Sabrina Moser

P R I N T &
P R O D U C T I O N

Lehr- und Arbeitsbuch Englisch
für Drucktechniker
und Medienfachwirte

Vorwort

Die Absolventinnen und Absolventen der Fortbildung zum Druck- und Medientechniker werden im beruflichen Alltag zunehmend mit der englischen Sprache konfrontiert. Um sich im Zuge der Globalisierung behaupten zu können, reicht es nicht mehr aus nur allgemeines Englisch zu sprechen. Fachvokabular der Druck- und Medienbranche hat längst Einzug gehalten in die Literatur, in Handbücher und auch in Gespräche mit Kunden.
Dieses Buch entstand mit der Intention, angehenden Führungkräften dieses Fachenglisch zu vermitteln und für sie andwendbar zu machen.

Folgende Konzeption liegt diesem Lehr- und Arbeitsbuch zugrunde:
• eine mittelständische Druckerei ist Grundlage für die Arbeitstexte und dient dazu, die Abläufe praxisnah und authentisch zu vermitteln
• die Auszubildende dieses Betriebs durchläuft die verschiedenen Abteilungen und lernt dabei die betrieblichen Abläufe kennen
• fremdsprachliche Grund- und Fachkenntnisse werden gemeinsam vermitteln und in beruflich relevanten Situationen dargeboten
• die Aufgaben ermöglichen eine handlungsorientierte Bearbeitung
• Arbeitsaufträge und Problemlösungen in der Gruppe fördern die Schlüsselqualifikationen Kooperations- und Kommunikationsfähigkeit

Die einzelnen Units behandeln Themen der Felder Druckvorstufe, Druck und Weiterverarbeitung. Die Units sind dabei geteilt in Texte für

– Anfänger

– Fortgeschrittene und

– geübte Englischsprecher

– Experten (nur bei Unit 4)

Das jeweilige Niveau ist erkenntlich an den farbigen Balken am Seitenrand.

Die Aufgabenstellungen werden durch Symbole gekennzeichnet.

Schreibübung   Gruppen-/   aufmerksames
                      Partnerarbeit   Lesen

Die Autorin wünscht Ihnen viel Freude mit diesem Werk.
Bad Waldsee, April 2004   *Sabrina Moser*

Anita Jones
media-operator

Rosi Flag
media-operator

Tom Wilburg
media-operator
& administration

Mary Joyce
trainee as a
media-operator

PrePress

George Baxter
manager

Jessica Long
secretary

Nicolas Sharpe
costing
& job handling

Arnold Jacobs
printer SM 52

Bill Smith
printer SM 74

Thomas Hiller
printer GTO
& die-cutter

Press

Lili White
helper in the bindery

James Baker
bookbinder

Finishing

The team of DOTPRINT

Unit 1:
PrePress

Mr Baxter is introducing Mary to her colleagues from the pre-press department. Mary wants to become a media-operator. Her training takes 3 years and she's going to work in every department of DOTPRINT.

Welcome Mary

Mr Baxter: Good morning everybody! I want to introduce you to Mary Joyce. She's the new media-operator-trainee.

Mary: Hello.

Anita Jones: Hello Mary, we are the pre-press team. My name is Anita, I work at the scan-station and this is Rosi, she knows everything about data-transfer.

Rosi Flag: How are you? Why do you want to become a media-operator?

Mary: My uncle works as a printer in a gravure-printhouse. He told me a bit about his work.

Mr Baxter: Our printing method is offset. The workflow is different from gravure.

Tom Wilburg: Hi Mary, my name is Tom. I do all kinds of jobs in this department. I work especially for the administration, that means that I'm responsible for linking hardware and taking care of the software on each computer. Don't be afraid, I think we will be a good team.

Mr Baxter: I see, you will be well taken care of here – well, I go back to my work. Ask me if you have any questions or tell me if you have any problems. See you.

Rosi Flag: That's your computer. It is an Apple Macintosh. Have you ever worked with computers before?

Mary: Yes, I wrote letters with MS Word and I printed out my holiday photos. I have a Pentium III at home.

