



INGLÊS INSTRUMENTAL

Contents

CAPÍTULO 1	3
1.0 O QUE É INGLÊS INSTRUMENTAL?	3
1.2 Como funciona o inglês instrumental	4
CAPÍTULO 2	5
2.0 Falsos Cognatos (False Friends)	5
Exercises	8
2.1 Ambigüidade Lexical	9
Exercises	11
CAPÍTULO 3	12
3.0 Técnicas de Leitura	12
3.1 Instrumental Prediction	12
3.2 Typographical Evidences	13
Exercises	14
3.3 Dictionary	16
3.3.1 Como usar um dicionário	16
Verbos	17
3.4 Repeated Words	18
CAPÍTULO 4	21
4.0 Estratégias de Leitura	21
4.1 Skimming	21
4.2 Scanning	26
4.2.1 Keywords (palavras-chave)	26
4.2.2 Mapa Mental	26
4.2.3 Anotações	26
4.3 Buscando informações específicas	27
Exercise	28

CAPÍTULO 1

1.0 O QUE É INGLÊS INSTRUMENTAL?

O inglês instrumental consiste, como a própria palavra denota, no treinamento instrumental dessa língua. É também conhecido como Inglês para Fins Específicos e tem como objetivo principal capacitar o aluno, num período relativamente curto, a ler e compreender o essencial para o desempenho de determinada atividade. O arcabouço metodológico no qual o ensino de inglês instrumental está fundamentado é em boa parte resultado de mais de vinte anos de pesquisas realizadas pelo Conselho Britânico com apoio do Ministério da Educação e colaboração de lingüistas ingleses e brasileiros, principalmente da Universidade de São Paulo (USP) e da Pontifícia Universidade Católica de São Paulo (PUC-SP).

Como destaca o Professor Décio Torres Cruz no seu artigo intitulado “Ensino/aprendizagem de inglês instrumental na universidade”, publicado na Revista **New Routes**, número 15, de outubro de 2001, é indiscutível a importância do conhecimento da língua inglesa nos cursos universitários atuais. Considerando a competitividade do mercado e a necessidade de atualização constante de informações científicas e tecnológicas e as dificuldades das traduções de artigos, livros e outras publicações em tempo hábil, ou seja, com a mesma velocidade em que são escritas, as universidades resolveram mudar o enfoque do ensino de inglês como língua estrangeira, passando do estudo sistemático de vocabulário e regras gramaticais para um estudo mais abrangente de textos autênticos retirados das próprias fontes de informação. Essa nova forma de ler textos em inglês envolve estratégias de leitura, tais como: fazer previsões do conteúdo do texto a partir da análise de títulos, gráficos e ilustrações e do acionamento do conhecimento de mundo e conhecimento prévio do assunto pelo leitor, concentrar a atenção nas palavras cognatas e deduzir o significado de palavras desconhecidas a partir do contexto, procurar informações específicas ou fazer uma leitura rápida para verificar a idéia central do texto sem se preocupar com o conhecimento isolado de cada palavra ou com vocábulos desconhecidos, etc. Denominado de inglês instrumental, essa nova abordagem geralmente não inclui o estudo da língua falada, somente a escrita, já que o seu objetivo primordial é preparar os alunos para a habilidade da leitura e não para a comunicação oral. Os resultados têm sido eficazes onde esta metodologia tem sido empregada.

1.1 Breve história do ensino do inglês instrumental no Brasil

Segundo o Professor Décio Torres Cruz, historicamente o enfoque dado à leitura dentro do processo de ensino-aprendizagem de língua estrangeira tem variado de acordo com a corrente metodológica em voga. Até o final da década de 40, esse processo estava centrado na leitura e tinha por base o método do ensino da gramática e da tradução. A partir e por causa da Segunda Guerra Mundial, desenvolveu-se o método audio-lingual baseado nas teorias behavioristas em voga na época, com o propósito de ensinar línguas européias aos soldados americanos que partiam para o campo de batalha.

Com o desenvolvimento desse método, a leitura foi praticamente ignorada, tendo sido, inclusive, considerada prejudicial à aquisição de uma boa pronúncia quando apresentada ao aprendiz antes que este tivesse adquirido fluência oral. O objetivo da leitura era o domínio de habilidades e fatos isolados através da decodificação mecânica de palavras e da memorização pela repetição. O aprendiz possuía um papel passivo, de um instrumento receptor de conhecimentos vindo de fontes externas. Com o desenvolvimento das ciências cognitivas, essa idéia foi aos poucos sendo reavaliada. Os objetivos da leitura passam a ser a construção de significados e o aprendizado auto-regulado. O processo de leitura é concebido como uma interação entre o leitor, o texto, e o contexto; o leitor passa a ser visto como um sujeito ativo, um bom usuário de estratégias e um aprendiz cognitivo. Com base nesses pressupostos, os pesquisadores de leitura acreditam que o significado não está contido nas palavras na página. O leitor constrói significados, fazendo inferências e interpretações. A informação é armazenada na memória de longo-prazo em estruturas de conhecimento organizadas. A essência da aprendizagem constitui em ligar novas

informações ao conhecimento prévio sobre o tópico, a estrutura ou o gênero textual e as estratégias de aprendizagem. A construção de significados depende, em parte, da metacognição, da habilidade do leitor de refletir e controlar o processo de aprendizagem (planejar, monitorar a compreensão, e revisar os usos das estratégias e da compreensão); e das suas crenças sobre desempenho, esforço e responsabilidade. A leitura vem, justificadamente, readquirindo posição de destaque no ensino de línguas: ela é fonte de diversos tipos de informação sobre a língua estrangeira, o povo que a fala e sua cultura, além de ser o contexto ideal para a apreensão de vocabulário e sintaxe em contextos significativos, permitindo ao aprendiz mais tempo para a resolução de problemas e a assimilação das novas informações apresentadas. A leitura, portanto, é fundamental ao aperfeiçoamento das demais habilidades e à expansão do conhecimento. Assim, o número de estudos sobre a leitura e os seus múltiplos aspectos cresceu muito nas últimas décadas, principalmente após os desenvolvimentos da análise do discurso. Nessa linha, destacam-se os estudos centrados na aquisição e no processamento da leitura, na teoria de esquemas e nas estratégias de leitura para o uso instrumental da língua.

O Inglês Instrumental surgiu no final da década de 70 a partir da demanda feita aos departamentos de Letras Anglo-Germânicas ou de Línguas Modernas por cursos de inglês especializados para vários departamentos de ciências pura e aplicada. Originalmente, o Inglês Instrumental foi concebido e conhecido internacionalmente como “ESP” (English for Specific Purposes, ou seja, “Inglês para Propósitos Específicos”), onde a finalidade da leitura era direcionada para as diferentes áreas de atuação do aluno, e era geralmente voltada para ciência e tecnologia. Em algumas universidades, essa disciplina era oferecida como Inglês Técnico. O objetivo era a leitura, interpretação e compreensão de textos e não a conversação ou tradução integral dos textos estudados. Com o passar do tempo, a técnica ESP passou a ser denominada de Inglês Instrumental e adquiriu um enfoque mais geral naquilo que se refere à escolha dos textos por área específica. Vem sendo utilizado não só em universidades, mas também em escolas técnicas, em cursos preparatórios para leitura de textos de vestibular, de concursos públicos, em algumas escolas de primeiro e segundo grau e também em cursos preparatórios para candidatos à seleção aos cursos de Mestrado e Doutorado.

