to understand technical data. Which of these do learners find most useful? Are there any problems with any of these tips? For example, looking up all technical words may not actually help you to understand the information if it is expressed in complex language. In reality, you may have to use more than one, or all, of these tips to decode technical information. The range of tips confirms that everyone finds this kind of information difficult to read. It is however important to understand it.
- This focus pages offers a useful opportunity to talk about health and safety responsibilities and COSHH, including what to do in case of spillage.

Curric. refs	NOS/NVQ	Key Skills
Rt/L1.1	Unit G5	C1.2
Rt/L1.4	Unit G6	
Rt/L1.5	Unit H12	
Rs/L1.2	Unit H13	
Rw/L1.1	Unit H14	
Rw/L1.2	Unit H15	

### Task 1

Use scanning techniques to find information from a table

Rt/L1.5

- Make sure learners each have a copy of the COSHH requirements sheet from the Source material.
- Remind learners of the technique of scanning for key words.

#### If the learner has difficulty

- Check learners understand the headings in the table.
- Suggest that learners run a finger down the column of product names as they search for a key word.
- Suggest that learners begin by searching down the list for the initial letter of the product, then checking the rest of the word when they reach a possible answer.
- Suggest that learners use a straight edge such as a ruler or an L-shaped piece of card to track down the table.
- Dyslexic learners may need support reading the information in the table.
- Dyslexic learners often feel that they have to read all of the text in case they miss something, which means they may be reluctant to scan text and will need extra time to scan successfully.
- If learners have difficulty with the size of the font, photocopy and enlarge the table for them.

#### Extension

Ask learners to scan in different situations (e.g. looking for a particular client name in the appointments book, finding the telephone number of a supplier in *Yellow Pages*, finding a client record card).

### Task 2

Work out the meaning of technical words

Rw/L1.1

Rw/L1.2

- Make sure learners each have a copy of the Setting lotion and hair tonic information from the Source material.

- Remind learners of the different reading techniques – they do not need to read the whole page to find the information they require. They can scan for the key word, skim to check if they have found the part they need and then read in detail to work out the meaning of what they are reading.
- Encourage learners to locate the phrases in the text first and then to work out meaning using context clues (i.e. from understanding the words around the phrases). It is important to encourage this process, as there can sometimes be subtle differences in meaning depending on the context (e.g. 'accidental release measures' might mean something different in the context of animal husbandry).
- Encourage learners to check meanings in the glossary or a dictionary.

#### *If the learner has difficulty*

- Encourage learners to use scanning skills to locate the words, but bear in mind they may need your support.
- Learners may need support to read the words in context and should be encouraged to do this (i.e. to read the words preceding and following the phrases).
- Confirm that it is OK to guess the correct choice of meaning but that this guess should be sensible – based on reading around the phrase and an understanding of what the whole passage is about.
- Dyslexic learners may need support to read the information. They may also need support to look up words in a dictionary or glossary. Provide the alphabet written on a card to help with alphabetic skills.
- ESOL learners may need help with the everyday vocabulary such as swallow, spill, sensitive.

#### *Extension*

- There are many other words and phrases in this data sheet that you could use to develop similar questions. You might want to turn this into a game and ask learners to think up meanings to present as a quiz.
- Practise looking up technical words in a dictionary or an on-line glossary. Compare the results of this with the glossary that accompanies these materials for Embedded Learning.

### **Task 3**

Read technical data carefully

**Rt/L1.1**

Rt/L1.5

- Remind learners of the reading techniques they can use to find the answers to these questions. Refer to the tips on the focus page.
- Remind learners that to answer the questions, the sheet needs to be read very carefully.

#### *If the learner has difficulty*

- Check the learner has read the correct section carefully, at least once. Check they understand the way the questions are posed.
- Work through each question with the learner.
- Dyslexic learners may need support reading the information from the Source material.
- Check the learner has understood all the words in the text. Encourage learners to keep a personal glossary. ESOL learners should be encouraged to keep a bilingual glossary.

#### *Extension*

Set further questions on data sheets from the learners' workplace.

### **Theme assessment**

Apply these skills to a data sheet from the learners' workplace. You or learners can set similar questions. It might be an idea to set this as a timed exercise, with individuals or pairs finding information against the clock.

# Product data sheets

## Focus

You can find your way around a list of COSHH requirements:

- using headings
- looking up and down the columns
- looking across the rows.

### COSHH Requirements

As at 25 October 2005

The following information should be read in conjunction with the booklet  
"A Guide to the Health & Safety of Salon Hair Products"

For further details regarding our products, contact our Technical Advisory Helpline.

Range	Product	Section No.	Reference Section
Accord	Coloured Styling Mousse	10B	Hair Colourant – Direct Dye Non-Oxidative (Aerosol)
Accord	Styling Lotion/Coloured Setting Lotion	12	Setting Lotion and Hair Tonic
Blondor	Lightening Cream	1	Bleach Powder and Emulsion
Blondor	Lightening Powder	1	Bleach Powder and Emulsion
Blondor	Lightening Granules	1	Bleach Powder and Emulsion
Blondor	Lightening System	1&2	Bleach Powder and Emulsion & Hydrogen Peroxide Solution
Color Fresh Silver		10A	Hair Colourant – Direct Dye Non-Oxidative (Non-Aerosol)

## 12

### SETTING LOTION & HAIR TONIC - INCLUDING COLOURED SETTING LOTION & BLOW DRY



#### Composition

Solutions of resins and conditioning agents (and dyestuffs) in aqueous alcoholic solvents.



#### Ingredients

Solvent (e.g. ethanol/isopropanol/acetone) up to 80%



#### Hazards Identification

Flammable. Potential irritant.



#### First-Aid Measures

Eyes: Rinse eyes immediately with plenty of water. If irritation persists seek medical advice.

Skin: Wash well with water. If irritation persists, seek medical advice.

Ingestion: Drink 2-3 glasses of water or milk. Seek medical advice immediately.



#### Fire Fighting Measures

Use a carbon-dioxide or dry powder extinguisher.



#### Accidental release measures

Use water to dilute and mop up spillages.



#### Handling & Storage

Keep away from eyes and abraded or sensitive skin. Store in a cool dry place away from direct sunlight or other sources of heat. Keep small quantities in salon for immediate use only. Keep away from sources of ignition – no smoking whilst using product.



#### Disposal

Do not incinerate.

22

You can find your way around a data sheet using the:

- headings
- subheadings
- symbols.

Find the part you need by **scanning**. Let your eyes scan over the pages, looking for the section you need. This is like looking for a familiar face in a crowd.

When you find the section you need, read it quickly to get an idea of what it is about and decide if it is the part you want.

If it is the part you want, read it carefully. You may have to:

- find out the meaning of any new words
- check that you understand technical words
- find out what any abbreviations mean.

### Tips for reading complicated information

- Read it more than once.
- Read it aloud, to yourself.
- Break the sentences up into manageable chunks.
- Ask an expert to tell you what it's about.
- Explain it to somebody else in your own words.
- Use the punctuation to help you.
- Write notes of key points.
- Check the meanings of technical words.

# Product data sheets

## Task

### Task 1

You will need the COSHH requirements sheet from the Source material.

In which section of the booklet would you find information about these products?

- 1 Add Some Body \_\_\_\_\_
- 2 Relights \_\_\_\_\_
- 3 Crackle Wax \_\_\_\_\_
- 4 Lightening Powder \_\_\_\_\_
- 5 Fashion Form \_\_\_\_\_

COSHH Requirements			
As at 25 October 2005			
The following information should be read in conjunction with the booklet 'A Guide to the Health & Safety of Salon Hair Products'			
For further details regarding our products, contact our Technical Advisory Helpline.			
Range	Product	Section No.	Reference Section
Accord	Coloured Styling Mousse	10B	Hair Colourant – Direct Dye Non-Oxidative (Aerosol)
Accord	Styling Lotion/Coloured Setting Lotion	12	Setting Lotion and Hair Tonic
Blondor	Lightening Cream	1	Bleach Powder and Emulsion
Blondor	Lightening Powder	1	Bleach Powder and Emulsion
Blondor	Lightening Granules	1	Bleach Powder and Emulsion
Blondor	Lightening System	1&2	Bleach Powder and Emulsion & Hydrogen Peroxide Solution
Color Fresh	Color Fresh Silver	10A	Hair Colourant – Direct Dye Non-Oxidative (Non-Aerosol)
Color Fresh	Color Fresh pH 6.5	10A	Hair Colourant – Direct Dye Non-Oxidative (Non-Aerosol)
Color Touch	Color Touch	8A	Hair Colourant – Oxidative (Non-Aerosol)
Color Touch	4% Crème Lotion (Intensive)	2	Hydrogen Peroxide Solution
Color Touch	1.9% Crème Lotion (Original)	2	Hydrogen Peroxide Solution
Color Touch	Relights	8A	Hair Colourant – Oxidative (Non-Aerosol)
Color Touch	Sunlights	8A	Hair Colourant – Oxidative (Non-Aerosol)
Colour Remover	Colour Remover / Stain Remover	12	Setting Lotion and Hair Tonic
Cygnature	Perming Lotion (all variants)	3	Perm – Alkaline Type
Cygnature	Stabilising Fluid	2	Hydrogen Peroxide Solution
Fashion Fix	Fashion Fix	2	Hydrogen Peroxide Solution
Fashion Form	Fashion Form	3	Perm – Alkaline Type
Headlines	Headlines	3	Perm – Alkaline Type
Headlines	Texture Freeze	2	Hydrogen Peroxide Solution
Herbal Antioxy	Herbal Antioxy	-	Unlikely Hazards
High Hair	Add Some Body	14	Hair Styling Gel
High Hair	Bouncy Dip	-	Unlikely Hazards
High Hair	Brilliant Affair	-	Unlikely Hazards
High Hair	Crackle Wax	15B	Glazes Inc Shine Products (Aerosol)
High Hair	Crystal Styler	12	Setting Lotion and Hair Tonic
High Hair	Curl Artist	11A	Hairspray inc Treatment Sprays (Non-Aerosol)
High Hair	Designer Spray	11A	Hairspray inc Treatment Sprays (Non-Aerosol)
High Hair	Finishing Spray (all strengths)	11B	Hairspray inc Treatment Sprays (Non-Aerosol)
High Hair	Flat Iron Spray	11A	Hairspray inc Treatment Sprays (Non-Aerosol)
High Hair	Fallday	14	Hair Styling Gel
High Hair	Gloss Serum	15A	Glazes Inc Shine Products (Non-Aerosol)
High Hair	Jelly Waver	14	Hair Styling Gel
High Hair	Moulding Crème	14	Hair Styling Gel
High Hair	Mousse (all variants)	13B	Styling Mousse/Foam – Inc Setting/Cond. Mousse (Aerosol)
High Hair	Pearl Styler	14	Hair Styling Gel
High Hair	Punk Chic	-	Unlikely Hazards

Use the Setting lotion and hair tonic information from the Source material to complete Tasks 2 and 3.

### Task 2

Select a meaning for these phrases. Tick your answers.

- 1 Do not incinerate.
  - ☐ a Do not set fire to.
  - ☐ b Do not lean on.
  - ☐ c Do not bite.
- 2 Keep away from eyes or abraded or sensitive skin.
  - ☐ a Keep away from eyes or plaited or sensitive skin.
  - ☐ b Keep away from eyes or touchy or sensitive skin.
  - ☐ c Keep away from eyes or broken or sensitive skin.
- 3 Ingestion: drink 2–3 glasses of water or milk.
  - ☐ a If not digested: drink 2–3 glasses of water or milk.
  - ☐ b If swallowed: drink 2–3 glasses of water or milk.
  - ☐ c If thirsty: drink 2–3 glasses of water or milk.

# Product data sheets

## Task

### Task 3

You will need the Setting lotion and hair tonic information from the Source material to complete this task. Find the information you need to answer these questions. Use the **bold** words to help you.

1



Which **fire** extinguisher should I use if this setting lotion catches fire?

2



What should I do if I **spill** this setting lotion?

3



What should I do if the setting lotion gets in the client's **eyes**?

4



Where should I **store** this setting lotion?

12

#### SETTING LOTION & HAIR TONIC - INCLUDING COLOURED SETTING LOTION & BLOW DRY



**Composition**  
Solutions of resins and conditioning agents (and dyestuffs) in aqueous alcoholic solvents.



**Ingredients**  
Solvent (e.g. ethanol/isopropanol/acetone) up to 80%



**Hazards Identification**  
Flammable. Potential irritant.



**First-Aid Measures**  
Eyes: Rinse eyes immediately with plenty of water. If irritation persists seek medical advice.  
Skin: Wash well with water. If irritation persists, seek medical advice.  
Ingestion: Drink 2-3 glasses of water or milk. Seek medical advice immediately.