Rosi Flag: Perfect. I will show you how to handle the different programs. But now take a seat and watch me. We'll start your training with easy jobs and we will increase it every day.

Anita Jones: If you have any kind of questions – just ask. We will help you.

Rosi Flag: And now let's have a cup of coffee…

More about this topic

Questions about the text
1. Who's Mary?
2. What did Mr Baxter do?
3. What are the different jobs of the people in the pre-press department?
4. Has Mary ever worked with Macintosh computers?
5. Where does Mary's uncle work? What kind of job does he do?

Talk about it
Do you remember? What happened at your first day as a trainee?
You can use the sentences in the box as an example.

I saw…	*My parents told me…*
Someone told me to make/go…	*I learned…*
My workstation was…	*I was frightened because…*
The colleagues were…	*I just sat on the chair because…*
I hoped that…	
The introduction started with…	

All about words

Explain in your own words
data-transfer   department
administration   gravure
printing company   scan-station

Draw a mind-map
What kind of printing methods do you know? Look into your dictionary.

gravure   *offset*

printing methods
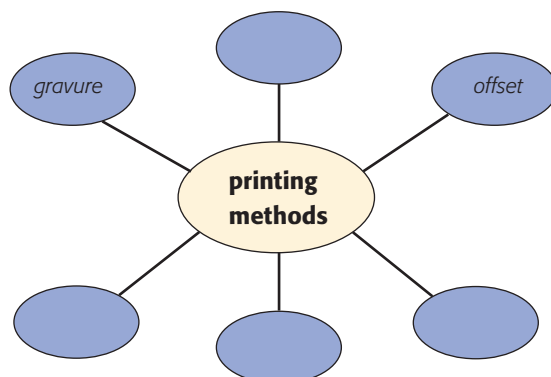
We are the team of DOTPRINT

I'm working hard on my plans to study graphic-design. At present I work as a dtp-professional – my favourite job is scanning and working with photos.

Anita Jones

I have taken over the company from my father. I'm a printing engineer. I want to prepare DOTPRINT for the future. There is a strong competition in this trade.

George
Baxter

I'm married and I have two children. In my limited leisure time time I read books and do sports.
My greatest wish is to drive around the world on my motorbike.

I've been working for this company for a couple of years as an administrator. It's very interesting and I'm still learning a lot about networks, new programs and their bugs. I'm interested in JDF-workflows.

Tom Wilburg

I'm responsible for the trainees. I work with data and so I know a lot about data handling and data transfer.
I have a personal weakness for coffee.

Rosi Flag

I'm the troubleshooter. I deal with our customers and suppliers. If anyone has a problem – I have the solution.
That's a very trying job. For my personal balance I practise Yoga.

Jessica Long

Nicolas Sharpe

I'm responsible for costing and for ordering paper. I also make sure that all the machines are utilized because a production stop is very expensive. I visit new customers and make publicity for DOTPRINT.

My work is well paid and the colleagues are very friendly. I like to play soccer with my kids. I often play soccer with Bill Smith and James Baker, too.

Arnold Jacobs

We receive the print orders today and the customers want them to be finished by the next day – no matter how high the print run is. That's a big problem.

Bill Smith

I always tell Nicolas: "Buy better paper". But it is too expensive and so the bindery has to solve all the problems which are caused by the cheap paper.

James Baker

I'm the printer at the GTO and I work at the die-cutter. The die-cutter is old and I'm the only one who can handle it – because I'm as old as the die-cutter.

Thomas Hiller

I've been the helping hand in the bindery for 19 years. I've got a lot of experience and no one knows more about adhesive binding than I do. At home I like working in the garden.

Lili White

I'm the new trainee. I'm going to become a media-operator. I love designing and so I decided to learn a creative profession.

Mary Joyce

More about this topic

Questions about the text on page 8 and 9

1. Who has a personal weakness for coffee?
2. Why should all machines be utilized?
3. What is the order structure like today?
4. Who is responsible for the trainees?
5. Which machine is old?
6. What is the problem of the bindery?
7. What are Mr Baxter's hobbies?