1.2 Como funciona o inglês instrumental

A metodologia do inglês instrumental tem como premissa básica levar o aluno a descobrir suas necessidades acadêmicas e profissionais dentro de um contexto autêntico, oriundo do mundo real. Portanto, o curso típico de inglês instrumental é elaborado a partir do levantamento de situações em que o conhecimento específico da língua inglesa permite ao aluno desempenhar melhor uma função lingüística específica.

No caso do funcionário que lida com clientes estrangeiros, para poder orientá-los devidamente, esse funcionário necessitará conhecer suficientemente ou o idioma nativo do cliente ou um terceiro idioma (geralmente uma língua franca de projeção mundial como o inglês ou o espanhol) que o cliente também fale. Com o conhecimento básico dessa língua e a prática do vocabulário específico, o funcionário poderá se comunicar e fazer um atendimento significativamente melhor do que se o mesmo não tivesse esse conhecimento lingüístico.

Profissionais que trabalham com relatórios, pareceres, manuais, artigos e textos em língua estrangeira aprendem estratégias para facilitar a leitura e compreensão, sem que seja necessária a tradução na íntegra.

Pesquisas demonstram que o ensino de uma língua estrangeira orientada para o desenvolvimento de habilidades específicas tem apresentado excelentes resultados. Aumenta a motivação do aluno pelo rápido aprendizado, tornando-o auto-suficiente para o desempenho de suas funções e incentivando-o a buscar o seu próprio desenvolvimento e aperfeiçoamento.

CAPÍTULO 2

2.0 Falsos Cognatos (False Friends)

Também chamados de falsos amigos, os falsos cognatos são palavras normalmente derivadas do latim, aparecendo em diferentes idiomas com ortografia semelhante, mas que ao longo dos tempos acabaram adquirindo significados diferentes. Essas palavras causam confusão nos estudantes de qualquer língua estrangeira, fazendo com que os mesmos façam analogias com palavras parecidas em língua portuguesa, induzindo ao erro.

Mas não existe nenhum motivo real para se preocupar com os falsos cognatos. Eles correspondem a uma parcela mínima das palavras em inglês. Contudo, procure não acreditar em “fórmulas mágicas” para se aprender as palavras via cognatos. A seguir, uma tabela para facilitar o reconhecimento dos falsos cognatos.

EM INGLÊS	SIGNIFICA EM PORTUGUÊS	MAS PARECE SER	QUE EM INGLÊS É
ACTUAL	REAL	ATUAL	PRESENT
ACTUALLY	NA VERDADE	ATUALMENTE	NOWADAYS, TODAY
ADVERTISE	ANÚNCIO	ADVERTIR	WARN
ALUMNUS	EX-ALUNO	ALUNO	PUPIL
AMASS	ACUMULAR	AMASSAR	WRINKLE, DENT. CRUSH
APPLICATION	INSCRIÇÃO	APLICAÇÃO	INVESTMENT
APPOINTMENT	HORA MARCADA	APONTAMENTO	NOTE
ARGUMENT	DISCUSSÃO	ARGUMENTO	REASONING
ASSIST	AJUDAR	ASSISTIR	ATTEND
ATTEND	FREQUENTAR	ATENDER	ANSWER, SERVE
AUDIENCE	PLATÉIA, PÚBLICO	AUDIÊNCIA	COURT APPEARANCE
AVAILABLE	DISPONÍVEL	AVALIAR	EVALUATE
BALCONY	SACADA	BALCÃO	COUNTER
BARRACS	QUARTEL	BARRACA	HUT. TENT
BATON	BATUTA, CACETETE	BATOM	LIPSTICK
BEEF	CARNE DE GADO	BIFE	STEAK
BOND	LACO. LIGAÇÃO	BUNDE	STREERCAR, TRAM
CAFETERIA	REFEITÓRIO	CAFETERIA	COFFEE SHOP
CAMERA	MÁQ. FOTOGRÁFICA	CÂMARA	CHAMBER, TUBE
CARTON	CAIXA DE PAPELÃO	CARTÃO	CARD
CASUALTY	FATALIDADE	CASUALIDADE	CASUALNESS
CIGAR	CHARUTO	CIGARRO	CIGARETTE
COLLAR	GOLA, COLARINHO	COLAR	NECKLACE
COLLEGE	FACULDADE	COLÉGIO	HIGH SCHOOL
COMMODITY	ARTIGO, MERCADORIA	COMODIDADE	COMFORT
COMPASS	BÚSSOLA	COMPASSO	A PAIR OF COMPASSES
COMPETITION	CONCORRÊNCIA	COMPETIÇÃO	CONTEST
COMPREHENSIVE	COMPLETO, TOTAL	COMPREENSIVO	UNDERSTANDING
CONDUCTOR	COBRADOR	CONDUTOR	DRIVER
CONTEST	CONCORRÊNCIA, CONCURSO	CONTEXTO	CONTEXT
CONVENIENT	PRÁTICO	CONVENIENTE	APPROPRIATE
CONVICT	CONDENADO	CONVICTO	CERTAIN
COSTUME	ROUPA, FANTASIA	COSTUME	CUSTOM. HABIT
DATA	DADOS, INFORMAÇÕES	DATA	DATE
DECEPTION	LOGRO, FRAUDE	DECEPÇÃO	DISAPPOINTMENT

DECORATE	DECORAR(ORNAMENTAR)	DECORAR(SABER DE COR)	MEMORIZE
DEFENDANT	RÉU	DEFENDER	DEFEND
DESIGN	PROJETO, CRIAÇÃO, ESTILO	DESIGNAR	APPOINT
DISGUST	NÁUSEA	DESGOSTO	GRIEF
DIVERT	DESVIAR	DIVERTIR	ENJOY
EDITOR	REDATOR	EDITOR	PUBLISHER
EDUCATED	INSTRUÍDO	EDUCADO	POLITE
EMISSION	DESCARGA	EMISSÃO	ISSUE
ENROLL	ALISTAR-SE	ENROLAR	CURL
ESTATE	PROPRIEDADE, IMÓVEL	ESTADO	STATE
EXCITING	EMPOLGANTE	EXCITANTE	THRILLING
EXIT	SAÍDA	ÊXITO	SUCCESS
EXPERT	PERITO	ESPERTO	SMART
EXQUISITE	APURADO	ESQUISITO	WEIRD
FABRIC	TECIDO	FÁBRICA	FACTORY
FAMILIAR	CONHECIDO	FAMILIAR	MEMBER OF THE FAMILY
FILE	ARQUIVO	FILA	LINE, QUEUE
GRIP	AGARRAR FIRME	GRIPE	COLD
INCOME TAX RETURN	DECLARAÇÃO DE IMPOSTO DE RENDA	DEVOLUÇÃO DE IMPOSTO DE RENDA	INCOME TAX REFUND
INGENIOUS	CRIATIVO, ENGENHOSO	INGÊNUO	NAIVE
INGENUITY	ENGENHOSIDADE	INGENUIDADE	NAIVETY
INJURY	FERIMENTO	INJÚRIA	INSULT
INSCRIPTION	RAVAÇÃO EM RELEVO	INSCRIÇÃO	APPLICATION
INTEND	PRETENDER	ENTENDER	UNDERSTAND
INTOXICATION	EMBRIAGUEZ	INTOXICAÇÃO	POISONING
INTRODUCE	APRESENTAR	INTRODUZIR	INSERT
JOURNAL	PERIÓDICO	JORNAL	NEWSPAPER
JUST	NUM DADO MOMENTO, APENAS	JUSTO(APERTADO - DE JUSTEZA)	TIGHT
LAMP	LUMINÁRIA	LÂMPADA	LIGHT BULB
LARGE	GRANDE	LARGO	WIDE
LECTURE	PALESTRA	LEITURA	READING
LEGEND	LENDA	LEGENDA	SUBTITLE
LIBRARY	BIBLIOTECA	LIVRARIA	BOOKSTORE
LUNCH	ALMOÇO	LANCHE	SNACK
LUXURY	LUXO	LUXÚRIA	LUST
MAGAZINE	REVISTA	MAGAZINE	DEPARTMENT STORE
MANAGE	ADMINISTRAR, CONSEGUIR	MANEJAR	HANDLE
MAYOR	PREFEITO	MAIOR	BIGGER
MOISTURE	UMIDADE	MISTURE	MIXTURE
MOROSE	RABUGENTO	MOROSO	SLOW
NOTICE	PERCEBER	NOTÍCIA	NEWS
NOVEL	ROMANCE	NOVELA	SOAP OPERA
OFFICE	ESCRITÓRIO	OFICIAL	OFFICIAL
ORDINARY	COMUM	ORDINÁRIO	VULGAR
ORE	MINÉRIO	OURO	GOLD
PARENTS	PAIS	PARENTES	RELATIVES
PARTICULAR	ESPECÍFICO	PARTICULAR	PRIVATE
PASTA	MASSA	PASTA	FOLDER, PASTE
PHYSICIAN	MÉDICO	FÍSICO	PHYSICAL
POLICY	POLÍTICA, NORMA	POLÍCIA	POLICE
PORT	PORTO	PORTA	DOOR
PORTER	CARREGADOR	PORTEIRO	DOORMAN
PREJUDICE	PRECONCEITO	PREJUÍZO	DAMAGE
PRESCRIBE	RECEITAR	PRESCREVER	EXPIRE
PRESENTLY	LOGO, EM BREVE	PRESENTEMENTE	NOW
PRETEND	FINGIR	PRETENDER	INTEND
PREVENT	IMPEDIR	PREVENIR	WARN
PROCURE	CONSEGUIR, ADQUIRIR	PROCURAR	LOOK FOR