**Fire Fighting Measures**  
Use a carbon-dioxide or dry powder extinguisher.



**Accidental release measures**  
Use water to dilute and mop up spillages.



**Handling & Storage**  
Keep away from eyes and abraded or sensitive skin. Store in a cool dry place away from direct sunlight or other sources of heat. Keep small quantities in salon for immediate use only. Keep away from sources of ignition – no smoking whilst using product.



**Disposal**  
Do not incinerate.

22

## PAGES 3:8–3:10

## Language and terminology

## Occupational setting

Any specialist area has vocabulary associated with it, and hairdressing is no exception. The language associated with hairdressing is often scientific and can be daunting for learners. If learners are unable to access the language used in training, they will be less likely to achieve or to benefit in the long term. This theme offers strategies that learners can use to interpret and understand key words for work and become familiar with the specialist vocabulary associated with hairdressing, and can be used to support learners undertaking training.

## Materials

Dictionaries

Glossary

Examples of training material containing specialist vocabulary

## Learning outcomes

- 1 To explore different methods of finding the meaning of specialist vocabulary (focus page)
- 2 To practise the skill of finding the meaning of words by analogy (focus page, Task 1)
- 3 To check for meaning using reference sources (focus page, Tasks 2 and 3)
- 4 To practise rewording text to check for sense (focus page, Tasks 1–3)

## Suggested teaching activities

## Introduction

- Ask learners about their existing strategies for working out the meaning of unknown words, especially technical vocabulary (expect: dictionary, glossary, asking someone, working it out (or guessing) from the context).
- Acknowledge that there are many valid strategies for achieving better understanding of specialist vocabulary and therefore of the information in the course and in textbooks and manufacturers' guidelines.

- Look at some examples of sections from learners' course textbooks. Confirm that the vocabulary is complex and contains many technical words. Stress that no one is expected to know all these words, but it is important to understand them.

## Focus page

- Look at the section of text. It might be useful to highlight technical words or words learners identify as being difficult, perhaps for just one section of the text.
- **Asking someone about the meanings of words.** This is a useful and quick way to find out meanings, particularly at work. However, discuss the possible dangers in this (e.g. the person gives you an incorrect meaning).
- **Looking up words.** Discuss the various places where the meanings of words might be found – dictionary, glossary, website, specialist books. *What is the most appropriate place to find a specialist word used in the right context?* A glossary will direct you to a word in your given area; a dictionary will include words and meanings that are not necessarily relevant to a vocational area.
- **Predicting the meaning of words from context.** This is a way of working out meaning by
  - using the context of the text (i.e. 'development' is likely to have a different meaning if you are talking about building or hair colourants)
  - finding similar patterns in words (e.g. contaminate, contamination, contaminant)
  - using prefixes and suffixes in combination with root words (e.g. con + junction, where 'con' means 'with' or 'together')
  - using the patterns of other words (microscope, microfibrils, etc.).
- Acknowledge that not all words need to be memorised, although some will be vital to the vocational area. This would be a useful point to talk about developing a personal glossary (alphabetically indexed notebook) to record important words and their meanings. It is useful to include examples of sentences where the word is used correctly in context.



- Stress that knowing where and how to access information is an important skill.
- Demonstrate dividing words into parts in order to pronounce them, for example pol/y/pep/tide, con/tam/in/a/tion. Some learners may require additional teaching to employ this strategy. If they feel it might be a useful one for them, they could be referred for extra support.
- Give learners cards showing parts of chemical names to match into genuine names.
- Demonstrate how all these points can be used using the prefix 'tricho', meaning hair: that trichology is the study of hair, trichopathy is the treatment of hair diseases, trichonodosis is the knotting of the hair, trichorrhexisnodosa is a disease of the hair. Learners can get an idea of what a word means from the prefix, but may need to look it up in a glossary, ask a colleague, break it into syllables to pronounce it, etc.
- Once the task is completed, stress how important it is to distinguish these words, as they are used to describe different substances used in the workplace. Getting them mixed up could be disastrous. Discuss how this might happen and why it could be disastrous.
- Discuss how the learner can work out the easier examples (e.g. germicide) first and if necessary, check the meanings in a glossary or dictionary. They may need help to do this.
- ESOL learners may find it difficult to work out meanings of words from root words (e.g. 'fungi-'), depending on whether their first language has a common source with English. More support may be needed.
- Finding words with common suffixes relies on existing knowledge of words (i.e. they can't be looked up in a dictionary) and learners may need support with this.
- Encourage learners to keep a notebook of useful terminology or a personal glossary in their portfolio.

Curric. refs	NOS/NVQ	Key Skills
Rw/L1.3	Unit G7	C1.2
Rt/L2.1	Unit H7	
Rw/L2.1		
Rw/L2.2		
Rw/L2.3		

### Task 1

Work out the meanings of some words with the same suffix

Rw/L1.3

Rw/L1.1

- Ask learners to look at the words in the list. What do they have in common? (the ending '-cide') Learners could check the meaning of this suffix in a dictionary, or you could explain that it means 'killing'. So most words that end in '-cide' are to do with killing something. Ask for examples of words ending in '-cide'. You could use the example biocide, which means it is something to do with killing living things (bio = relating to life).
- Learners work out meanings for each word, based on an understanding of the '-cide' ending.
- You might want to extend this task to think about other words ending in '-cide', to complete the picture.

### If the learner has difficulty

Write the word ending on card and the root words on other cards. Ask learners to match a root word with the word ending and then to pronounce the word.

### Extension

Ask learners in groups to find words with the same suffix in their hairdressing notes or textbooks. Hold a word quiz.

### Task 2

Work out the meanings of some words with the same prefix

Rw/L1.3

Rw/L1.1

- Ask learners to look at the three words on the page. *What do these words have in common?* (the beginning 'perm') Point out that 'perm' forms a prefix in this case. Learners will be familiar with this word but not with other uses of the same word.
- Ask learners to find out the meanings of the words and to match the meanings to each word. Point out the tip.

*If the learner has difficulty*

- Write a range of word endings on cards and root words on other cards. Ask learners to match a root word with a suitable word ending (or beginning) and then to pronounce the word. A range of activities can be developed around these cards for further practice.
- Encourage learners to keep a notebook of useful terminology or a personal glossary in their portfolio.
- ESOL learners may not be familiar with suffix and prefix word structures; this is a good opportunity to explain it and provide additional practice.

*Extension*

Repeat the task using other vocabulary used in hairdressing (e.g. use 'colour' to analyse words like coloration, colorant, colouring; use the prefix 'pre' meaning 'before' to analyse words such as preparation, precaution, premix).

**Task 3**

Work out the meanings of some words

Rt/L2.1

Rw/L2.1

Rw/L2.2

Rw/L2.3

- Can learners work out the meanings of words from context clues (i.e. does the sentence or paragraph in which the word occurs give a clue as to the meaning)?
- They should now look up the words in a dictionary or glossary. Briefly discuss the structure and layout of glossaries and dictionaries, before asking learners to do the task.
- Remind learners that testing out the meanings is a way of checking for sense.

*If the learner has difficulty*

- Some learners may need help with the alphabetic skills required to access and use reference materials (e.g. dictionary, glossary).
- Learners may also need support to extract a meaning from a dictionary entry. You may need to work through the format of the particular dictionary used, explaining the format and range of information given for each word.

- You could develop a 'gap-fill' activity, providing sentences with words omitted and a list of missing words.
- Ensure learners add the words to their personal glossaries.

*Extension*

Give learners some definitions. Ask them to find the correct word in the course/training material. This could be developed into a 'Call my Bluff' game, in which learners have to select the correct definition of a highly technical word from three or four choices.

**Theme assessment**

- Learners could develop word games using technical words from course texts (e.g. crosswords, snap, spelling games, quizzes).
- Use the techniques in this theme to find out the meaning of a section of the hairdressing course materials.
- Use items from the Source material to conduct a similar exercise. Present the results to the group (i.e. areas of information, words, what it all means).



# Language and terminology

## Focus

When dealing with a new subject, you will probably come across words that you are not familiar with. There are several strategies that you can use to work out their **meanings**.

Ask somebody else to explain the word.

Look the word up in a dictionary.

Look the word up in a glossary.

Use the other words around the word or other words like it to work out the meaning.

Look the word up on a specialist website on the Internet.

Do a combination of any or all of these!

A dictionary is an alphabetical list of all the different meanings of words.

**structure** – arrangement

The structure of the keratin is the way it's arranged.

## The Structure of the Cortex

The **cortex** is the most important part of the hair because it is the layer that is most affected by various hairdressing processes.

By the use of the scanning electron microscope, scientists have been able to study the **structure** of the **keratin** of the cortex. It consists of a series of fibres containing even finer fibres.

The macrofibrils are the largest fibres. The macrofibrils are made up of smaller **microfibrils**, which in turn contain protofibrils. Each protofibril is made up of a group of three chains known as polypeptide chains.

A glossary is an alphabetical list of specialist words and their meanings.

**cortex** – the inner layer of a hair

The **inner layer of a hair** is the most important because it is the layer that is most affected by hairdressing processes.

What's keratin?

It's the protein that makes up hair, nails and the outer layer of the skin.

Right, so the keratin of the cortex is the same stuff that makes up nails and skin?

That's it.

### Tip

Jot down important words and their meanings in a notebook. If you are in any doubt about what words mean – ASK!

When you find out the meaning of a word, try putting it into your own words or explain it to someone else to check that you've got it right.

Use specialist words as much as possible. It will help you to remember them – and you'll impress your colleagues!

**micro** – small

You may find parts of some words in similar words.

**microchip**  
**microlight**  
**microscope**  
**microwave**

Once you know that 'micro' means small, you can guess that a **microfibril** is a small fibril.

# Language and terminology

## Task

### Task 1

Work out the meanings of these words. Write the correct meaning next to each word. Explain each one to a friend.

**-cide 'killing'** from the Latin *caedere* meaning 'to kill'  
 1. person or substance that kills  
 e.g. insecticide  
 2. killing of, e.g. homicide

Word	Meaning
biocide	a substance used to kill living organisms
bactericide	
fungicide	
germicide	
pesticide	

### Task 2

Look up the meaning of each of these words and then match the meanings to each word.

perm

permanent

permeable

- a something that allows liquid or gas to pass through it
- b also known as permanent wave
- c long-lasting or unchanging
- d a method of treating hair with chemicals to set in waves or curls

#### Tip

One of the words has more than one meaning.

#### Tips

- Glossaries and dictionaries list words in alphabetical order.
- A glossary contains words about a specialist subject together with their meanings.

# Language and terminology

## Task

### Task 3

The growth of hair from a particular follicle is not **continuous**. Hair follicles go through **cycles** of **anagen**, **catagen** and **telogen**. During the cycle old hairs fall out and are then replaced by new growth. In humans about 100 scalp hairs a day are lost.

#### Tip

Check that you have the right meaning by seeing if it makes sense in the sentence.

Look up each **bold** word or phrase and select the meaning that is most appropriate in the sentence.

- 1 **continuous**
  - ☐ a broken
  - ☐ b the same
  - ☐ c constant
- 2 **cycles**
  - ☐ a stages
  - ☐ b rides a bicycle
  - ☐ c machines with 2 or 3 wheels
- 3 **anagen**
  - ☐ a the period when a hair follicle is actively growing
  - ☐ b a medicine for heart disease
  - ☐ c the resting stage in the growth cycle of a hair follicle
- 4 **catagen**
  - ☐ a an animal people keep as a pet
  - ☐ b the resting stage in the growth cycle of a hair follicle
  - ☐ c the period between the growth and rest of a hair follicle
- 5 **telogen**
  - ☐ a a way of communicating over many miles
  - ☐ b the resting stage in the growth cycle of a hair follicle
  - ☐ c the period when a hair follicle is actively growing

#### Think about this

Other words used in hairdressing end with '-gen', for example: oxygen, hydrogen, pathogen, allergen. Find out what '-gen' means in these words.

## PAGES 3:11–3:12

## Colour charts

## Occupational setting

The International Colour Chart (ICC) is used all over the world. Each manufacturer has slightly different colours and uses different words to describe them, but all manufacturers use the same basic numbering system. This theme looks at the ICC number system. The learning in this theme supports learning in the *Habia Learning Support Pack for Hairdressing*, Unit H13. It is important that trainers/teachers also relate the learning to real situations and use actual colour charts to demonstrate.