8. Who wants to study again?
9. Which people play soccer?
10. Why does Mary want to become a media-operator?

Teamwork

Introduce yourself. Tell us something about your private life, your job. Or do you have an interesting hobby? Tell us a short story.

Tip: You can link the nouns in the green box with the adjectives in the yellow box.

For example: I am a printer. My hobby is taking photos. This is great because I like to spend my time in the nature.

employer   colleagues   skill   holiday   weakness

friends

hobby   job   experience   parents   pet

interesting   bad   good   boring   useful

friendly

complicated   great   relaxing   funny

angry

All about words

Link the opposites

Look at the adjectives in the list and find their opposites in the blue box.

boring	short
bad	cheap
friendly	late
full	slow
wrong	big
difficult	

expensive	long
quick	good
easy	small
empty	right
exciting	angry
early	

Look at the picture

Do you know each person? What's her/his name and what's her/his job?
For example: Mr Nicolas Sharpe is the man with a grey shirt. He handles the orders…

Describe a photo

Look at the photo. What can you see?
Use the vocabulary beside the photo.

computer
keyboard
flatbed scanner
image
*layout*
reflective original
desk

PrePress

Tom Wilburg explains Mary that different computer programs use various ways to calculate their own information. It is very important to know which programs work with what kind of display format. Vector graphics usually need less memory than pixel graphics. Normally you can't handle continuous-tone images with a vector graphic program.
Now read the text below.

The difference between pixel and vector graphics

There is a basic difference between pixel and vector graphics.

Pixel graphics use a grid of small, square picture elements (pixels) for displaying graphics. Each pixel has a particular position and a particular colour value. The total number of pixels in an image is always the same. If the image is enlarged, the resolution is reduced. Then the image often looks "jagged". If an interpolation is used the image looks smooth but not as sharp. Pixel graphics are created in drawing programs such as Microsoft Paint and MacPaint.

Vector graphics are created from mathematically defined lines (vectors) and curves. Vectors draw pictures on the basis of their geometrical characteristics. Vector graphics are not defined by a fixed number of pixels. Therefore they are not dependent on resolution. During expansion the contours are scaled without affecting the quality of the pictures or increasing the quantity of data. Vector graphics are always displayed or printed in the resolution of the relevant output device. Therefore they are suitable for showing sharp contours and details.
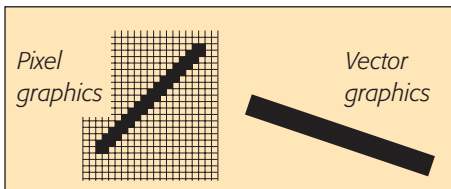
Well-known vector graphic programs are Macromedia Freehand, Adobe Illustrator, and CorelDraw. Exchange formats for vector graphics are, for instance, EPS (Encapsulated PostScript), WMF (Windows MetaFile), and MacPICT. These formats are metafiles, that means they can contain vectors as well as bitmaps. Scaleable fonts (Type 1 Fonts, True Type Fonts) are also made from vectors.

Source: ©H. Kipphan, Handbook of Print Media,
Springer 2001, ISBN 3-540-67326-1

The figures below show a comparison of vector graphics and pixel graphics.

Pixel graphics   Vector graphics

original 100 %

expanded 200 %

Pixel graphics   Vector graphics

Pixel graphics   Vector graphics
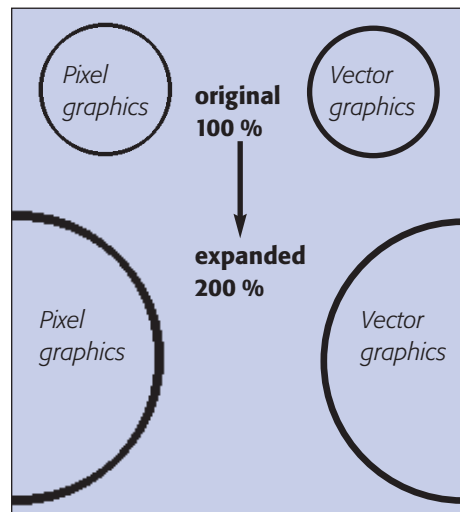
More about this topic

Questions about the text

1. Which two pieces of information do you need to describe a pixel?
2. How can you avoid that pixel graphics look jagged?