PROFESSOR	PROFESSOR DE UNIVERSIDADE	PROFESSOR	TEACHER
PROPAGANDA	DIVULGAÇÃO DE IDÉIAS	PROPAGANDA	ADVERTISE- MENT
PROPER	APROPRIADO, ADEQUA- DO	PRÓPRIO	OWN
PULL	PUXAR	PULAR	JUMP
PUSH	EMPURRAR	PUXAR	PULL
RANGE	VARIAR. COBRIR	RANGER	CREAK, GUAR- DA FLORESTAL
REALIZE	PERCEBER	REALIZAR	ACCOMPLISH
RECLAIM	RECUPERAR	RECLAMAR	COMPLAIN
RECORD	GRAVAR. DISCO	RECORDAR	REMEMBER, RECALL
REPORT	RELATÓRIO	REPÓRTER	REPORTER
REQUIREMENT	REQUISITO	REQUERIMENTO	REQUEST, PETI- TION
RESPIRE	INTERVALO. PAUSA	RESPEITO	RESPECT
RESUME	RECOMEÇAR	RESUMIR	SUMMARIZE
RÉSUMÉ	CURRÍCULO	RESUMO	SUMMARY
RETIRE	APOSENTAR	RETIRAR	WITHDRAW
SCHOLAR	ERUDITO. LETRADO	ESCOLAR	SCHOOLBOY
SENSIBLE	SENSATO	SENSIVEL	SENSITIVE
SORT	ESPÉCIE. ESCOLHER	SORTE	LUCK
STABLE	FIRME. ESTÁVEL	ESTÁBULO	BARN
STRANGER	DESCONHECIDO	ESTRANGEIRO	FOREIGNER
STUPID	BURRO	ESTÚPIDO	RUDE
SUPPORT	SUSTENTAR. APOIAR	SUPORTAR	BEAR, STAND, TOLERATE
SYMPATHETIC	COMPREENSIVO, SOLI- DÁRIO	SIMPÁTICO	NICE, PLEA- SANT, FRIEN- DLY
TAX	IMPOSTO	TAXA	FEE
TEMPER	TEMPERAMENTO. GÊNIO	TEMPERO	CONDIMENT
TENANT	INQUILINO	TENENTE	LIEUTENANT
TENTATIVE	PROVISÓRIO	TENTATIVA	ATTEMPT. TRY
TURN	VEZ. VOLTA	TURN	SHIFT
TUTOR	PROFESSOR PARTICULAR	TUTOR	GUARDIAN
UNIQUE	DIFERENTE. SEM IGUAL	ÚNICO	THE ONLY ONE
USE	UTILIZAR. USAR	USAR (VESTIR)	WEAR
VEGETABLES	VERDURAS. LEGUMES	VEGETAIS	PLANTS
VINE	VINHA. VIDEIRA	VINHO	WINE
VOYAGE	VIAGEM DE BARCO, NAVE ESPACIAL	VIAGEM	JOURNEY, TRIP, TRAVEL

Exercises

1. Encontre os falsos cognatos no texto abaixo, destacando-os:

A DAY AT WORK

In the morning I attended a meeting between management and union representatives. The discussion was very comprehensive, covering topics like working hours, days off, retirement age, etc. Both sides were interested in an agreement and ready to compromise. The secretary recorded everything in the notes. Eventually, they decided to set a new meeting to sign the final draft of the agreement.

Back at the office, a colleague of mine asked me if I had realized that the proposed agreement would be partially against the company policy not to accept workers that have already retired. I pretended to be really busy and late for an appointment, and left for the cafeteria. Actually, I didn't want to discuss the matter at that particular moment because there were some strangers in the office.

After lunch I attended a lecture given by the mayor, who is an expert in tax legislation and has a graduate degree in political science. He said his government intends to assist welfare programs and senior citizens, raise funds to improve college education and build a public library, and establish tougher limits on vehicle emissions because he assumes this is what the people expect from the government.

2. Leia o seguinte diálogo e responda:

One Brazilian and one American are meeting in a coffee shop.

AMERICAN – Hello, my friend!

BRAZILIAN – Good afternoon.

AMERICAN – How are you, man?

BRAZILIAN – I'm disgust with my girlfriend.

AMERICAN – So what? Can you repeat? I don't understand.

Por que o americano não entendeu o que o brasileiro disse?