## Materials

Hair colour charts

Tubes of hair colour

## Learning outcomes

- 1 To understand how the international colour chart (ICC) works in relation to hair colour (depth and tone) (focus page, Tasks 1 and 2)
- 2 To order and compare hair colour in numerical terms (focus page, Task 1)
- 3 To select hair colour using the numerical code (focus page, Task 2)

## Suggested teaching activities

## Introduction

- Show learners several swatches of hair and ask them to describe the colour. (If learners are willing, ask for volunteers to have their hair colour described.) Record all suggestions.
- Explain the variations in descriptions by confirming that hair colours are quite hard to describe in words. Added to this, individuals may perceive or interpret the same colour in different ways. ESOL learners will need a lot of work on this description to help them understand clients' requirements (or needs or preferences) of hair colour.
- Discuss the scenario of a client asking for a new colour that they describe as 'golden blonde'. Is

it likely that the hairdresser will interpret the description correctly? Show a selection of colour swatches that could match the description (e.g. 5.3, 6.3, 7.3, 8.3, 9.3) and ask for a show of hands for the colour learners think the client is describing. Point out that a client will be disappointed with even the most talented application if the colour is not the one the client expected.

- Explain that, to overcome this problem, manufacturers define colours systemically using numbers, known as the International Colour Chart (ICC).
- Give learners a selection of colour charts to look at. Ask them to say what is similar about them. Elicit that there is generally a two-digit number and a colour description. Point out that these number descriptions are shown on the tubes of hair colour. Show a few examples.

## Focus page

- Read through the focus page, expanding on the main points as necessary.
  - The first number is the basic hair colour, referred to as depth or level. This defines how dark or light the hair colour is (1 is darkest, 10 is lightest.) Ask for suggestions for remembering that 1 is darkest (e.g. 1 o'clock in the morning is darker than 10 o'clock in the morning).
  - The second number is the tone. You use this to find the warmth or coolness of a hair colour (1 is coolest). Ask for suggestions for remembering this (e.g. 'The first position on the hairdryer, oven, microwave is the coolest setting').
  - Although the names for the various depths and tones and the way of presenting the code numbers may vary between manufacturers, the code system always operates in the same way.
  - Demonstrate and practise the way in which different depths and tones are described (e.g. light copper blonde). Make sure that the words used to describe colours follow the conventions.

- Point out to learners that you can determine the current depth and tone of a client's hair during your consultation. You can also look at the shades available in the manufacturer's hair product range and decide which ones are compatible with and will enhance the client's natural colouring.
- Demonstrate how to use the hair colour swatches to identify volunteers' hair colours in numerical terms.
- Ask learners to work together in pairs or small groups to practise analysing and identifying each other's hair colour in numerical terms.
- Ask learners to put a selection of hair colours in order of depth (darkest to lightest) and another selection in order of tone (coldest to warmest).
- Identifying colours and matching to clients' colours requires a lot of practice and experience. Encourage learners to do this as often as possible and to confirm their answers with an expert.
- Ask learners to look at the first set of codes and point out that they are sorting these according to depth. This is the first number of each code. Emphasise that they are sorting from lightest to darkest. Check that they remember that the darkest is 1.
- In the second part, make sure learners can identify which part of the code they need to look at to identify tone (the second number).
- If learners have difficulty sorting out the codes, write the codes onto cards or sticky notes for learners to sort physically. If you have the swatches available in a portable form, use these for the task, placing them next to the correct codes as a demonstration.
- Dyslexic learners may find it difficult to remember that numbers go from 1 to 10 indicating dark to light and 1 to 6 indicating cold to warm. Suggest they find a way of remembering such as d (for dark) comes before l (for light) in the alphabet. C (for cold) comes before w (for warm) in the alphabet.

Curric. refs	NOS/NVQ	Key Skills
N1/E2.2 Rw/E3.1	Unit H13	N/A

### Task 1

Order and compare hair colour in numerical terms

N1/E2.2

Rw/E3.1

- Remind learners that in the ICC system, no matter whether the numbers are separated by a dot, dash, slash, or comma, or whether they are not separated, the first number always describes depth (how dark or light the hair is) and the second number always describes the tone (how cool or warm the colour appears).
- Remind learners that in the range of depths, 1 is the darkest. In the range of tones, 1 is the coldest.
- Discuss the task, pointing out that in part 1 they are to list the hair colour starting with the lightest, and in part 2, they are to list the tones starting with the warmest.

#### *If the learner has difficulty*

- It is important for learners to understand the language here and how it relates to the numbers. Check that learners understand the meaning of depth and tone and can relate it to the colour swatches on the charts.

### Extension

- Give learners a larger range of colours to order, starting with the darkest, coldest shade and ending with the lightest, warmest shade.
- Ask learners to test each other using both the codes and the language of colour. What sort of colour would 6.4 be? What depth is the lightest blonde? What number is a copper tone?

### Task 2

To select hair colour based on the numerical code N1/E2.2

Rw/E3.1

- Ensure that learners have a copy of the focus page to refer to.
- Remind learners that it is possible to compare the various depths within the range of depths. For example, lightest brown is two levels lighter than medium brown, or one level darker than dark blonde. Tones can also be compared in this way: mahogany is two tones warmer than gold, or one tone cooler than red.
- Explain the task, pointing out to learners that they should use the colour chart descriptions on the focus page.

***If the learner has difficulty***

Again, learners must understand the language and codes that relate to both depth and tone. Chunk down the task by first identifying depth. *Client 1 has light brown hair. What is the code for light brown? She would like it a shade lighter. What will that be?* Once this is established, think about the tone. *The tone is gold, which is 3.* Have a look at the colour swatches to demonstrate this process. What will be the range of other combinations?

***Extension***

Write down each depth and tone description from the focus page on separate pieces of card. Learners take a depth card and a tone card at random and record the name of the colour and the colour code (e.g. light blonde and copper combine to make light copper blonde, code 8.4).

**Theme assessment**

- Ask learners to practise on each other. Try to identify the depth and tone of each other's hair and suggest alternative colours that would be suitable to achieve different effects. They should identify and record the codes for the products they will use. ESOL learners will need additional practice in listening to and understanding what the client says.
- Find a near match using a different product, using the codes as a guide.



# Colour charts

## Focus

A client may describe the hair colour they wish to achieve in many different ways. The **International Colour Chart (ICC)** system is designed to make things easier.

Each hair swatch on the colour chart has a number that describes the **depth** and **tone** of the hair colour.

**Example** Here are the codes for three different hair colours.

4.3 Light gold brown  
8.3 Light gold blonde  
9.3 Very light gold blonde



The first number describes how **dark** or **light** the hair colour is. This is called **depth**.

The second number describes other colours that add coldness or warmth. This is called **tone**.

### Depth (dark to light)

Code	Description
1	Black
2	Dark brown
3	Medium brown
4	Light brown
5	Lightest brown
6	Dark blonde
7	Medium blonde
8	Light blonde
9	Very light blonde
10	Lightest blonde

### Tone (cold to warm)

Code	Description
1	Ash
2	Pearl
3	Gold
4	Copper
5	Mahogany
6	Red

Some manufacturers write the colour code differently. Depth and tone might be separated by:

- a point . (4.3)
- a dash – (4–3)
- a slash / (4/3)
- a comma , (4,3).

They may not be separated at all (43) or they may use a letter for tone (4G).

All these codes mean the **same colour**.

### Try this

- The colour you had last time was 7.4.
  - If you'd like one shade **lighter**, we could use \_\_\_\_\_.
  - If you'd like one shade **darker**, we could use \_\_\_\_\_.
- Which colour would you suggest if the client was happy with the depth, but wanted to see a swatch one tone **cooler** than 7.4? \_\_\_\_\_

Different manufacturers use different **words** to describe colours. Some have **more numbers** for depth or tone. However, the ICC system always works the same way.

- The **first number** describes **depth**:  
1 is always the **darkest**.
- The **second number** describes **tone**:  
1 is always the **coldest**.



# Colour charts

## Task

### Task 1

1 Put these colours in order, starting with the lightest colour.

4.4

8.4

7.4

9/4

5-4

2/4

lightest

darkest

2 Put these colours in order starting with the warmest colour.

3.4

3,6

3-3

31

3-2

3/5

warmest

coldest

#### Remember!

- The **first number** describes **depth**:  
1 is always the **darkest**.
- The **second number** describes **tone**:  
1 is always the **coldest**.

### Task 2

Use the Colour chart descriptions on the focus page to decide which number colour swatch you would show to these clients.

1

*I'd like highlights in my light-brown hair. Possibly one shade lighter and with some gold tones.*

4

*I had 8.4 last time. It was a bit too light for my complexion, although I did like the copper tones.*

2

*I'm thinking of having my medium-brown hair one shade darker and adding some mahogany tones.*

5

*Can you show me how it would look one tone cooler than 6.3, but keeping the level the same?*

3

*Last time I had 7.3, medium-gold blonde. I'd like a bit more warmth this time.*

6

*I'd like a coppery tone but I'd like to keep this medium-brown level.*



## PAGES 3:13–3:14

## Measuring liquids

## Occupational setting

Hairdressers need to measure out products accurately in order to mix or dilute them. In particular and most commonly, they will be measuring out quantities of hydrogen peroxide used for mixing with colours. There is an implication for wastage of expensive materials if this is done inaccurately, but, more importantly, there are also health and safety issues, and the problems that ineffective treatments could cause. Learners need to know the basics of metric measure and be able to apply this knowledge to practical situations. This theme covers the use of labelled and unlabelled millilitre scales found on most measuring beakers.

## Materials

Measuring beakers with scales in millilitres, ideally scales with different increments

Water

## Learning outcomes

- 1 To understand the structure of a millilitre scale, with labelled and unlabelled divisions (focus page)
- 2 To work out the value of unlabelled divisions (focus page, Tasks 1 and 2)
- 3 To read and use a scale to the nearest labelled and unlabelled division (Tasks 1 and 2)

## Suggested teaching activities

## Introduction

- Discuss the consequences of measuring liquids inaccurately in different scenarios.
  - **When diluting hydrogen peroxide** – adding too much water will make the solution too weak; adding too little water will make it too strong. *What will be the actual effect on the hair in each case?*
  - **When mixing bleach or colour** – too much hydrogen peroxide could make the mixture too thin to coat the hair; not enough hydrogen peroxide could make the paste too thick to coat the hair. *What will the effect on the treatment be?*
- Point out that in the ‘best’ scenario, measuring liquids inaccurately will lead to unsatisfactory results. In the worst scenario, the client’s hair, skin or scalp could be damaged. ESOL learners may need help with the phrases ‘too much’ and ‘not enough’.
- First, check learners’ knowledge of units used for measuring liquids. Make sure they always refer to metric units and have a concept of a millilitre in relation to litres and in relation to everyday and work products (e.g. How many millilitres in a standard commercially available shampoo bottle?).
- It may be useful to recap on some concepts around measures and to check understanding of both the language and the abbreviations used for standard units.
- Ask learners for their experiences of measuring liquids at work. Use this discussion as an opportunity to highlight good and bad practice and health and safety risks.
  - If measuring a chemical like hydrogen peroxide, where would they place the beaker whilst pouring? On a flat surface? (stable position, but spillages aren’t contained) In a sink? (spillages contained, but surface may not be flat and the width of the sink may make pouring and accurate reading difficult)
  - How close to the beaker should you hold the bottle you’re pouring from? Resting on the beaker? (it may push the beaker over) Poured from above? (it may splash) Held in the hand? (spillages will get onto hands)
  - How do you gauge the level of liquid against the divisions on the scale? Look down from above? (not accurate) Hold the beaker at eye level and read across? (allows accurate reading, but carries health and safety risks)
- Demonstrate the correct way to pour and measure liquids.

## Focus page

- Point out to learners that generally they will be measuring relatively small quantities of liquid, and that they will do this in millilitres (abbreviated to ml). Show learners a selection of plastic measuring beakers used for this purpose. Ask them to find the millilitre scale on each beaker. If fluid ounces or other units are also shown, briefly discuss these but remind learners that they should use the millilitre scale.
- Give learners time to examine the millilitre scales on all the beakers. Ask them to list things that are the same and things that are different. Bring out the following observations.
  - Scales may finish at any amount, but always start at zero.
  - Divisions may be spaced close together or far apart depending on the diameter of the container, but they are always *evenly* spaced.
  - The labelled divisions may rise in any increment, but the same increment continues throughout an individual scale.
  - The number of unlabelled divisions varies from beaker to beaker, but is consistent between labelled divisions on each beaker.
- Demonstrate that it is a relatively simple procedure to measure an amount of liquid that is a labelled division on the measuring scale. Explain that if the amount you wish to measure is not a labelled division on the scale, it is necessary to work out the value of the unlabelled divisions. Reassure learners that by following the same few simple steps, they will be able to read accurately from any scale.
- Ask learners to work in small groups or pairs to work out the value of the unlabelled divisions before comparing their answers and methods with the rest of the group. Explain that the focus page describes one method for working out the value of unlabelled divisions on a scale. Work through steps 1–3 on the focus page, ensuring that learners fully understand each step. Ask individuals to check the calculations either mentally or with a calculator and compare this method with their own. Stress that the correct method to use is the one that they can remember and gives the correct answer to the problem.