For experts: reflect on the text

1. Which of the programs on the right are pixel and which are vector programs?

> *Adobe Illustrator   QuarkXPress*
> *Adobe Photoshop   InDesign*
> *CorelDraw*

2. Both circles are vector graphics.
    Which one uses more memory and why?

1.   **2.**
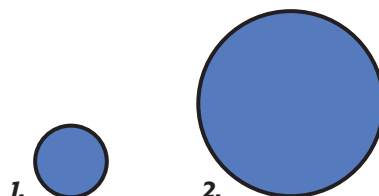
3. This photo should be expanded.
    What format do you need?

4. Is it possible to display vector graphics in a pixel graphic program?
5. Is it possible to display pixel graphics in a vector graphic program?
6. What could happen with the quality if you have reduced a pixel image?
    Is the quality the same or is it worse?

All about words

Find the opposites
Find the matching words

> brief   enlarge   reduction   decrease   various   round
>
> equal   increase   dependent
>
> jagged
>
> square   smooth
>
> expansion   reduce   independent   detailed

Mary gets a CD from a customer while Rosi is in the recreation room drinking another cup of coffee. Mary loads the CD into the computer and finds a file named "brochure.pdf". XPress is unable to open this file format. She asks Tom how to open it and he explains to her the different kinds of data formats. He also gives her some information about this topic.

Data formats for digital pre-press

EPS (Encapsulated PostScript)

EPS is actually a page description language but is also used for describing images.

Purpose: A platform-independent printing format. EPS should not be used for screen presentation because images are not always displayed correctly.

Advantages: EPS has been a de facto standard within the graphic industry during the last fifteen years. It offers a very good printing quality on PS-printers. EPS is mostly used for storing vector information, which makes small files.

Disadvantages: There are sometimes problems when printing these files on printers that don't support the Postscript format.

GIF (Grafic Interchange Format)

GIF is in most cases used for screen presentation. It can also be used as animated GIF.

Purpose: GIF should be used on the Internet if the image only requires up to 256 indexed colours. Images that have more than 256 colours should be saved as JPEG.

Advantages: Most image software can import and export GIF-files. The file format offers extremely small files. That gives fast download and display on the net.

Disadvantages: Maximum 256 colours can be stored in the file. That means that there is always a quality loss when you use it for photos.

JPEG (Joint Photographics Experts Group)

You can compress images very much and so it is mostly used for large photos. JPEG is the most common format on the Internet.

Advantages: The format offers a very good compression, especially for photos. The compression will reduce the file size by approximately 5 to 20 times.

Disadvantages: The format uses a lossy compression. This means that you will loose information every time you save the image. You should not use JPEG as a master copy of your images.

PDF (Portable Document Format)

PDF is produced by Adobe Acrobat and the format is based on PostScript (PS) format.

Purpose: A cross application and platform description and publishing format.

Advantages: Very good printing quality. A standard in desktop publishing. All information will be stored inside a PDF.

Disadvantages: Only limited options to edit a PDF-file.

TIFF (Tagged Image File Format)

TIFF is one of the most common formats.

Purpose: Platform independent format for photos etc. TIFF has become a de facto-standard for halftone images.

Advantages: Platform independent (DOS, PC, Mac and UNIX). The format is supported in almost every image and word processing software.

Disadvantages: Large images require large storage space. And so it takes a long time to download something from the Internet.

More about this topic

Link the matching boxes

Read the boxes placed round Mary. Link the name of the data formats with the matching explanation in the blue box and then connect them with the yellow boxes which describe how these formats are mostly used.

For example:

| GIF | → | *This format …* | → | *It is used…* |

This data format is based on PostScript code. It can be imported into other programs. The embedded information can't be changed. Graphics in this format can be pixel as well as vector orientated.

Every computer can read this format. It uses indexed colours (up to 256), therefore the file size of pictures is strongly reduced. It's used for logos, graphics and images. The content of this format can be transparent, animated or interlaced.