2.1 Ambigüidade Lexical

A ambigüidade lexical acontece quando uma palavra possui mais de um significado possível. Esses significados são todos contextuais, que variam de situação para situação. Não há como listar todas as ambigüidades lexicais, devendo o leitor estar muito atento a esse detalhe quando efetuar a leitura do texto escrito. Abaixo alguns exemplos dessa ambigüidade:

Inglês	Primeiro significado	Segundo significado
Abstract	Abstrato	Resumo
Affiliate	Filiar-se	Determinar Paternidade
Affluent	Afluente	Rico
Ambulant	Paciente de Ambulatório	Capaz de Caminhar
Apology	Apologia	Desculpas
Application	Aplicação	Requerimento
Apply	Aplicar	Inscriver-se
Argument	Argumento	Discussão
Arm	Arma	Braco
Bachelor	Bacharel	Solteiro
Balance	Balança	Equilíbrio
Ball	Bola	Baile, Bala (projétil)
Bar	Bar	Barra
Bat	Bastão de beisebol	Morcego
Cancel	Cancelar	Carimbar
Capital	Capital	Maiuscula
Case	Caso	Estojo
Cell	Célula	Cela
Character	Caráter	Personagem, caractere
China	China	Porcelana
Class	Classe	Aula
Classified	Classificado	Confidencial
Club	Clube	Taco de golfe
Coll	Fresco	Legal
Collect	Colecionar	Cobrar, coletar
Compass	Compasso	Bússola
Confirmed	Confirmado	Inveterado
Consistent	Consistente	Compatível
Content	Contente	Conteúdo
Date	Date	Tâmara, Encontro
Directory	Diretoria	Lista telefônica
Easy	Fácil	Em Paz / Confortável
Effective	Efetivo	Verdadeiro
Entertain	Entreter	Receber visitas
Faculty	Faculdade (mental)	Corpo Docente
Figure	Figura	Número
Fix	Fixar	Consertar
General	General	Geral
Individual	Individual	Indivíduo
Interest	Interesse	Juros
Just	Justo	Apenas
Legend	Legenda	Lenda
Letter	Letra	Carta
Match	Ligar (Relacionar)	Partida (Jogo)
Major	Major	Principal
Manifest	Manifesto	Obvio
Mark	Marca	Nota
Mass	Massa	Missa
Matter	Materia	Assunto
Medicine	Medicina	Remédio
Move	Mover	Mudar
Observe	Observar	Celebrar
Official	Oficial	Autoridade
Oil	Óleo	Petroleo
Operator	Operador	Telefonista
Order	Ordem	Pedido
Park	Parque	Estacionar
Period	Período	Menstruação
Plant	Planta	Fabrica
Principal	Principal	Diretor da escola
Pupil	Pupila	Aluno
Race	Raça	Corrida
Rare	Raro	Mal passado (carne)
Record	Recorde	Gravar
Rest	Resto	Descansar
Retire	Retirar	Aposentar
Roll	Rolo	Lista

Save	Salvar	Economizar
Scale	Escala	Balança
Sequel	Sequela	Sequência
Spectacles	Espetáculos	Oculos
Spirits	Espiritos	Bebida alcoólica
Story	Estória	Pavimento, andar
Subject	Sujeito	Assunto
To Play	Jogar/ Brincar	Tocar / Imitar
Turkey	Turquia	Peru
Vice	Vice	Vício

Exercises

A) Assinale o significado correto das palavras em destaque nas sentenças:

1) I need to **cancel** your documents.

() cancelar () carimbar

2) She is the **principal** of the school.

() diretora () principal

3) His **mark** was terrible.

() marca () nota

4) The **operator** (a) gave me the wrong number of the **plant** (b).

a- () operador () telefonista

b- () planta () fábrica

5) We are lost. We need a **compass** now.

() bússola () compasso

6) He is the most famous **bachelor** of the party.

() bacharel () solteiro

7) Do you know the **capital** (a) of **China** (b)?

a- () capital () principal

b- () porcelana () China

8) Brasilia is the **capital** of Brazil.

() capital () maiúscula

9) I use **capital** letter to write my name.

() capital () maiúscula

10) I appreciate Chinese **china**.

() porcelana () China

11) John **collects** caps.

() coleciona () cobrou

B) Dê os respectivos significados das palavras repetidas em cada segmento:

1) a) Mike is not married. He is a **bachelor**.

b) He finished the college last year. Now, he is a **bachelor** in Biology.

2) We have a **directory** in order to look for the telephone numbers of the students. This **directory** is in the **di-rectory** of the school.

3) The **character** of this film has a bad **character**.

4) You have to write the names of the **capitals** with **capital** letters.

CAPÍTULO 3

3.0 Técnicas de Leitura

Até agora passamos apenas pela parte vocabular do inglês instrumental. Essa capítulo trata de algumas técnicas para uma leitura eficiente. Elas devem ser usadas em conjunto para que, assim, permitam uma compreensão geral do texto e facilite muito a busca de informações no mesmo.

3.1 Instrumental Prediction

Significa inferir o conteúdo de um texto através de seu conhecimento prévio sobre o tema (background); através do contexto semântico (palavras de um mesmo grupo, por exemplo: *hospital, nurse, doctor, ambulance*); contexto lingüístico (pistas gramaticais); contexto não-lingüístico (gravuras, gráficos, tabelas, números, etc.); conhecimento sobre estrutura do texto (layout, título, subtítulo, divisão de parágrafos, etc.).

Em geral se faz uma previsão do texto, sem necessariamente ter lido o mesmo, como no exemplo abaixo:

YANKEES 14, ANGELS 9

Two Rallies, and No Need for More

By JOSHUA ROBINSON

Published: August 4, 2008

After scrambling out of the dirt at third base, the Yankees' Justin Christian whipped off his helmet and broke for home. Angels catcher Jeff Mathis had tried to prevent him from stealing third, but his throw rolled into left field. Christian, who came in as a pinch-runner on a full count, saw his chance.



John Dunn for The New York Times

Alex Rodriguez, left, with Xavier Nady, whose three-run homer in the seventh gave the Yankees an 8-5 lead. The Angels took a 9-8 lead in the eighth.

When he crossed the plate, he scored the tying run, the first of six runs in a wild eighth inning of an even wilder game. The Yankees fought back from a five-run deficit, then rallied again after an Angels grand slam to win, 14-9, in front of 54,204 mostly ecstatic fans at Yankee Stadium.

Christian, who added a run-scoring single later in the eighth, "did an unbelievable job," Manager Joe Girardi said. "He created runs all by himself, and that's why we like having him."

After four innings, the Yankees trailed, 5-0, because of Darrell Burner's miserable start. Three innings later, lifted

Sem ler, o que é possível ser dito acerca do texto? Primeiramente, olhando a estrutura, temos um título grande, seguido pelo nome de alguém, possivelmente o autor e a data.

Então deve ser algum artigo de jornal. A imagem de um jogador nos remete a idéia de que deve ser da coluna de esportes, possivelmente de um jogo, pois há, antes do título, algo que aparece ser o resultado do mesmo.

Então conseguem perceber como só observando o texto é possível extrair dele algumas informações que podem vir a ser úteis na sua leitura? Se você conhecer a respeito de baseball, vai saber que se tratam de dois times norte-americanos, uma vez que nos EUA o esporte é muito famoso. Vai reconhecer o esporte olhando meramente para a ilustração. Em outros casos, uma pesquisa básica revelaria essas informações ou mesmo uma leitura rápida em algumas linhas.

3.2 Typographical Evidences

Um segundo passo importante é analisar a tipografia do texto, seus pontos e como as palavras estão dispostas. Também envolve palavras em negrito, itálico, sublinhadas e símbolos utilizados. É parecido com a técnica anterior, contudo, requer uma análise mais voltada a forma escrita.

CHIP – protection by information
CHIP refers to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. These are sometimes also known as CHIP3.

Pelo exemplo acima, usando a evidência tipográfica, conseguimos ver que o nome maior se trata do título do texto, por estar com fonte diferenciada, maior e em negrito. Abaixo vem a explicação, uma vez que repete parte do que foi colocado no título acima e os parêntesis ajudam a explicar alguma coisa relativa ao período. CHIP aparece em maiúscula, então possivelmente é importante para a compreensão do texto que seguirá.