- Check that learners understand how to count the number of divisions for each labelled division (e.g. here there are 4 divisions for each 20 ml. The first three are unlabelled and the fourth is labelled).
- Describe different places on the scale on the focus page (e.g. one unlabelled division above 60 ml). Ask learners to draw a line on the beaker on the focus page to indicate an amount of liquid poured into the beaker. Ask learners to work out how much is in the beaker.
- Once learners have practised using the beaker on the focus page, ask them to fill real beakers with various amounts of water. Use both labelled and unlabelled divisions. Demonstrate how to do this again.
- Some learners may like to create a cue card to remind them of the steps required for measuring liquids.
- Remind learners that placing your eyes at the same level as the liquid allows you to read it accurately. (Demonstrate how, by not doing this, it is possible to make inaccurate judgements.) Remind learners again of Health and Safety issues.

Curric. refs	NOS/NVQ	Key Skills
MSS1/L1.4	Unit G1 Unit H12 Unit H13 Unit H15	N1.1

## Task 1

Read scales to the nearest labelled and unlabelled division

MSS1/L1.4

- Point out that the beakers have different scales.
- Remind learners to use the millilitre scale on beakers where more than one scale is shown.
- Learners will need to be sure about the value of the unlabelled divisions before they can work out the amount of liquid contained in the beaker. Remind learners of the three steps used on the focus page or of the method they have developed for themselves.

### If the learner has difficulty

- Does the learner understand how to find the number of unlabelled divisions? If not, work through this step together.

- Does the learner understand how to work out the value of a single unlabelled division? If not, work through this step together.
- Does the learner understand how to use the value of a single division to work out the answer to each question? If not, work through this step together.
- Offer the use of a calculator if necessary. If learners are using a calculator, check that they can enter and read the digits in the correct order.
- Learners with dyslexia or visual problems may need support to read the scales accurately. Try using a guide card to assist this. It may be necessary to enlarge the scale using a photocopier. Learners will require support to develop strategies they can use in the workplace.
- There is no substitute for practical measuring tasks. Use real measuring jugs containing water for this task and ask learners to work in pairs or small groups to establish a method of working.

#### *Extension*

Ask learners how they would use beaker 2 to measure 110 ml, and beaker 3 to measure 75 ml.

### **Task 2**

Read scales to the nearest labelled and unlabelled division

**MSS1/L1.4**

Explain the task and how to record answers on the drawings. Draw learners' attention to the fact that the scale is the different on the two beakers.

#### *If the learner has difficulty*

- Refer to Task 1.
- Some learners may read the scale in reverse (i.e. read the 10 ml marking below 20 ml, rather than 10 ml above it). Confirm that 30 ml is more than 20 ml and so the beaker will be fuller.
- Give more practice in measuring liquids using a range of beakers.
- Offer the use of a calculator if necessary and check that they can use and read it correctly.

#### *Extension*

Ask learners to make a rough sketch of the scale shown on the two beakers (or photocopy and enlarge the page). Ask them to label each unmarked division with the correct measurement in millilitres.

### **Theme assessment**

- What sort of measuring beakers do learners use at work? Ask them to make a rough sketch of part of the scale on each one and to work out the values of any unlabelled divisions.
- Use workplace measuring beakers for learners to measure amounts of liquids stated on hair products.

# Measuring liquids

## Focus

When mixing or diluting liquid products, you must **measure accurately**. A small plastic beaker with a measuring scale is an essential tool for this job.

### MIXTURE

Blend 50 ml of colouring cream with  
50 ml of 20 vol. hydrogen peroxide.

- ml means **millilitres**.
- 50 ml is the **amount** I need to measure.

- vol means **volume**.
- 20 vol. is the **strength** of the hydrogen peroxide.

## Measuring liquids

### Step 1

Look for the **scale** that shows **millilitres**.

### Step 2

Look at the **marked divisions** to see how the scale works.

#### Example:

On this beaker, every **20 millilitre** division is labelled. The divisions in between are not labelled.

### Step 3

**Calculate** the value of each **unlabelled division**.

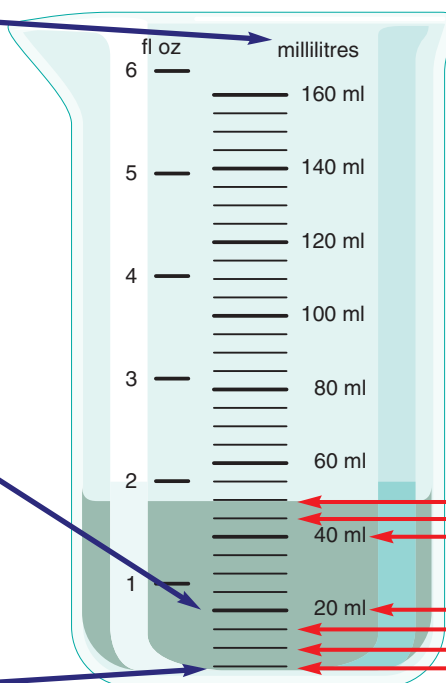
#### Example:

Each 20 ml has 4 divisions, so 1 division =  $20 \text{ ml} \div 4$  = **5 ml**

**Check by** counting up the scale.



Once you know the value of one division, you can work out every part of the scale.



Hold the container at eye level so that you can read the scale accurately.

**But, be careful! This could be hazardous ...**

*Always check the instructions to remind yourself of the amount you need to measure.*

**What are the health and safety hazards?**

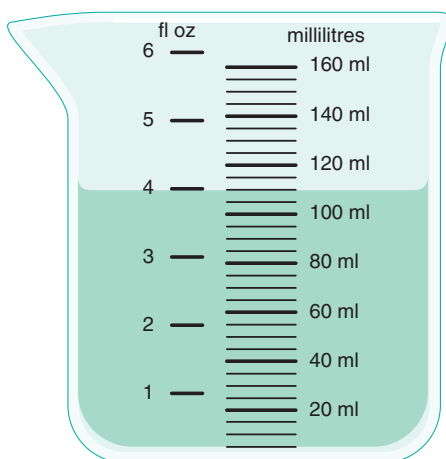
# Measuring liquids

## Task

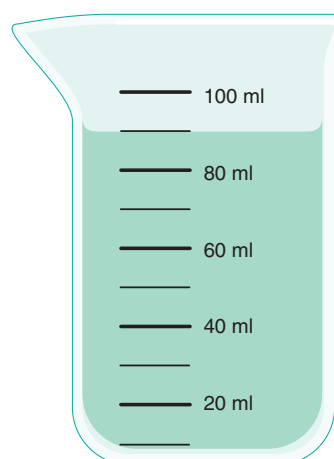
### Task 1

How much hydrogen peroxide is in each beaker?

1 \_\_\_\_\_ ml

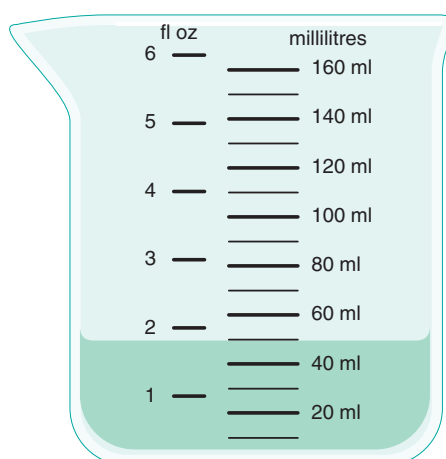


2

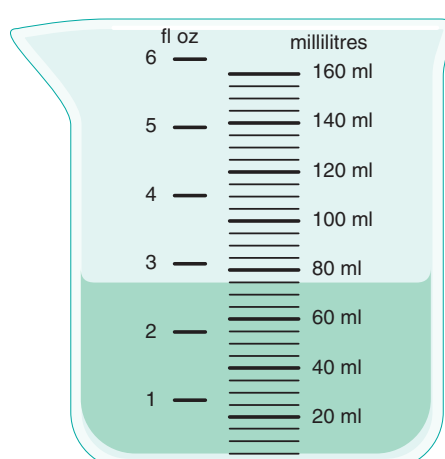


\_\_\_\_\_ ml

3 \_\_\_\_\_ ml



4

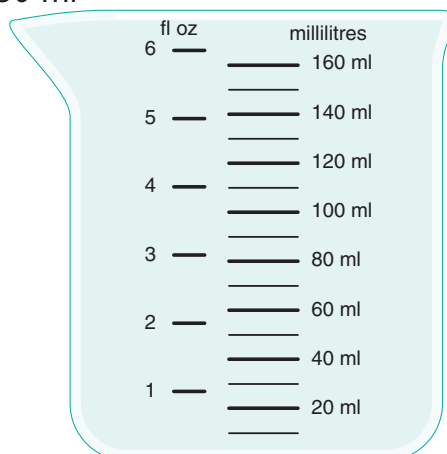


\_\_\_\_\_ ml

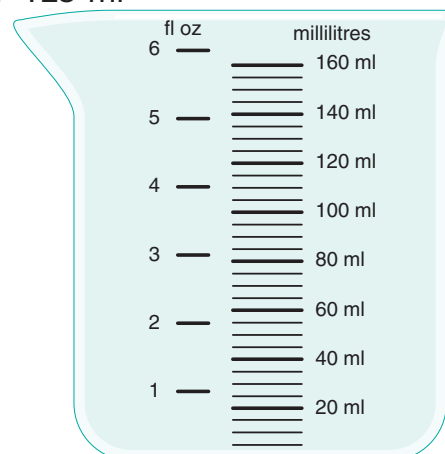
### Task 2

Mark the following amounts of hydrogen peroxide on these beakers .

1 30 ml



2 125 ml



## PAGES 3:15–3:16

## Measuring colour from tubes

## Occupational setting

Colour is becoming ever more popular among clients, not just for covering grey, but for creating a whole new image. Having completed a consultation with the client and appropriate steps, one important step towards successful colouring is correct colour mixing. For most products, this entails measuring out the correct amount of colour from a tube and mixing it with the correct amount (and strength) of peroxide (covered in the remaining two themes of this module – ‘Hydrogen peroxide strengths’ and ‘Diluting hydrogen peroxide’). This theme covers the skills required to measure colour from a tube using the scale provided by the manufacturers. It is vital that learners are able to measure amounts accurately in order to ensure consistency. Also, the products are expensive and accurate measurement will minimise wastage. This theme relates closely to units within the *Habia Learning Support Pack for Hairdressing*, Unit H13.

## Materials

Examples of hair colour tubes (for home and salon use)

Hair colour tubes from the Source material (0:38) (cut out)

## Learning outcomes

- 1 To read a scale to each labelled division (focus page, Tasks 1 and 2)
- 2 To read a scale between marked divisions (focus page, Tasks 1 and 2)
- 3 To calculate the amount required when using a partly used tube (focus page, Task 2)

## Suggested teaching activities

## Introduction

- Ask if any learners have had a colour on their hair. Ask how they decided on the colour and how long they spent choosing it. Now ask if they would be happy if their hairdresser just guessed how much colour to use to achieve the

effect instead of measuring out the product accurately. Is it likely that the desired result would be achieved? Would they be likely to go back to that salon if the result was less than satisfactory?

- Look at a range of hair colour products for home use and for use in salons. Point out that for home use, products are generally supplied as single applications. However, products used in salons contain enough colour for several applications and have to be measured out according to the manufacturer's instructions.
- Draw learners' attention to the scale marked on the salon products. Remind learners of the teaching points in the previous theme (Measuring liquids) or check their understanding of metric units, particularly millilitres. Point out that tubes should be squeezed from the end furthest away from the nozzle to dispense the colour. By squeezing to the labelled divisions, learners can dispense the amount of product shown in millilitres.