This format is used for pixel graphics only. It can be handled on almost every platform. The information of a picture is stored in "tags". This format needs a large storage space.Therefore, the format offers a lossless compression (LZW).

Based on PostScript, this format contains images, graphics, fonts and other information. The file size is very small and the quality of the data can be adjusted at the output. Additionally, the user can display the file and make changes in the document.

JPEG
Joint Photographic Experts Group

PDF
Portable Document Format

GIF
Graphics Interchange Format

TIFF
Tagged Image File Format

EPS
Encapsulated PostScript

This is not only a format but also a way to compress. The advantage of this format is the small size of the file because data can be compressed high. There are several compression steps – the higher the compression rate, the greater the loss of quality.

Colour and gray level-pictures in every size and resolution can be saved in this format. It is the most commonly used data format to place pictures into dtp-programs.

It is used in several digital workflows and it's established as a standard for information interchange of complex data. It hasn't existed as long as the other formats.

This format is, because of its small size, mainly used in the Internet or in quantity-optimized pre-press workflows (newspapers). The distiller of Acrobat uses this format for compressing pictures in a PDF-File.

It's used for vector information as well as for image data that is not supposed to be manipulated by the user. You can store isolated figures, characteristic print lines and fonts with this format.

*The function of this format is to display images on the Internet. The size is small and there are three variants to display them.
HTML uses this format to display pictures and graphics.*

PrePress

More about this topic

Questions about the texts on page 14 and 15
1. Which format is used for screen presentations?
2. Which format is based on PostScript?

For experts: reflect on the text
1. What format will you use, if a customer wants to have a galley proof from his complete brochure attached to an e-mail?

2. This image should be coloured in XPress. What is the right data format?

3. Look at the photograph of Mary on the right. Do you know the data format of this picture?

4. What do you think is the proper format for taking photos with a digital camera? Explain why.

5. You often see logos on the Internet. What is the right format to make the background transparent?

Complete the illustration
Fill in the words. You can find the matching words in the grey box.

Scanner	*Colour printer*
Proof printer	*Word processing*
Camera	*Imagesetter*
Picture database	*Printing presses*
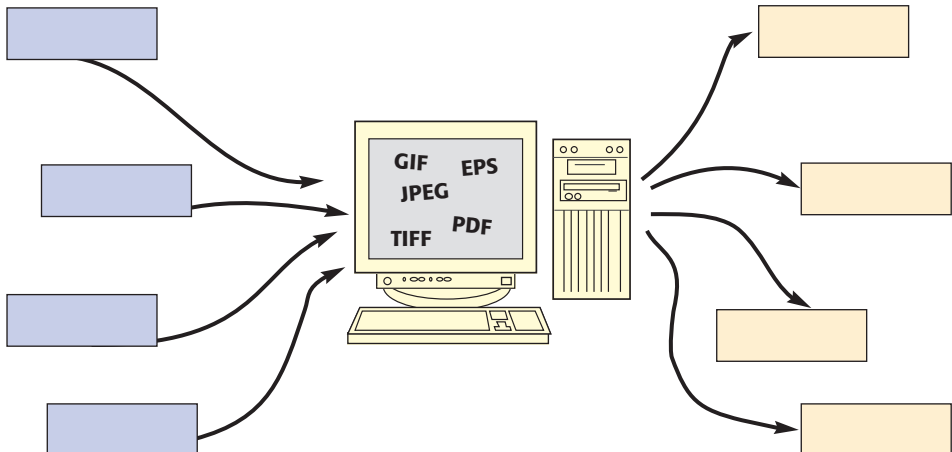
Working with translations

Find the mistakes
Find the comprehension mistakes in the English text and correct them.

"I'd like to see it again before the corrections have been made". This is often the final remark one hears from a customer at the end of a meeting, unaware of the consequences for the technical workflow. Seldom the corrections would now be attended to, proofs made and sent to the customer. In this Internet age, progressive services providers use the web to publish corrected documents.