Exercises

1. Sem o uso do dicionário e sem ler o texto, diga do que se trata o trecho abaixo:

Fairfax Digital
NEWS | MYCAREER | DOMAIN | DRIVE | FINANCE | MOBILE | RSVP | TRAVEL | WEATHER
network map | member centre

smh.com.au
The Sydney Morning Herald

News Entertainment Life & Style Business Sport Travel Tech Other Sections
Classifieds Jobs Cars Real Estate RSVP

Home » US Election » Article
Search here... GO

Race remains political wild card

August 3, 2008

By accusing Barack Obama of playing the race card, John McCain hopes to shuffle the deck in a White House campaign that is scarcely begun, much less settled.

In so doing, the Republican made at least two political calculations.

He risked at least temporarily overshadowing a tough ad his campaign had unleashed depicting Obama as a celebrity in the Paris Hilton mold.

And by challenging Obama directly, he chose a course that Hillary Rodham Clinton shied away from in her losing campaign for the Democratic nomination, presenting the most serious black presidential candidate in history with a charge he






Latest related coverage



McCain ad mocks 'celeb' Obama
Video: John McCain's attack ad likening Barack Obama to celebrities like Britney Spears and Paris Hilton.



Obama wows 200,000 people
Video: Massive crowd gathers to hear Democratic presidential candidate speak in Berlin, Germany.



US media in love with Obama?
Video: The McCain camp thinks so - and released this video mash-up to prove it.



Clinton concedes
Multimedia: Hillary Clinton concedes



Why new music sounds so bad
Noise Pollution: It's not the performers, writes Stephen Walker. Blame the recording engineers.
Swans finals setback Previous | Next

TODAY'S TOP 10 ARTICLES

1. Carnage in paradise as boyfriend beheads lover
2. Till debt do us part: a rude shock for de factos
3. Police catch the mysterious Rockefeller who never was
4. Cold case squad renew dig for baby Tegan
5. Indian taxi drivers face death for killing Australian
6. Family forgets four-year-old at airport
7. Red-carded footballer sees red mist
8. Voyage into the Arctic as summer ice vanishes
9. Film director fires up speculation about Minogue

2. Olhando apenas para a escrita do texto, tente extrair dele algumas informações:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

3.3 Dictionary

O uso de um dicionário ajuda muito na compreensão de um texto. Contudo, devemos evitar algumas coisas. Primeiro, não se faz tradução literal, por não ser o nosso objetivo. Segundo, deve ser utilizado caso se desconheça totalmente a palavra e não se consiga usar as técnicas apresentadas acima, devendo contextualizar a palavra. Exemplo:

“A fallacy is a kind of error in reasoning. The alphabetical list below contains 176 names of the most common fallacies, and it provides explanations and examples of each of them. Fallacies should not be persuasive, but they often are. Fallacies may be created unintentionally, or they may be created intentionally in order to deceive other people. The vast majority of the commonly identified fallacies involve arguments, although some involve explanations, or definitions, or other products of reasoning.”

Se fossemos, por exemplo, pesquisar a definição da palavra “be”, segundo o dicionário Michaelis, teríamos:

be
[bi:] v *aux* (*ps was, pl were, pp been*). **1** ser, existir, viver, ser realidade. *it is mine, his* / é meu, seu. *it is my father's* / pertence a meu pai. *she is everything to me* / ela é tudo para mim. **2** ter lugar, acontecer, realizar-se. *when is it to be?* / quando será? **3** permanecer, ficar, continuar. **4** igualar, representar, significar. **5** estar, encontrar-se. *to be at work* / estar no trabalho. *to be busy* / estar ocupado. *to be careful* / ser cuidadoso. *to be in a hurry* / estar com pressa. *he is at the advanced group* / ele é do grupo dos adiantados. **6** visitar. • *interj* **be!** seja!

Excluindo algumas expressões, como saber o sentido correto dessa palavra?

Lendo atentamente, com um pouco de calma, chega-se ao verbo “ser” e completa-se o sentido.

Isso ressalta a importância do contexto em toda e qualquer leitura de inglês instrumental, pois é através dela, na maioria das vezes, que se chega ao significado de palavras que desconhecemos e que nos deixaria em dúvidas quando formos atrás dela no dicionário.

3.3.1 Como usar um dicionário

A **primeira regra fundamental** sobre o uso do dicionário na leitura é que ele deve ser usado esporadicamente. Na leitura tradicional, com texto impresso em papel, a consulta feita ao dicionário é extremamente obstrutiva. O leitor precisa interromper totalmente a leitura, mover-se para um outro texto e iniciar um outro tipo de leitura, geralmente precedida de uma busca em várias páginas, até achar a palavra que procura, num verbete com maior ou menor grau de complexidade. Lido o verbete, faz a viagem de volta ao texto original, onde vai ter que se localizar novamente, provavelmente relendo partes do texto até o ponto onde ocorreu a interrupção. A consulta ao dicionário, portanto, só é aceita como último recurso, quando todas as demais estratégias de construção do sentido falharem.

Existe também a questão do tipo de dicionário. Deixando de lado os dicionários especializados, como aqueles voltados para áreas específicas de conhecimento (dicionários estatísticos, filosóficos, etimológicos, ortográficos, regionais, de termos porto-alegrenses, etc.), temos basicamente quatro tipos: (1) **dicionário monolíngüe**, voltado para as necessidades dos falantes nativos, com ênfase nas palavras menos freqüentes ou acepções mais raras; (2) **dicionário bilíngüe**, com uma preocupação maior nas palavras mais freqüentes e expressões idiomáticas pelos problemas de polissemia que podem apresentar; (3) **dicionário de aprendizagem**, com inúmeros exemplos de uso da língua, e que servem tanto para atividades de leitura como de produção textual; e finalmente (4) os **dicionários mistos**, que reúnem as características do bilíngüe e do dicionário de aprendizagem. Um exemplo deste

último tipo é o Longman English Dictionary for Portuguese Speakers (Konder, 1983).

Há dicionários que podem oferecer uma ajuda maior ou menor ao leitor de um texto em língua estrangeira. Um dicionário monolíngüe, feito para leitores nativos, provavelmente será menos útil do que um dicionário de aprendizagem, com inúmeros exemplos de uso. No caso específico da leitura em língua estrangeira, um dicionário bilíngüe de bolso, provavelmente será mais útil do que um dicionário monolíngüe de aprendizagem.

Você pode notar que podemos encontrar:

- A representação fonética das palavras
- Abreviaturas
- Significado das palavras
- Classe gramatical das palavras

Veja o exemplo seguinte e responda:

1. Qual é a representação fonética da palavra “**look**”?
2. Quantos significados ela pode ter como substantivo? E como verbo?
3. Qual é a primeira expressão mencionada?
4. Qual é o significado de “**to look for**”?

Verbos

Quando você procura um verbo no dicionário geralmente encontra a base do verbo, por exemplo: look, work, teach. Mas, quando lemos textos encontramos os verbos sob diferentes formas: looking, worked, teaches. Quando o verbo é irregular encontramos a seguinte explicação no dicionário: Fell/fel/ v. passado de fall. Assim, terá que procurar o verbo na sua forma base (fall), para encontrar a definição da palavra.

Observe os seguintes exemplos em Português e Inglês. Quais as semelhanças na forma de utilização das palavras no Português e no Inglês?

1. Ele apagou as **velas**.
2. Tenho que limpar as **velas** do carro.
3. O marinheiro levantou as **velas** do barco.
4. Eu não vou ao cinema com eles porque detesto segurar **vela**.

É claro que o contexto é sempre importante para a compreensão das palavras que têm vários significados diferentes. Em Inglês também o contexto é muito importante para a interpretação adequada dos vocábulos.