## Focus page

- Point out the difference between using a new (and therefore full) tube of colour and a part-used tube. What are the problems?
- Refer through the textbox entitled 'If the tube is full'. Read through the first bullet point and examples. Ensure learners understand the key point that the scale marks the amount that is *taken or missing from the tube* (which, if starting with a full tube, is equal to the amount you have dispensed). Use appropriate questions to get this point over. For example: *How much product will be missing from the tube if you squeeze it to here? How much product will you have put in the bowl?* Ask learners to use the hair colour tubes from the Source material, folding them to demonstrate how they will dispense amounts to labelled divisions.
- Now read through the second bullet point and examples. Ask learners if they can explain why the first position measures 50 ml and the second position measures 55 ml. (Be aware that reading between marked divisions on a scale will be a new skill for some learners.) Explain



that you have to do a bit of ‘detective work’ to work it out. For example, you know that if you squeeze the tube to the point indicated you will get a bit more than 45 ml, but not as much as 60 ml. You can then work out that the difference between the 45 ml division and the 60 ml division is 15 ml ( $60 - 45 = 15$ ), and the position you are looking at is about a third of the way along. One third of 15 ml is 5 ml ( $15 \div 3 = 5$ ), so the position is 5 ml more than 45 ml, i.e. 50 ml ( $45 + 5 = 50$ ).

- Provide plenty of practice in gauging amounts between marked divisions, folding the Hair colour tubes from the Source material to demonstrate how to dispense the product. Encourage learners to explain how they arrived at each amount. Ensure that learners can find a 5 ml increment on each scale. Do they spatially recognise that 5 ml is half of 10 ml, quarter of 20 ml, one-third of 15 ml and one-fifth of 25 ml? This can be demonstrated by cutting up paper versions or cutting up food items.
- Remind learners that the divisions on the scale show the amount that is *not* in the tube.
- Read through the textbox entitled ‘If the tube is not full’. This builds on the skills practised above. Ensure learners understand the steps to measuring out the correct amount of product from a part-used tube. Ask if there are any other methods they could use (e.g. calculate how much colour there is to the next labelled division, then add on the extra required).
- Again, provide plenty of practice, using the tubes from the Source material. Prefold or use a paper clip to represent the part-used level. As before, encourage learners to explain how they arrive at each dispensed amount.
- Encourage learners to make their own cue cards to illustrate the steps to follow to measure out hair colour when the tube is full and when it is not full.

Curric. refs	NOS/NVQ	Key Skills
MSS1/L1.4	Unit H13	N1.1
MSS1/L2.3		N2.1
N1/L1.6		
N2/L2.1		
N2/L2.3		

## Task 1

Read a scale to labelled divisions and between marked divisions

MSS1/L1.4

MSS1/L2.3

- Explain that the task is to measure 45 ml of colour from each of the tubes, using the scale marked on the tube. Point out that each of the tubes is full at the start of the task.
- Remind learners which end of the tube they will squeeze from.
- Remind them that the scale tells you how much product has been squeezed from the tube.

### If the learner has difficulty

- Does the learner understand how to dispense colour to a labelled division? If not, go over this point and then practise ‘dispensing’ amounts that match other labelled divisions.
- Does the learner understand how to read between labelled divisions? If not, cut out a tube (or use the same tube from the Source material) and fold it at the 5 ml point. Explain to the learner that you are going to squeeze out this amount of colour. Will it be more or less than 10 ml? If it is half as much as 10 ml, how much will it be? Establish that if you squeeze at each labelled division, you expel 10 ml; if you squeeze halfway between two labelled divisions, you expel 5 ml. Label all the 5 ml divisions incrementally along the scale. Can the learner use the scale now? Give plenty of practice using the 10 ml scale with the additional labels and then without them.
- Does the learner have strategies for finding 5 ml on each of the other scales? Do they recognise spatially that 5 ml is half of 10 ml, quarter of 20 ml, one-third of 15 ml and one-fifth of 25 ml? Spend some time with each picture, folding the tube as required to mark each 5 ml increment. Can the learner use the scale now? After practice can they use it without the 5 ml labels?
- Learners with dyslexia or visual problems may need support to read the scales accurately. Try using a guide card to assist this. It may be necessary to enlarge the scale using a photocopier. Learners will require support to develop strategies that they can use in the workplace.

**Extension**

- Ask learners to explain which tubes are best suited for accurately measuring 10 ml, 15 ml, 20 ml, 25 ml etc. and why.
- Give learners examples of tubes that are part used. Ask them to use a range of language to describe to a partner how full a tube is or how much has been used.

**Task 2**

Read a scale to labelled divisions and between marked divisions

MSS1/L1.4

MSS1/L2.3

N1/L1.6

N2/L2.1

N2/L2.3

- Point out that the tubes are not full. The dotted line indicates how much colour has already been used. Demonstrate this with real tubes if possible.
- Explain that the task is to measure 45 ml of colour from each tube using the scale provided.

**If the learner has difficulty**

- The learner should start by identifying how much has been used from each tube. This should be done by structured discussion in pairs or small groups to establish understanding.
- Does the learner understand that they are measuring 45 ml from a part-used tube? Ask them to describe the method they are using. Are they adding on 45 ml to the amount already used to find out where they will squeeze to on the tube? Demonstrate with folded tubes or real objects.
- Are they able to find the position they have identified following their calculation?
- Some dyslexic learners will be confused by the line showing how much has been used and have difficulty understanding when to add and when to subtract. They will need additional examples for practice.

**Extension**

Ask learners to investigate whether there is enough colour left in each tube to take a further 45 ml. How much will be left in each tube afterwards? Which tubes will not have enough to do this? How much will you need from the next tube to make up 45 ml?

**Theme assessment**

In the workplace, carry out practical measuring tasks involving dispensing given amounts of colour from new and part-used tubes, using the scale on the tube. This can be observed by assessors.



# Measuring colour from tubes

Focus

Tubes of hair colour often have a scale to help you measure out the amount you need. This is straightforward if the tube is full, but what do you do if the tube is not full?

## If the tube is full

- Squeeze the tube to the labelled division to measure the correct amount of colour.

### Examples

Squeeze to here to measure **15 ml**.

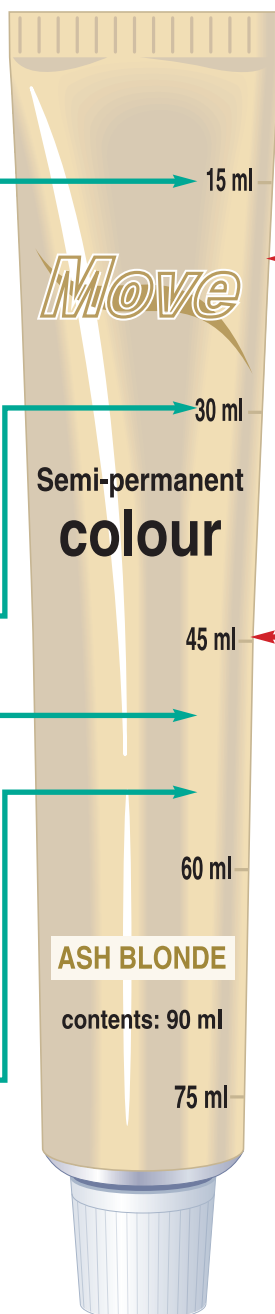
Squeeze to here to measure **30 ml**.

- If the amount you need isn't labelled, you need to look **between** the labelled divisions.

### Examples

Squeeze to here to measure **50 ml**.

Squeeze to here to measure **55 ml**.



## If the tube is not full

- Step 1:** Work out how much has already been used.

### Example

If the tube has been emptied to here, then **20 ml** of product has been taken from the tube.

- Step 2:** Add on the amount of colour you need. This will show you the total amount that has been squeezed from the tube once you have taken what you need.

### Example

**20 ml** has already been used. If you squeeze out another **25 ml**, then **45 ml** will have been used altogether ( $20 \text{ ml} + 25 \text{ ml} = 45 \text{ ml}$ ).

- Step 3:** Squeeze the tube to remove the contents to the position you have identified (**45 ml**).

*How can you check your calculation?*

## Find a full tube of colour.

Show the position you will squeeze it to in order to measure the following amounts: 10 ml, 20 ml, 25 ml, 45 ml.

## Find a tube of colour that is not full.

Show the position you will squeeze it to in order to measure the following amounts: 10 ml, 20 ml, 25 ml, 45 ml.

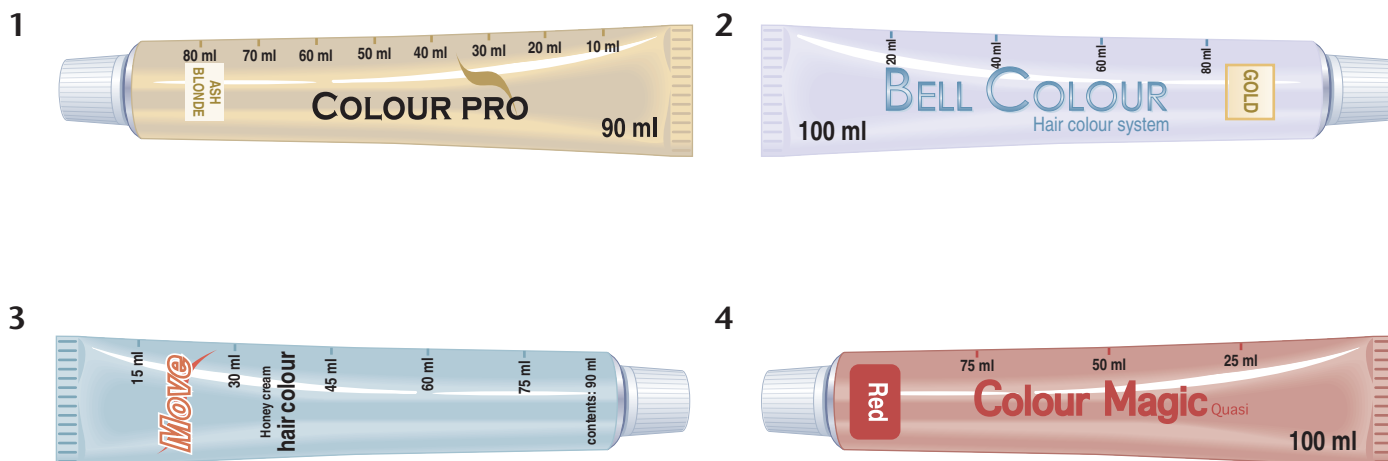
# Measuring colour from tubes

## Task

### Task 1

Each tube of hair colour is **full**.

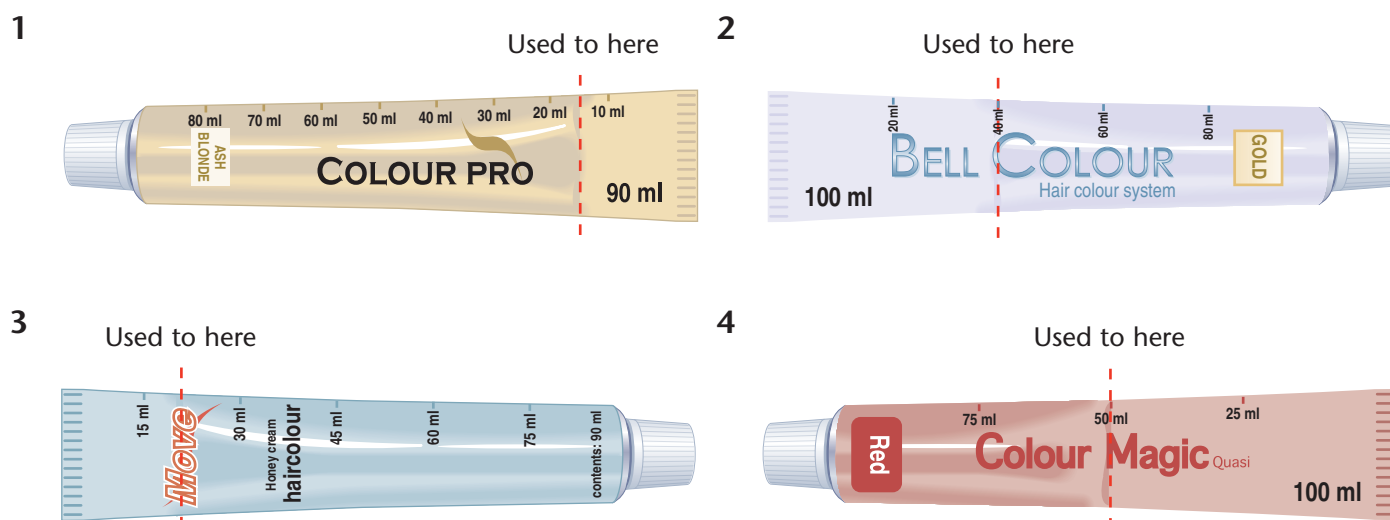
You need to measure **45 ml**. Draw a line on each tube to show where you would squeeze it to.



### Task 2

Each tube of hair colour is not full. The dotted line shows how much colour has been used.

You need to measure 45 ml. Draw a line on each tube to show where you would squeeze it to.