But even that is difficult untertaking because the pictures are generally no longer legible, the document structure can't be recognized and, with a 120-page financial report for instance, all pages come together. Just one of these procedures has its place in a "communication workflow" but when repeated corrections are needed they are more a cost factor than a means of communication. An ideal solution would be a digital paper sent via ISDN that contains everything that the customers needs: pictures, text, colours – and corrections.

Well, this is precisely what Adobe is aiming at with its PDF and Adobe Acrobat. A PDF file contains all the data needed for correct document portrayal on all equal computer systems and media forms. This includes typefaces, pictures, texts, graphics, and links to external files or Internet pages – in other words, everything one needs for an intelligent document.

"Das hätte ich dann nach der Korrektur gerne noch gesehen", so lautet häufig der Abschlusssatz des Kunden nach einer Besprechung – nicht ahnend, welche Konsequenzen das für die technischen Abläufe mit sich bringt. Im Normalfall werden nun die Korrekturen umgesetzt, Proofs oder Andrucke gefertigt und an den jeweiligen Aufenthaltsort des Kunden geschickt. Fortschrittliche Dienstleister setzten in Zeiten des Internets schon früh auf die Übermittlung von Bildern mit den Abbildungen des korrigierten Objekts.

Doch auch das ist ein mühsames Unterfangen, da die Schriften meist nicht mehr lesbar sind, die Dokumentenstruktur nicht mehr sichtbar ist und beispielsweise ein Geschäftsbericht in 120 Bilder (eines je Seite) aufgetrennt wird. Beide Verfahren haben ihre Berechtigung im "Kommunikations-Workflow", sind jedoch bei mehreren Korrekturläufen eher Kostentreiber als Kommunikationsmittel. Ideal wäre hier ein digitales Papier, verschickt per Internet, das alles beinhaltet, was für den Kunden wichtig ist: Bilder, Text, Farben – und Korrekturangaben.

Genau hier setzt Adobe mit seinem PDF und Adobe Acrobat an. In einer PDF-Datei sind alle notwendigen Daten für eine korrekte Abbildung auf den unterschiedlichsten Rechnersystemen und Medien enthalten. Dies umfasst sowohl Schriften als auch Bilder, Texte, Grafiken und Links auf externe Dateien oder Internet-Seiten – kurzum alles, was man für ein intelligentes Dokument benötigt.

"This is a photo of my favourite soccer-team. Can you digitalize it for me? I would like to publish it on the Internet", Arnold Jacobs said to Mary. She promised him to do that, but she has never scanned photos before. Anita is now explaining to her how a scanner works and how to use it.

How a flatbed scanner works

A scanner serves as the eyes of a personal computer. It contains thousands of cells that work like the eye of a bee: it can see photographs, art work, and read hard copy text (with the appropriate software). Scanners look and operate much like copiers and share much of the same technology.

But the outward simplicity is deceptive. Inside the scanner is a linear array called a charge coupled device (CCD), which is composed of about 2 600 photosensitive cells or elements. In most desktop scanners the CCD is only about an inch square and is fixed in place.

A light bar moves across the object being scanned (the target), and the light is reflected to the CCD by a system of mirrors. Each cell produces an electrical signal proportional to the strength of the reflected light that hits it. The signal which represents one pixel in the original images is converted into a binary number and sent to the computer. Darker portions of the target reflect less light and are given lower numbers.

Most desktop scanners today have CCDs that can differentiate 256 shades of gray or levels of brightness. That is about the same brightness range as a black and white photograph and roughly twice what the human eye can distinguish.

How does a scanner capture colour with the same CCD?
The answer: by creating three separate versions of the image, one for each of the three primary colours of light reflected by the target.
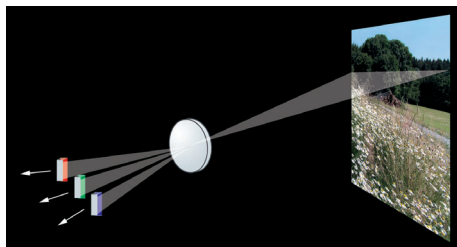There are two different methods to create this. The three pass method and the single pass method.