1. The waiter fills their **glasses** with champagne.
2. She went to the optician for a new pair of **glasses**.
3. This window is made of **glass**.
4. I **like** computers.
5. OS2 operating system is **like** Ms DOS

Você precisa ter em mente que na leitura de textos técnicos você encontrará várias palavras em inglês que talvez já façam parte de seu vocabulário, mas que nesse contexto irão adquirir novos significados.

Abreviaturas mais comuns encontradas nos dicionários

f. feminino
m. masculino
m. pl = masculino plural
p.p. = particípio passado
pl = plural
pop. = popular
pref. = prefixo
prep. = preposição
pret. = pretérito
pron. = pronome
s. substantivo
s.pl = plural
sg. = singular
sup. = superlativo
v. = verbo
var. = variante de

Símbolos Comuns:

|| separação da categoria morfológica

≈ substitui a palavra de entrada (ou seja, a palavra que se está consultando)

Símbolos fonéticos: Formas de pronúncia

Vogais / Ditongos / Semivogais / Consoantes

Sinal ‘ que significa acentuação

Sinal : que significa prolongação

3.4 Repeated Words

Uma última técnica, muito importante, é o uso das palavras repetidas. Analisando qualquer texto em língua inglesa, é possível notar que algumas palavras se repetem e é importante notar isso.

É preciso também verificar se a palavra tem o mesmo significado dentro do texto, mesmo que ela se repita diversas vezes. Mas é uma pista de que ela, possivelmente, se trata de algum termo importante para o texto.

Em inglês costumam repetir muito os pronomes pessoais, por conta da estruturas subject+verb+complements (sujeito+verbo+complementos), sendo que toda oração deve ter um sujeito declarado.

Exercises

1 . Leia o texto a seguir:

Gas Cylinder Safety

Mishandled cylinders may rupture violently, release their hazardous contents or become dangerous projectiles. If a neck of a pressurized cylinder should be accidentally broken off, the energy released would be sufficient to propel the cylinder to over three-quarters of a mile in height.

A standard 250 cubic foot cylinder pressurized to 2,500 PSIG can become a rocket attaining a speed of over 30 miles per hour in a fraction of a second after venting from the broken cylinder connection.

Basic Safety:

If a cylinder is damaged, in poor condition, leaking, or the contents are unknown, contact your cylinder vendor. Have the vendor return the damaged cylinder to the manufacturer.

- Wear appropriate foot protection when engaged in moving or transporting cylinders.
- Sturdy shoes are a minimum.
- Steel toed shoes if required by your supervisor, instructor, or department.
- Proper personal protective clothing and equipment shall be worn.
- Always have an appropriate Material Safety Data Sheet (MSDS) available and be familiar with the health, flammability and reactivity hazards for the particular gas.

Cylinder Markings:

- Cylinders must be properly labeled, including the gas identity and appropriate hazards (e.g., health, flammability, reactivity).
- Cylinders have several stamped markings. The top mark is either a DOT or an ICC marking indicating pertinent regulations for that cylinder. The second mark is the serial number. Under the serial number is the symbol of the manufacturer, user, or purchaser. Of the remaining marks the numbers represent the date of manufacture, and retest date (month and year). A (+) **sign** indicates the cylinder may be 10% overcharged, and a star indicates a ten year test interval.

Font: <http://www.aboutsafety.com/article.cfm?id=1312> (Adaptado)

A: Do que fala esse texto?

B: Qual o significado da palavra **sign** no texto?

2. Leia o texto abaixo. Em seguida, escreva o que você compreendeu do mesmo, sem se importar com nenhuma tradução ou se não ficou parecido com o texto original.

PROMASK Full Face Mask

Promask, the new multi-function, full face mask provides unrivalled comfort and protection against a wide variety of respiratory hazards in major industrial applications.

Promask has many unique features as well as offering proven convenience and reliable performance. Its slimline modern design have strong wearer appeal.

Promask serves as a face piece

- utilitising the full range of Pro2000 filters,
- of a power-assisted respirator,
- of a compressed-air-line respirator Promask Combi or
- of a welding protector which can be used with filters, power-assisted or compressed-air-line supplies.

Approved to EN136 Class 3, the highest standard for safety!

Source: [P.S.P Marketing Sdn Bhd](http://www.psp.com.my/) (<http://www.psp.com.my/>)

CAPÍTULO 4

4.0 Estratégias de Leitura


Além das técnicas apresentadas no capítulo anterior, existem duas estratégias principais que você precisa conhecer: o **skimming** e o **scanning**.

4.1 Skimming

Consiste numa estratégia na qual se faz uma leitura superficializada do texto. Analisa-se tão somente um sentido geral, sem se ater a uma informação específica. São levantados apenas os aspectos gerais do texto e de sua leitura, para que com isso se tenha uma base para uma leitura mais aprofundada.

Leia então o texto que segue:

July's Poem of the Month
If Death is Kind



By Sara Teasdale (1884 - 1933)

Perhaps if Death is kind, and there can be returning,
 We will come back to earth some fragrant night,
 And take these lanes to find the sea, and bending
 Breathe the same honeysuckle, low and white.

We will come down at night to these resounding beaches
 And the long gentle thunder of the sea,
 Here for a single hour in the wide starlight
 We shall be happy, for the dead are free.

Primeiro, dando uma olhada, pode-se dizer que se trata de um poema, por conta da palavra **poem**, que abre o texto. Há alguma coisa que parecem versos, com orações incompletas em cada linha. Existem vírgulas ao final de cada verso, o que indica que não segue uma ordem sintática padrão.

Analisando os verdadeiros cognatos, tem a palavra **returning**, que é parecida com *retornar*, *retorno*, dando a idéia de alguma coisa que está voltando. Tem a palavra **fragrant**, que é parecida com *fragrante*, indicando alguma coisa que possui cheiro, possivelmente bom. Tem a palavra **gentle**, que é parecida com *gentil* e a palavra **hour**, que é parecida com *hora*. Dando uma lida rápida, a palavra **death** se repete duas vezes no texto, mostrando que é importante, de alguma forma, inclusive aparecendo no título. Indo ao dicionário, encontra-se como definição a palavra **morte**, então certamente esse poema fala de morte. Fala de tempo também, uma vez que tem uma imagem de um relógio. Podemos então dizer com isso que esse é um poema que fala sobre a morte e sobre o tempo.

E isso tudo sem ao menos ter lido esse poema a fundo, pegando apenas algumas palavras e fazendo uma previsão do seu conteúdo.

É nisso que o skimming vai se pautar. Muitas vezes temos diversos textos a nossa disposição e saber exatamente do que eles tratam vai nos auxiliar para que saibamos exatamente onde procurar uma determinada informação.

Como é possível perceber, essa é a forma onde se usa muitas das técnicas aprendidas anteriormente. Não existe uma preocupação em saber exatamente os detalhes, apenas as generalidades do texto.

4.1.1 Como fazer uso do skimming?

A técnica requer que você use pequenos fragmentos do texto apresentado para uma leitura superficial, sem se prender a detalhes. Então comece lendo sempre os títulos, cabeçalhos, índices, sumários e ilustrações. Procure ler também o primeiro parágrafo de cada ponto do texto, depois do título, além de prestar atenção em números, datas, gráficos, esquemas e palavras que de alguma forma estejam em destaque. Se o texto contiver alguma introdução, procure lê-la, pois ela costuma resumir todo o assunto relativo ao texto ao qual ela apresenta.