## PAGES 3:17–3:18

# Hydrogen peroxide strengths

## Occupational setting

The underpinning knowledge of how hydrogen peroxide works is vital to hairdressers, since it aids understanding of the effect of varying strengths of hydrogen peroxide solutions. This focus page introduces the concept of hydrogen peroxide as an oxidising agent and looks at the strength of solutions both in terms of the volume of oxygen released (vol.) and the percentage of pure hydrogen peroxide contained in the solution (%). The knowledge and skills taught here are extended in the following theme 'Diluting hydrogen peroxide', which introduces a step-by-step approach to diluting hydrogen peroxide solutions. This theme supports learning in the *Habia Learning Support Pack for Hairdressing*, Unit H13.

## Materials

Measuring jugs/beakers, water, food colouring, coloured counters or small objects to demonstrate percentage and dilution

Large zipper-lock plastic bags containing labelled quantities of baking soda (3 g, 6 g and 9 g)

## Learning outcomes

- 1 To understand the terminology and concepts that underpin % and vol. ratings of hydrogen peroxide (focus page, Tasks 1 and 2)
- 2 To place hydrogen peroxide solutions in order of strength using both vol. and % (focus page, Tasks 1 and 2)
- 3 To compare the strength of hydrogen peroxide solutions when one is described in vol. and the other in % (focus page, Tasks 1 and 2)

## Suggested teaching activities

### Introduction

- Discuss the importance of using the correct strength of hydrogen peroxide for a treatment and the consequences of not doing so.

- Look at labels on a range of hydrogen peroxide solutions where the strength is described in vol. and %. Ask learners if they have seen these on products they have used. Do they know what these terms mean?
- First look at %. Check learners understand the term. Explain that this is a description of the amount of pure hydrogen peroxide contained in the solution. Explain that 'per cent' means 'per hundred'. If a solution is labelled 3%, for every 100 ml of liquid, 3 ml is pure hydrogen peroxide and the remaining 97 ml is water. Demonstrate this using three red objects in a batch of a hundred. This can also be done using a grid on an interactive whiteboard.
- Repeat for 6%. Can learners work out how many millilitres of pure hydrogen peroxide is in 100 ml of a 9% solution? Repeat the question for 100 ml of a 12% solution.
- Demonstrate the concept of percentage strength using jugs of water and food colouring. Make (or ask learners to make) solutions containing 3%, 6%, 9% and 12% food colouring. Label each one. Ask learners which is the strongest solution (12%) and which is the weakest (3%). This is also a good opportunity to check that learners can measure liquids using metric units.
- Ask learners to place the four solutions in order of strength.
- Ask how many times stronger the 9% solution is than the 3% solution. (Ensure learners understand that it is three times stronger because it contains three times as much food colouring.) Repeat for other strengths.
- Ask which solution is half the strength of the 12% solution. (6%) Which is one-third of the strength of the 9% solution? (3%) Repeat for other strengths. Look out for any learners who appear to be struggling with these comparisons. If necessary, provide support with *Skills for Life* numeracy materials (Entry 3).

- Now look at vol. Explain that vol. is short for 'volume'. Explain that this is a description of the amount of oxygen that is released when the hydrogen peroxide is activated. If the solution is labelled 10 vol., for every 1 ml of the solution, 10 ml of oxygen is released. If it is labelled 20 vol., for every 1 ml of the solution, 20 ml of oxygen is released. Can learners work out how many millilitres of oxygen will be released from 1 ml of 30 vol. and 1 ml of 40 vol.?
- Demonstrate the concept of a gas having a volume by setting up an experiment using baking soda. Explain that when baking soda comes into contact with water, it gives off carbon dioxide, a colourless gas. Measure small amounts of water into a series of zipper-lock bags. Take a bag and carefully, without spilling the contents, squeeze out all the air. Add 3 g of baking soda to the water and immediately seal the bag. Repeat with the other bags, adding 6 g, 9 g, and 12 g of baking powder to each bag in turn. Leave for several minutes and observe the differing quantities of gas released into each bag.
- Ask learners which solution has produced the most gas and which the least gas. Link this to the strength of the solution, eliciting from learners that the weakest solution produces the smallest volume of gas and the strongest solution produces the largest volume of gas.

### Focus page

- Read through the focus page, linking the examples on the page to the practical experiments to reinforce understanding.
- Ensure that learners understand the key points.
  - Hydrogen peroxide solutions can be described in terms of percentage strength and volume strength.
  - The **more pure hydrogen peroxide** contained in a solution, the higher the % value.
  - The more hydrogen peroxide contained in a solution, the greater the volume of **oxygen** it will release, so the higher the vol. figure, and the stronger the effect it will have on the hair.

- Draw attention to the question in the speech-bubble. Ask for learners' thoughts on this. Elicit from them that despite the apparent similarities in the numbers, a 9% solution is actually three times stronger than a 10 vol. solution.
- Check that learners can compare the strengths of solutions described in % with those described in vol.

Curric. refs	NOS/NVQ	Key Skills
N2/L1.8	Unit H13	N1.1
N1/L1.6		

### Task 1

Order and compare hydrogen peroxide solutions in terms of percentage strength and volume strength

N2/L1.8

- Put the task into context by stating that there are two ranges of hydrogen peroxide in the salon: 'Heads above' products shows the volume strength of the solutions whereas 'Fixations' products show the percentage strengths.
- Explain that in questions 1 and 2, learners have to put each range in order of strength, starting with the weakest.
- In question 3, the task is to match items from the two different ranges that are the same strength.

### If the learner has difficulty

- Check learners' understanding of the concept of strength of solution and discuss the effect that this will have on colour treatment. Use a colour chart to support this.
- Some learners may find it useful to cut out the items so that they can physically move them about before recording their answers in the spaces provided. This can also be done with sticky notes or cards.
- Chunk down the task by first asking them to sort the bottles into the two ranges.
- Use the information from the focus page to produce a check card for learners, showing the strengths in order.
- ESOL learners may need to work on the language used for comparison (e.g. 'stronger than').

**Extension**

Increase the range of products that need to be sorted and repeat the task.

**Task 2**

Compare the strength of hydrogen peroxide solutions in terms of percentage strength and volume strength

N2/L1.8

N1/L1.6

- Explain that questions 1 and 2 involve comparing the strengths of the solutions within the % range and within the vol. range.
- Question 3 involves comparing the strengths of solutions expressed in % and vol. The aim here is to reinforce learners awareness that 9% is not similar to 10 vol. and is in fact three times stronger. Ensure that learners appreciate the importance of these facts.

**If the learner has difficulty**

- Learners may find it useful to work without the percentage symbol. Support them to play with the numbers to find the relationship between them. Learners who are unable to make these connections will require additional support and may use the *Skills for Life* numeracy materials (Level 1 Unit 2).
- Check learners' use of language to describe the relationship between the strengths of solutions.
- Encourage learners to make a cue card showing the relationship between % and vol.
- ESOL learners may need to work on the language used for comparison (e.g. 'same strength as').

**Extension**

- Use a range of products and product labels. Ask learners to sort them by percentage and by vol.
- Reinforce the learning by asking quick questions relating to relative strength of products. Reverse the order by using the word 'weaker' as well as 'stronger'.

**Theme assessment**

Link the learning here to workplace scenarios using colour charts and the needs of different clients.

# Hydrogen peroxide strengths

## Focus

To change hair colour permanently, salons use hydrogen peroxide mixed with bleach, liquid tints or cream-based tints. It is vital that the correct strength peroxide is used in order to achieve the correct colour result.

**Hydrogen peroxide** comes in different **strengths**. The strength can be described in two ways:

### Percentage strength (%)

This tells you how much **pure hydrogen peroxide** is in the solution.

#### Examples

- In every 100 ml of a **3% solution**, 3% (3 ml) will be pure hydrogen peroxide and 97 ml will be water.
- In every 100 ml of a **6% solution**, 6% (6 ml) will be pure hydrogen peroxide and 94 ml will be water.

### Volume strength (vol.)

This tells you how much **oxygen** is released from 1 ml of hydrogen peroxide solution.

#### Examples

1 ml of **10 vol.** gives 10 ml oxygen.  
1 ml of **20 vol.** gives 20 ml oxygen.

The stronger the solution:

- the more **pure hydrogen peroxide** it contains
- the more **oxygen** can be released in the hair shaft.

**Hydrogen peroxide** releases **oxygen** when applied to the hair.

The **oxygen** reacts with natural hair pigment, making it lighter.

The **oxygen** joins onto the small hair-colour molecules, which join together to form large coloured molecules that are too big to leave the hair shaft.



I can't find the 10 vol.  
Is 9% just a tiny bit weaker?

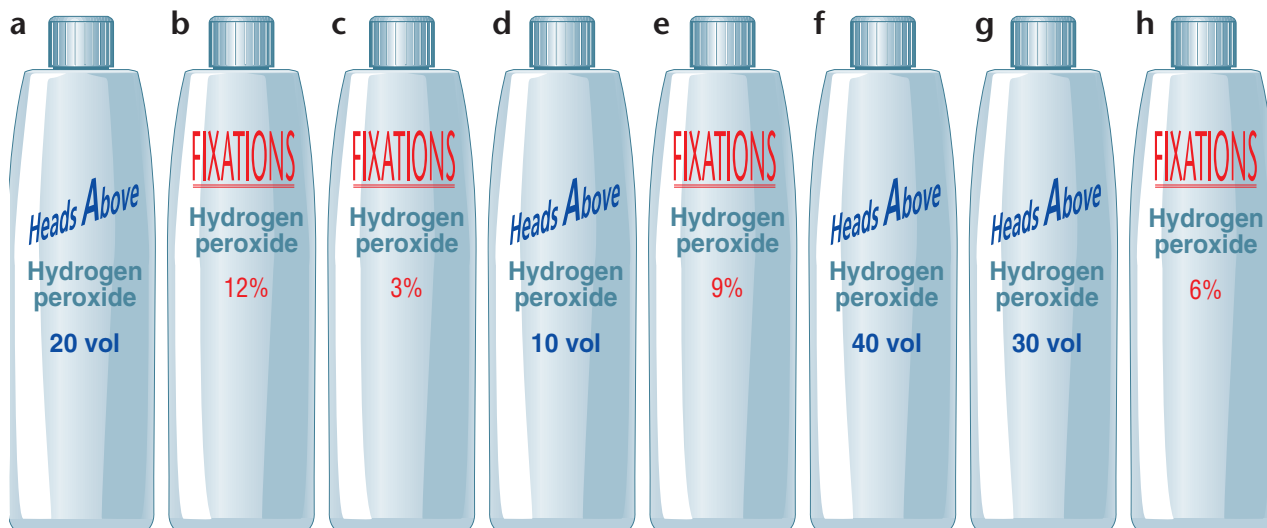
### Try this

- 3% is the same strength as 10 vol.
- 6% is the same strength as 20 vol.
- \_\_\_% is the same strength as 30 vol.
- 12% is the same strength as \_\_\_ vol.

# Hydrogen peroxide strengths

## Task

### Task 1



1 Put the *Heads Above* hydrogen peroxide solutions in order of strength, starting with the weakest.

d    \_\_\_\_\_

2 Put the *Fixations* hydrogen peroxide solutions in order of strength, starting with the weakest.

\_\_\_\_\_

3 Match the hydrogen peroxide solutions that are the same strength.

a is the same strength as \_\_\_\_\_.

c is the same strength as \_\_\_\_\_.

b is the same strength as \_\_\_\_\_.

e is the same strength as \_\_\_\_\_.

### Task 2

Complete the following sentences.

1 a 6% is 2 times stronger than 3%.      c 12% is \_\_\_\_\_ times stronger than 3%.

b 9% is \_\_\_\_\_ times stronger than 3%.      d 12% is \_\_\_\_\_ times stronger than 6%.

2 a 20 vol. is 2 times stronger than 10 vol.

b 30 vol. is \_\_\_\_\_ times stronger than 10 vol.

c 40 vol. is \_\_\_\_\_ times stronger than 10 vol.

d 40 vol. is \_\_\_\_\_ times stronger than 20 vol.

3 a 6% is \_\_\_\_\_ times stronger than 10 vol.      b 9% is \_\_\_\_\_ times stronger than 10 vol.

c 12% is \_\_\_\_\_ times stronger than 10 vol.



## PAGES 3:19–3:20

## Diluting hydrogen peroxide

## Occupational setting

Several different numeracy skills are involved in calculating the dilution of a hydrogen peroxide solution to achieve the required strength if it is not available in stock. This focus page introduces a step-by-step approach to diluting hydrogen peroxide. This can be a hazardous process where errors will have serious consequences for both the client and the salon. It is important that learners have *all* the numeracy skills in place before they attempt to use the method, and are able to follow step-by-step procedures. Some Level 2 skills are required to complete the tasks successfully; teachers must assess whether learners are ready for these activities. (Note: the method provided is not the only method that can be used for dilution. However, the underpinning skills are common.) There is no substitute for practical measurement, and where possible the activities should use or be supported by practical examples that the learners conduct for themselves using safe materials.