Based on:
http://www.k12.nf.ca/belanger/howto/scanner6.htm

Single pass method:

The light ray is projected onto three CCDs. Each of them has a filter. Every line of the picture is scanned just one time. The recording of the colour components is happening simultaneousely.

Three pass method:

The light ray is guided through a rotating filter wheel. The light signals are guided one after another for blue, red and green onto the CCD. Every line of the picture is scanned three times. There exists just one CCD.
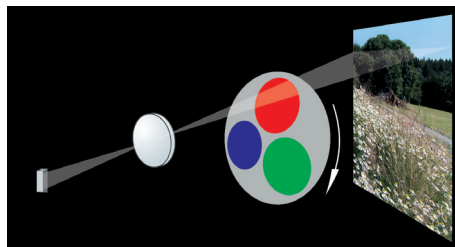
More about this topic

Questions about the text

1. What is a CCD? Explain in your own words.

For experts: reflect on the text

1. These are two cells of the CCD.
   The target has been a gray scale picture.
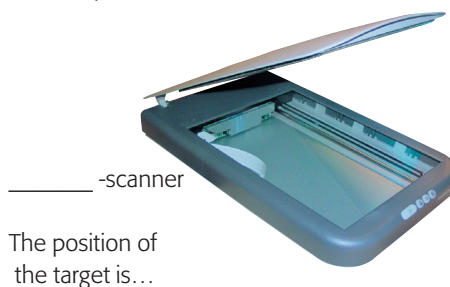   Which cell produces a brighter pixel?

   • *electrical charge*

2. Fill in "high" or "low":   *bright light* = _____ *charge*
                                less light = _____ *charge*
3. Do you know any more types of scanners?
4. Two types of scanners are important for professional reproduction:

   _____ -scanner

   The position of
   the target is…

   _____ -scanner

   The position of
    the target is…

Draw a diagram

Draw a diagram of the single pass method and the three pass method for your documents. Use your own words to describe these two methods.

Rosi needs Mary's help: "Can you help me? Please open these files from our customer. Check if they are all right." Mary tries to open them, but it's not possible. Rosi helps Mary. "These files are produced on a Mac and they are named wrong. You can't open them on a PC. But there are some more problems concerning data exchange between Mac and PC."

How to transfer DTP files
between Macintosh and PC

Introduction

1 If you plan to regularly exchange DTP files between Macintosh and Windows, you obviously have to choose a program existing on both
5 platforms, like the following programs: Quark Xpress, InDesign and PageMaker. Further to that, the three main points you should consider are:

• Fonts
10 • Graphics
• Filenames

Fonts

The fonts used on the source computer must exist
15 on the target computer. If it is not the case, there are some font transfer solutions, but they can't save all problems, mainly reflow problems (for an example, a main title on one line on the Mac reflows to two lines on the PC).
20 More, there is a strong consens amongst DTP professionals to only use Postscript fonts (Type 1) and not True Type. This could change with the recent agreement between Adobe and Microsoft about the new Open Type standard. Anyway,
25 there could be a pretty long transition period, as many users will want to protect their huge investments in fonts.

Problems often occur when a Type 1 font bears the same name as a True Type font. More, some True Type fonts are not coded with a great care.
30 For the time being, the real solution is to define a set of Type 1 fonts existing on both platforms, preferably from the same vendor, and to stick with it. Some vendors propose fonts CD on Mac and PC. You should consider these offers.
35

Graphics

The main problems with included graphics come from two formats: Pict files from the Macintosh and WMF (Windows metafiles) from the PC
40 (sometimes also from BMP files). All DTP professionals agree using only Tiff files (bitmap graphics) or EPS files (vector graphics). You will also avoid problems using uncompressed files.
45

Filenames

When you create DTP files on the Macintosh, you should be aware that if your files are to be opened under Windows, there are still more "illegal" characters on the PC side than on the Macintosh
50 (which only prohibits ':'). Think it twice before using bullets, slashes, '<', '>', '©', etc.
In the other direction, the file length is still limited to 31 characters. More, if the files are to be put on