Exercises

Leia os textos abaixo para responder às próximas questões:

Carbon Monoxide Poisoning: The Silent Killer

Carbon monoxide (CO) poisoning occurs when carbon monoxide gas is inhaled. CO is a colorless, odorless, highly poisonous gas that is produced by incomplete combustion. It is found in automobile exhaust fumes, faulty stoves and heating systems, fires, and cigarette smoke. Other sources include woodburning stoves, kerosene heaters, improperly ventilated water heaters and gas stoves, and blocked or poorly maintained chimney flues. CO interferes with the ability of the blood to carry oxygen. The result is headache, nausea, convulsions, and finally death by asphyxiation.



What you should know about carbon monoxide poisoning

- Unlike many gases, it is odourless, colourless, tasteless and non-irritating. Red blood cells absorb the gas over 200 times more readily than oxygen. As levels of carbon monoxide in the air rise, this gas replaces oxygen in the bloodstream. As a result, body tissues are damaged and may die of a lack of oxygen.
- The most common symptoms of carbon monoxide poisoning are respiratory difficulties and impairing of visual perception.
- Have a reliable mechanic check the exhaust system of your car once a year to check for leaks and damaged pipes. Have the system checked if the sound of the exhaust is suddenly different or if you hear any funny noises.
- When driving in heavy traffic it is also advisable to have a slight opening in the windows, especially with the air-conditioning on. Do this when you are caught in heavy traffic or when the car is stationary for long hours.
- If you park your car in a closed garage, carbon monoxide can rapidly build up while your engine is running with the garage doors closed. Never run your car in a garage unless the outside door is open to provide ventilation.
- Have your vehicle regularly tuned to ensure that there is proper combustion in the engine. This will reduce the level of carbon monoxide emissions. If the car has a catalytic converter, make sure it is in proper working condition. Removing the catalytic converter can also increase carbon monoxide levels.

What to do in case of carbon monoxide poisoning

- Get the victim into the open air as quickly as possible
- Check for respiration and pulse. If both are absent, begin CPR.
- If breathing is absent but there is a pulse, begin mouth-to-mouth resuscitation and continue until the victim begins breathing or help arrives
- Begin administering oxygen with an oxygen breathing mask as soon as one is made available
- Get the victim to the hospital as soon as possible. Extended observation and additional emergency care will be required. There may also be other medical problems especially neurological, cardiac or pulmonary complications.

How carbon monoxide seep into a vehicle

Because it is a gas, carbon monoxide can basically get into a vehicle from any opening it is presented with. It can go in through:

- Holes and openings in the vehicle firewall
- Air-conditioning vents via the handbrake and gear lever consoles
- Holes, openings and rust spots under the vehicle or in the floorpan
- Openings on the door handles and door seals
- Openings of the boot lid

Ourselves were wed one summer—dear

By Emily Dickinson (1830 - 1886)

Ourselves were wed one summer - dear
 Your Vision - was in June
 And when Your little Lifetime failed,
 I wearied - too - of mine
 And overtaken in the Dark
 Where You had put me down
 By Someone carrying a Light
 I - too - received the Sign.

‘Tis true—Our Futures different lay
 Your Cottage - faced the sun
 While Oceans—and the North must be
 On every side of mine

‘Tis true, Your Garden led the Bloom,
 For mine - in Frosts - was sown
 And yet, one Summer, we were Queens
 But You - were crowned in June.

A. Fazendo uma leitura superficializada, o que é possível falar acerca desses dois textos?

B. Descreva algumas informações relevantes acerca de cada um dos textos apresentados, baseando-se numa primeira leitura.

[illegible]

4.2 Scanning

É a técnica empregada quando se procura uma informação mais específica e menos geral acerca de um texto. Do contrário do skimming, aqui se visa a busca de alguma informação de maneira rápida, dando uma lida em algumas poucas palavras para a encontrar. Para tanto, existem alguns passos que devem ser seguidos para se fazer um scanning de forma eficiente.

4.2.1 Keywords (palavras-chave)

São algumas palavras que, pelo seu grau de importância, ajudam a dar uma idéia daquilo que se fala em determinado trecho. Destacando algumas palavras do próprio texto é possível pegar seu sentido geral e, assim, fazer uma leitura mais proveitosa.

4.2.2 Mapa Mental

Após encontrar algumas palavras que resumam o texto, é preciso também criar um mapa, contendo os assuntos mais relevantes do texto e colocar numa ordem de importância esses assuntos. Para isso se torna necessário separar o texto em pequenos blocos, de acordo com o assunto e a importância. Para cada assunto, pegar palavras-chave do próprio texto e, com elas, montar um pequeno sumário mental.

Para determinar o assunto de um determinado bloco de texto, é necessário o uso de poucas palavras, para ser de fácil memorização. Quanto menos palavras e quando mais simples forem as mesmas, melhor.

Também é útil descartar informações que não serão usadas e blocos com informação irrelevante.

4.2.3 Anotações

Faça anotações ao longo do texto, sobretudo em expressões pouco conhecidas ou estranhas. Procure sempre o significado das siglas e abreviações usadas e, se possível, monte um pequeno glossário com as expressões mais comuns utilizadas no texto lido. Isso vai facilitar o trabalho de procura de informações.

4.3 Buscando informações específicas

Após usar as técnicas apresentadas anteriormente, fica uma questão em aberto: e quando eu quiser alguma informação específica, como devo proceder? Ou ainda, quando eu precisar de uma informação detalhada, como posso conseguir essa informação em pouco tempo?

Primeiro, procure conhecer previamente o texto onde as informações serão retiradas. Faça uso do scanning e do skimming, fazendo algumas anotações e construindo um mapa mental. Depois disso, tente localizar o trecho de onde você precisará da informação e faça uma leitura aprofundada, consultando os verbetes que parecerem ser mais importantes e as siglas apresentadas. Procure relacionar quaisquer elementos gráficos presentes, como figuras, tabelas, caixas de texto e outras coisas, dessa forma elas te dão pistas de que aquilo faz parte da informação específica.

Exercise

Abaixo está a reprodução de um manual, com apenas uma página. Leia usando todas as técnicas apresentadas acima para responder às questões que seguem:

- 1 – Do que trata o texto
- 2 – Quais as principais informações apresentadas no texto?



Health and Safety
Executive

Guidance on storing pesticides for farmers and other professional users

HSE information sheet

Agriculture Information Sheet No 16

Introduction

This information sheet provides guidance to professional users of pesticides on suitable standards for storage. By following it, professional users will help to ensure that they meet their duties under relevant legislation. It contains advice on:

- fixed stores, including purpose-built stores, converted existing buildings or parts of existing buildings and small-scale storage in cabinets, chests etc;
- mobile stores providing short-term storage away from the home base in vehicles, on bowsters and sprayers etc;
- storing small amounts of particular pesticides whose hazardous chemical properties require additional precautions to be taken.

It does not cover storing methyl bromide, storing pesticides by suppliers (which includes contractors who supply pesticides), nor transporting pesticides from suppliers to the end user. If you carry out any of these activities you should consult the DEFRA *Code of Practice for suppliers of pesticides to agriculture, horticulture and forestry* (the Yellow Code).

If you store flammable pesticides such as anti-fouling products, refer to HSE's guidance booklet *The storage of flammable liquids in containers*.

For the purposes of this information sheet 'professional user' means anyone who uses pesticides as part of their business or undertaking, whether as an employer or self-employed person.

Fixed storage

What are your storage needs?

Size

- The store needs to be large enough to hold your peak pesticide requirements, any part-used containers, and able to cope with stock being held over due to poor weather.