## Materials

Measuring beakers for practical measuring  
 Cordial (orange or blackcurrant to provide a strong colour)  
 Water  
 Card  
 Scissors

## Learning outcomes

- 1 To understand the step-by-step procedures of dilution described (focus page, Tasks 1 and 2)
- 2 To carry out calculations to dilute a strong solution (focus page, Task 1)
- 3 To calculate with liquid measures (focus page, Task 2)

## Suggested teaching activities

## Introduction

- Recap on the learning in the previous theme (Hydrogen peroxide strengths) to make sure learners understand the meaning of 'vol.' in relation to the strength of hydrogen peroxide. Emphasise that the percentage numbers and the vol. numbers should not be confused.
- Ask what might happen if a salon ran out of its full range of hydrogen peroxide strengths. *If you need a weaker strength than that available in stock, what could you do?* Elicit from the learner that you could water down (dilute) a stronger solution to make a weaker solution. Demonstrate this using cordial. If a solution is too strong, you mix it with water to make it weaker.
- Pose the question again, this time querying what learners would do if they needed a stronger solution than those available in stock. Some learners may suggest that they would use more of the weaker strength solution to get a stronger one. Demonstrate using the cordial that this is not possible. If a solution is too weak, you cannot get a stronger one by using more of the weak solution.
- Explain to learners that they are going to look at a method for diluting hydrogen peroxide. The method requires three numeracy skills:
  - expressing one number as a fraction of another
  - finding simple fractions that add up to a whole number
  - calculating the fraction of an amount.
- Check that learners (especially dyslexic learners) have each of the above skills in place before progressing to the step-by-step calculation on the focus page. Refer to *Skills for Life* numeracy materials (Entry 3 Unit 3) for additional practice if required.
- **Expressing one number as a fraction of another.** Learners may find it useful to start with money as the context for this: £10 is half as much money as £20. Use other examples requiring learners to compare £10, £20, £30 and £40 in this way.

- Progress to the concept that 10 vol. is half the strength of 20 vol. This can be demonstrated using card. Write 20 vol. on one side. Split the other side in two and write 10 vol. on each half. Show the relationship by folding or cutting the card. Repeat the activity using other vol. descriptions and other fractions: one-third, quarter, two-thirds and three-quarters.
- Ask learners to fill in the following blanks using their cards to help them:  
 10 vol. is  $\frac{1}{2}$  the strength of 20 vol.  
 10 vol. is  $\frac{1}{3}$  the strength of 30 vol.  
 10 vol. is  $\frac{1}{4}$  the strength of 40 vol.  
 20 vol. is  $\frac{1}{2}$  the strength of 40 vol.  
 20 vol. is  $\frac{2}{3}$  the strength of 30 vol.  
 30 vol. is  $\frac{3}{4}$  the strength of 40 vol.
- **Finding simple fractions that add up to 1 whole number.** Learners may find it useful to use fractions of food items, such as cake or pizza, as the context, for example  $\frac{1}{4} + \frac{3}{4} = 1$  whole. Use other examples requiring learners to add thirds, halves or quarters to make one whole, using the cards to support them. Make sure that learners use safe liquids to confirm these conclusions.
- **Calculating the fraction of an amount.** Learners need to be able to see that the 'whole' can vary (e.g. an amount of money, an amount of liquid). Learners may find it useful to start by using money as the context. For example, to share £40 equally between four people, divide £40 by 4, giving £10 per person. If the share is not equal (e.g.  $\frac{3}{4}$  for one person and  $\frac{1}{4}$  for another) the amount can be calculated by dividing by 4 to find  $\frac{1}{4}$  (£10) and then multiplying  $\frac{1}{4}$  by 3 to find  $\frac{3}{4}$  (£30). The two shares should always add up to the whole amount ( $\frac{1}{4}$  of £40 = £10,  $\frac{3}{4}$  of £40 = £30; £10 + £30 = £40). Demonstrate this using safe liquids and allow learners to experiment to prove the conclusions for themselves.
- Introduce the concept that a solution such as orange squash could be described in terms of the fraction that each of its constituent parts contributes to the whole. For example, a 100 ml drink could be one-quarter squash and three-quarters water. Ask learners to calculate how many millilitres of orange squash and how many millilitres of water will make up the 100 ml drink in the strength described. Discuss methods for calculating and checking. Give plenty of hands-on practice, using real liquids,

of finding one-quarter and three-quarters; one-third and two-thirds, and half and half of different liquid amounts in the context described.

- In pairs or small groups, and using safe liquids, ask learners to solve a problem similar to those posed on the focus page and devise a strategy for solving similar problems, checking that it works every time. Share ideas and strategies with the whole group. Confirm successful methods. Learners may like to develop a cue card they can use for solving problems in the future.

### Focus page

- Read the introduction to the focus page. Point out that it gives one method for diluting hydrogen peroxide solutions, and that there are three steps to follow. Explain to learners that understanding what they are doing at each step will improve their accuracy and enable proper checking.
- Read through each step, ensuring learners follow the model.
- Provide plenty of practice using other scenarios. Give learners examples to measure out using coloured concentrate or squash/cordial. Check that learners can measure accurately, recapping on previous work as required.
- Some learners may like to write a formula for solving problems in the future.

Curric. refs	NOS/NVQ	Key Skills
N2/L1.2	Unit H13	N1.2
N2/L2.3		N2.2

### Task 1

Calculate the fraction constituents required to dilute a stronger dilution to a given weaker solution

N2/L2.3

- Explain to learners that they are making a chart to display in the salon to show how to dilute 40 vol. to make 10 vol., 20 vol. and 30 vol., and how to dilute 20 vol. to make 10 vol. The chart will show the fraction of the new solution that will be made up from the original strength and the fraction that will be made up of distilled water.

- Remind learners that the two fraction constituents (original strength and distilled water) will form the whole new solution. Accordingly, the two fractions must add up to one whole.

#### *If the learner has difficulty*

- Learners who have difficulty with fractions and fractional parts will need specialist additional support if they have struggled to understand this during the focus page activities.
- Emphasise that the fractions in each row must add up to 1 whole. Show this by cutting up pieces of card and reinforce using liquid measures, as done in the focus activities.

#### *Extension*

- Ask learners to calculate how to dilute 30 vol. to 20 vol. and to 10 vol. to complete the chart. Make a similar chart for diluting solutions described in terms of their percentage strengths.
- Support with practical work using safe liquids.

### **Task 2**

Calculate the amount of hydrogen peroxide and distilled water required to make a given amount of solution

#### **N2/L1.2**

- Point out that diluting more solution than you need would be wasteful. Explain that this task involves calculating how many millilitres of hydrogen peroxide and water you need to make a particular amount of a weaker solution.
- Remind learners of strategies for checking their answers.

#### *If the learner has difficulty*

- Emphasise the step-by-step approach and support learners to decide first on the relationship between the stronger solution and the solution required. This needs to be expressed in fractions in order to follow the method shown.
- If learners need a lot of support with fractions at this stage, these skills should be revisited and taught by a numeracy specialist before the learner will be able to apply the skills.
- Recap on learners' understanding that the total amount required is one whole and will comprise part distilled water and part hydrogen peroxide.

- Dyslexic learners may have difficulty following a multi-step calculation and will need a structured approach. Use a checklist or a gapped sheet for the calculations to lead them through the process.

#### *Extension*

- Ask learners to predict which two solutions would have the same strength if they measured out concentrated orange juice and water in the quantities they have calculated in questions 1–3.
- Ask them to confirm their predictions with practical measurement.

### **Theme assessment**

- Ask learners to calculate how to make 60 ml of 10 vol., 20 vol. and 30 vol. hydrogen peroxide from a 40 vol. solution and distilled water.
- Confirm calculations in a practical situation.

# Diluting hydrogen peroxide

Focus

If you don't have the correct strength of hydrogen peroxide, you can dilute a stronger hydrogen peroxide solution with distilled water to make the strength that you need.

## Step 1

What fraction of the original hydrogen peroxide solution is required to make the strength that you need?

*We only have 30 vol.  
I need 10 vol. What can I do?*

You must **dilute** the 30 vol. because it is **3 times stronger** than the 10 vol. solution you need.

Your newly made 10 vol. solution will be  $\frac{1}{3}$  of the strength of the original 30 vol. solution.

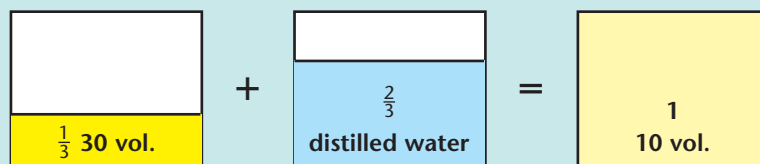
## Step 2

What fraction of your new solution will be made from the original hydrogen peroxide solution? What fraction of your new solution will be distilled water?

$\frac{1}{3}$  of my new 10 vol. solution will be 30 vol.  
How much will be distilled water?

$\frac{1}{3}$  is 30 vol.

The remaining  $\frac{2}{3}$  will be distilled water.



## Step 3

How much new hydrogen peroxide solution do you need? How much will be the original strength? How much will be distilled water?

*I need 45 ml of 10 vol.*

$\frac{1}{3}$  will be 30 vol.

$\frac{2}{3}$  will be **distilled water**.

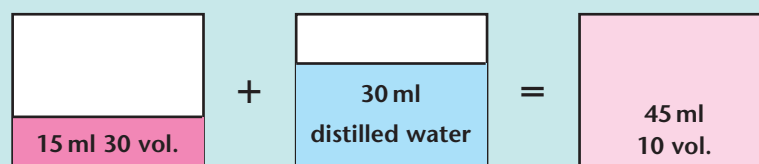
What is  $\frac{1}{3}$  of 45 ml?

What is  $\frac{2}{3}$  of 45 ml?

$\frac{1}{3}$  of 45 ml is 15 ml, so measure 15 ml of 30 vol.

$\frac{2}{3}$  of 45 ml is 30 ml, so measure 30 ml of **distilled water**.

Mix them together to get 45 ml of 10 vol. hydrogen peroxide solution.



# Diluting hydrogen peroxide

## Task

### Task 1

Complete the chart to show:

- the **fraction** of the original strength hydrogen peroxide required to make the solution you need
- the **fraction of your new solution** that will be distilled water.

Original strength hydrogen peroxide	Strength required	Fraction of the original strength hydrogen peroxide	Fraction of distilled water
Hydrogen peroxide 40 vol.	10 vol.	$\frac{1}{4}$	$\frac{3}{4}$
Hydrogen peroxide 40 vol.	20 vol.		
Hydrogen peroxide 40 vol.	30 vol.		
Hydrogen peroxide 20 vol.	10 vol.		

### Task 2

How many millilitres of hydrogen peroxide and water do you need to make the correct amount of the weaker solution?

1

I need **30 ml** of 20 vol. hydrogen peroxide.

$\frac{1}{2}$  will be 40 vol. hydrogen peroxide.

$\frac{1}{2}$  will be distilled water.

How much of each liquid shall I measure?

\_\_\_\_\_ ml of 40 vol. hydrogen peroxide

\_\_\_\_\_ ml of distilled water

2

I need **60 ml** of 10 vol. hydrogen peroxide.

$\frac{1}{4}$  will be 40 vol. hydrogen peroxide.

$\frac{3}{4}$  will be distilled water.

How much of each liquid shall I measure?

How much of each liquid shall I measure?

\_\_\_\_\_ ml of 40 vol. hydrogen peroxide

\_\_\_\_\_ ml of distilled water

3

I need **45 ml** of 20 vol. hydrogen peroxide.

$\frac{2}{3}$  will be 30 vol. hydrogen peroxide.

$\frac{1}{3}$  will be distilled water.

How much of each liquid shall I measure?

How much of each liquid shall I measure?

\_\_\_\_\_ ml of 30 vol. hydrogen peroxide

\_\_\_\_\_ ml of distilled water

# Check it

Please note that copies of pages 0:33, 0:35 and 0:37 from the Source material are needed.

- 1 Look at the *Luocolor* label from the Source material (page 0:33).

How many levels of lift can be obtained in 20 minutes?

- A 1 to  $2\frac{1}{2}$
- B  $2\frac{1}{2}$  to 3
- C 3 to 4
- D 3 to 5

Rt/E3.5

- 2 Read the 'Preparation' section of the *Socolor* safety information from the Source material (0:35). How many ingredients do you add to the honey crème hair colour?

- A 4
- B 3
- C 2
- D 1

Rt/E3.1

- 3 Read the Setting lotion and hair tonic information from the Source material (0:37).

What is the meaning of 'If irritation persists seek medical advice'?

- A If the client keeps annoying you, tell a doctor.
- B If the client keeps annoying you, tell them to speak to a doctor.
- C If soreness continues, tell a doctor.
- D As soon as it feels sore, tell a doctor.

Rw/L1.1; Rw/L1.2

Use this colour chart to answer questions 4 and 5.

Depth (dark to light)		Tone (cold to warm)	
Code	Description	Code	Description
1	Black	1	Ash
2	Dark brown	2	Pearl
3	Medium brown	3	Gold
4	Light brown	4	Copper
5	Lightest brown	5	Mahogany
6	Dark blonde	6	Red
7	Medium blonde		
8	Light blonde		
9	Very light blonde		
10	Lightest blonde		

- 4 Which of these hair colours is the darkest?

- A 2.4
- B 4.4
- C 7.4
- D 9.4

N1/E3.1

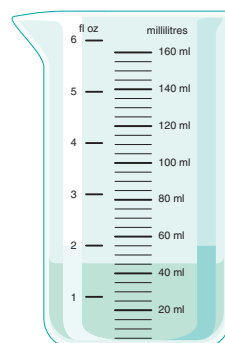
5 Which of these hair colours is the warmest?

- A 5.3
- B 5.1
- C 5.5
- D 5.4

N1/E3.1

6 How much hydrogen peroxide solution is in this jug?

- A 55 ml
- B 50 ml
- C 45 ml
- D 40 ml



MSS1/L1.4

7 This is a full tube of colour. How much colour will be dispensed if you squeeze it to the position indicated by the arrow?

- A approximately 35 ml
- B approximately 45 ml
- C approximately 55 ml
- D approximately 60 ml



MSS1/L2.3

8 If the tube of colour is squeezed to the position indicated by the arrow, how much colour will be left in the tube?

- A approximately 40 ml
- B approximately 45 ml
- C approximately 55 ml
- D approximately 65 ml

MSS1/L2.3

9 Which of these hydrogen peroxide solutions means the same as 20 vol.?

- A 3%
- B 9%
- C 12%
- D 6%

N1/L1.6

10 Which of these hydrogen peroxide solutions is the strongest?

- A 9%
- B 10 vol.
- C 6%
- D 20 vol.

N1/L1.6; N2/L1.8



# Answers

## PAGES 3:1–3:2

### Labels

#### Task 1

- 1 c
- 2 no
- 3 aqua/water

#### Task 2

- 1 INGREDIENTS
- 2 20 minutes
- 3 nourished hair fibre  
hair vitality  
brilliant colour

#### Task 3

- 1 Yes
- 2 Read the instruction leaflet

## PAGES 3:3–3:4

### Manufacturer's instructions

#### Task 1

You may have said something like this:  
When you're doing a skin sensitivity test, you must use surgical spirit to clean an area behind the ear of the client. The area should be about a centimetre square. When you've done that you should use a cotton bud to put a little bit of the colourant on the area that you've cleaned. The colourant should be straight from the tube and not mixed up.

#### Task 2

- |   |   |   |
|---|---|---|
| 1 | 6 | 4 |
| 3 | 2 | 5 |

#### Task 3

Things you **must** do:

- Use only with Solite Crème Developer, 40 volume (12%) maximum.
- Use only the proportions indicated.
- Avoid contact with eyes.
- Rinse hair well after application of the mixture.

- For all questions concerning individual sensitivity recommend that your client consult a doctor.
- Keep out of the reach of children.

Things you **must not** do:

- Do not use to colour eyelashes.
- Do not use to colour eyebrows.
- Do not use for any purpose other than colouring the hair.
- Do not use if hair has been coloured with henna.
- Do not use if hair has been coloured with a progressive colour.
- Do not use on children.

Things you must do **if** something else happens:

- Rinse eyes immediately if product comes into contact with them.
- If wearing contact lenses, remove them before rinsing the eyes.

## PAGES 3:5–3:7

### Product data sheets

#### Task 1

- 1 14
- 2 8A
- 3 15B
- 4 1
- 5 3

#### Task 2

- 1 a Do not set fire to.
- 2 c Keep away from eyes or broken or sensitive skin.
- 3 b If swallowed: drink 2–3 glasses of water or milk.

#### Task 3

- 1 Use a carbon-dioxide or dry powder extinguisher.
- 2 Mop it up with water.
- 3 Rinse them straight away with plenty of water. If that doesn't help, get medical advice from a doctor.
- 4 It should be stored in a cool dry place away from direct sunlight or any other sources of heat such as radiators and heaters.

## PAGES 3:8–3:10

## Language and terminology

## Task 1

biocide	a substance used to kill living organisms
bactericide	a substance used to destroy bacteria
fungicide	a substance used to destroy fungi
germicide	a substance used to kill germs
pesticide	a substance used to kill pests

## Task 2

perm d and b  
 permanent c  
 permeable a

## Task 3

- 1 c constant
- 2 a stages
- 3 a the period when a hair follicle is actively growing
- 4 c the period between the growth and rest of a hair follicle
- 5 b the resting stage in the growth cycle of a hair follicle

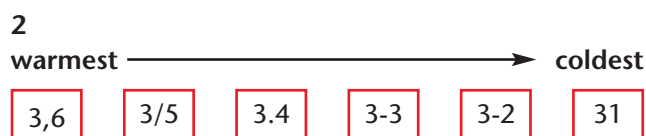
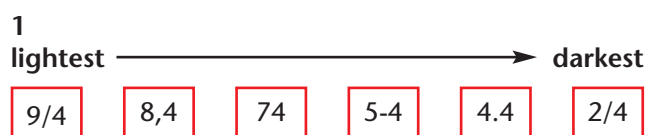
## PAGES 3:11–3:12

## Colour charts

## Focus

- 1 a 8.4 is one shade lighter than 7.4  
 b 6.4 is one shade darker than 7.4
- 2 7.3 is one tone cooler than 7.4

## Task 1



## Task 2

- 1 5.3
- 2 2.5
- 3 7.4
- 4 7.4
- 5 6.2
- 6 3.4

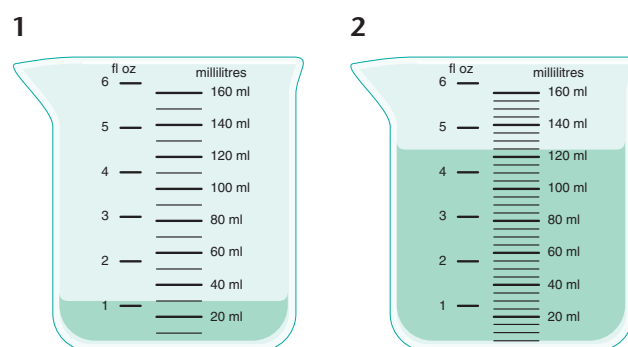
## PAGES 3:13–3:14

## Measuring liquids

## Task 1

- 1 110 ml
- 2 90 ml
- 3 50 ml
- 4 75 ml

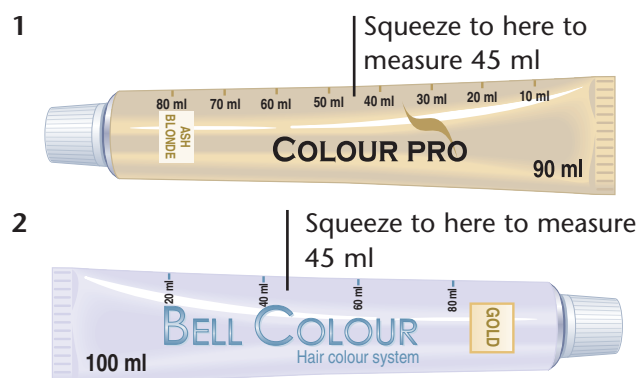
## Task 2

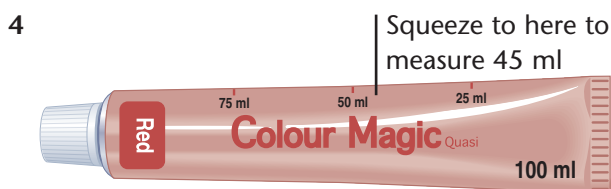
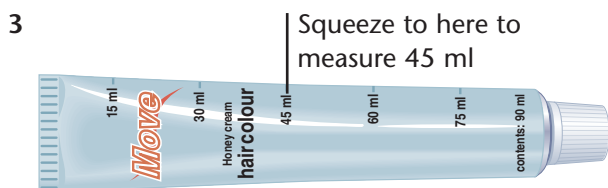


## PAGES 3:15–3:16

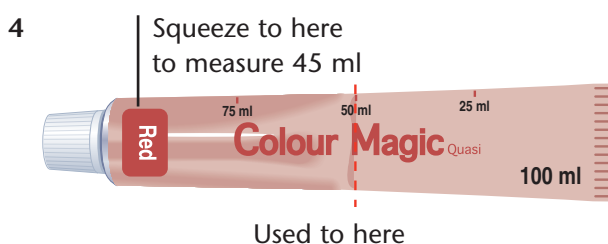
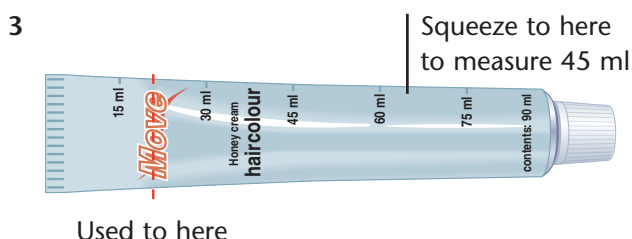
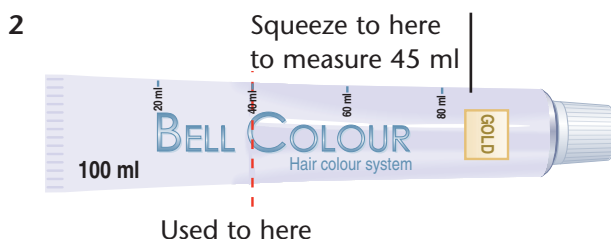
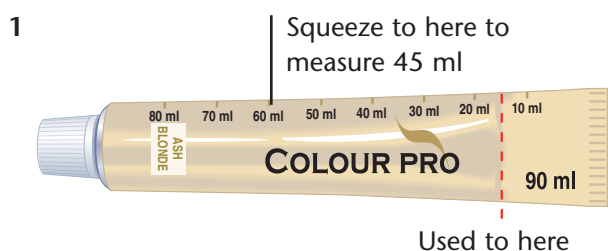
## Measuring colour from tubes

## Task 1





### Task 2



### PAGES 3:17–3:18

## Hydrogen peroxide strengths

### Focus

9% is the same strength as 30 vol.

12% is the same strength as 40 vol.

No. 9% hydrogen peroxide is **3 times stronger** than 10 vol.

### Task 1

1 d, a, g, f

2 c, h, e, b

3 a is the same strength as h  
b is the same strength as f  
c is the same strength as d  
e is the same strength as g

### Task 2

1 a 6% is **2 times stronger** than 3%.

b 9% is **3 times stronger** than 3%.

c 12% is **4 times stronger** than 3%.

d 12% is **2 times stronger** than 6%.

2 a 20 vol. is **2 times stronger** than 10 vol.

b 30 vol. is **3 times stronger** than 10 vol.

c 40 vol. is **4 times stronger** than 10 vol.

d 40 vol. is **2 times stronger** than 20 vol.

3 a 6% is **2 times stronger** than 10 vol.

b 9% is **3 times stronger** than 10 vol.

c 12% is **4 times stronger** than 10 vol.

### PAGES 3:19–3:20

## Diluting hydrogen peroxide

### Task 1

Original strength	Strength required	Fraction of the original strength hydrogen peroxide	Fraction of distilled water
Hydrogen peroxide 40 vol.	10 vol.	$\frac{1}{4}$	$\frac{3}{4}$
Hydrogen peroxide 40 vol.	20 vol.	$\frac{1}{2}$	$\frac{1}{2}$
Hydrogen peroxide 40 vol.	30 vol.	$\frac{3}{4}$	$\frac{1}{4}$
Hydrogen peroxide 20 vol.	10 vol.	$\frac{1}{2}$	$\frac{1}{2}$

**Task 2**

- 1 15 ml of 40 vol.  
15 ml of distilled water
- 2 15 ml of 40 vol.  
45 ml of distilled water
- 3 30 ml of 30 vol.  
15 ml of distilled water

**Check it**

- 1 B
- 2 D
- 3 C
- 4 A
- 5 C
- 6 C
- 7 B
- 8 C
- 9 D
- 10 A