- Estimate the likely total of stocks to be held at any one time – include pesticides such as slug pellets, rodenticides and wood treatment products.
- Check if you need to make additional provision for storing any of the special classes of pesticides listed at the end of this sheet.
- Consider the need to store other potentially harmful chemicals and allow for likely amounts.
- Provide adequate storage for rinsed empty containers awaiting disposal.
- Check what other facilities you may need to provide (eg storage for contaminated equipment, personal protective equipment, washing facilities etc) by reading the code of practice relevant to your pesticide work (see 'Further reading').
- Remember that if the store is too small it leaves staff working in cramped conditions, often having to move one product to get to another.

Location

Before creating new storage check with:

- your local authority planning department – you may need planning permission for your store;
- the Environment Agency (EA) or in Scotland the Scottish Environmental Protection Agency (SEPA). You may be in an 'environmentally sensitive area' such as a groundwater protection zone or upstream of water supply catchment areas.

Site your store away from areas that present a risk of fire and at least four metres away from:

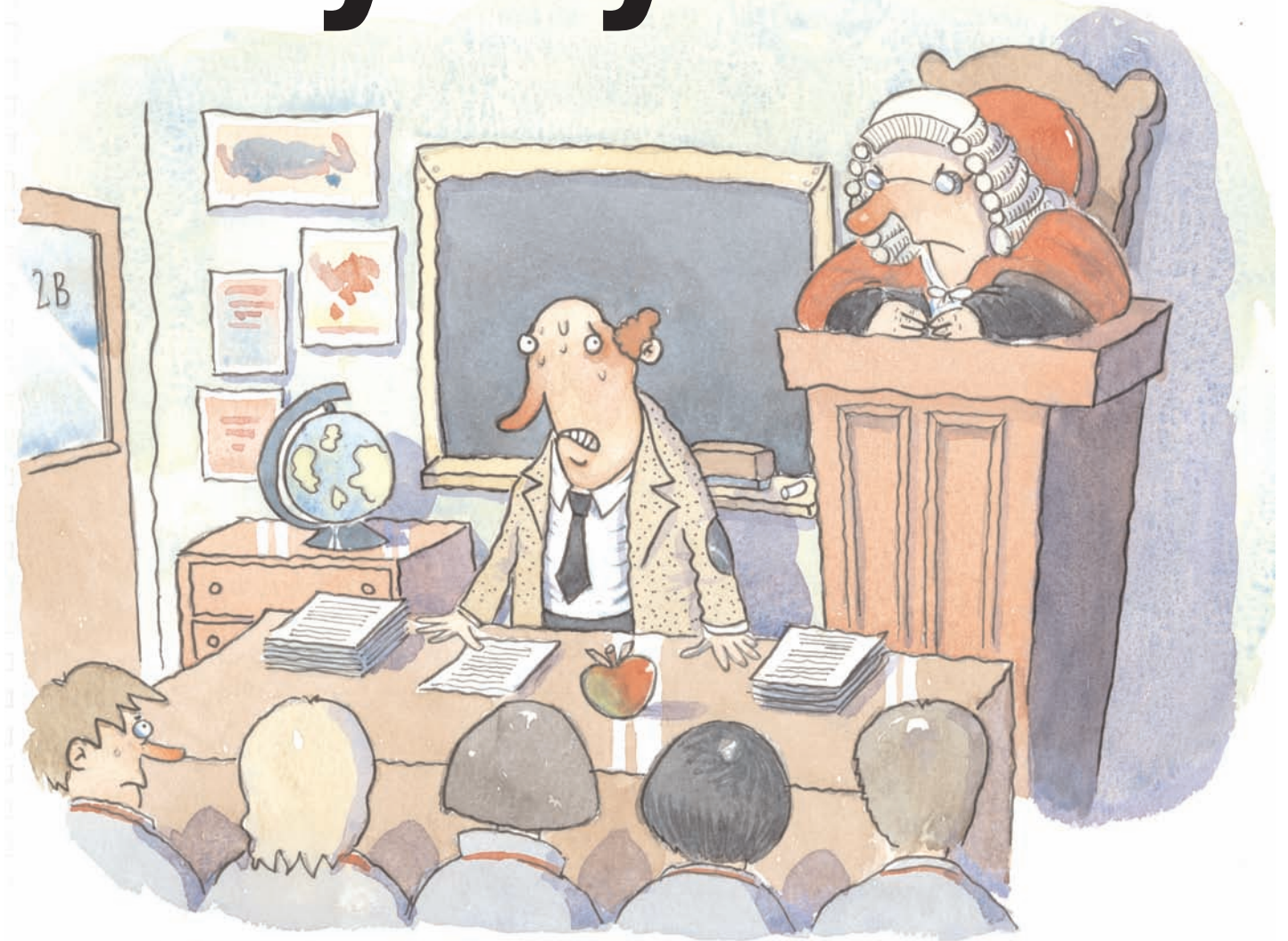
- hay, straw, diesel, oils, paints, fertilisers, paper, wood stacks, gas containers and other combustible materials;
- domestic dwellings or sources of ignition such as grain driers or welding/grinding activities.

Check where any contaminated fire-fighting water will drain and:

- do not site stores near to drains, watercourses, wells and boreholes or areas liable to flooding.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Great health and safety myths



The myth If a pupil is hurt, the teacher is likely to be sued

The reality The main legal duties lie with the employer, not the teacher – or even the head teacher, unless they own the school and employ the staff. We can't find a single instance in the past five years of a teacher being personally sued for compensation.

Over the years a handful of teachers have been prosecuted following very serious incidents, but only where they failed to follow direct instructions and departed from common sense.

Teachers who act responsibly will be on the right side of the law.

Safe work in confined spaces



This is a web-friendly version of leaflet INDG258

This document is aimed at employers and the self-employed who carry out work in confined spaces, and forms part of HSE's commitment to make simple and practical guidance available for small firms. It will help them take the necessary action to meet the requirements of the Confined Spaces Regulations 1997. It will also be a useful source of information to anyone involved in carrying out work in confined spaces.

Confined spaces can be deadly

A number of people are killed or seriously injured in confined spaces each year in the UK. This happens in a wide range of industries, from those involving complex plant to simple storage vessels. Those killed include not only people working in the confined space but those who try to rescue them without proper training and equipment.

What is a confined space?

It can be any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (eg lack of oxygen). Some confined spaces are fairly easy to identify, eg enclosures with limited openings:

- storage tanks;
- silos;
- reaction vessels;
- enclosed drains;
- sewers.

Others may be less obvious, but can be equally dangerous, for example:

- open-topped chambers;
- vats;
- combustion chambers in furnaces etc;
- ductwork;
- unventilated or poorly ventilated rooms.

It is not possible to provide a comprehensive list of confined spaces. Some places may become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.

What are the dangers from confined spaces?

Dangers can arise in confined spaces because of:

- A lack of oxygen.
This can occur:
 - where there is a reaction between some soils and the oxygen in the atmosphere;
 - following the action of groundwater on chalk and limestone which can produce carbon dioxide and displace normal air;
 - in ships' holds, freight containers, lorries etc as a result of the cargo reacting with oxygen inside the space;
 - inside steel tanks and vessels when rust forms.
- Poisonous gas, fume or vapour.
These can:
 - build-up in sewers and manholes and in pits connected to the system;
 - enter tanks or vessels from connecting pipes;
 - leak into trenches and pits in contaminated land, such as old refuse tips and old gas works.
- Liquids and solids which can suddenly fill the space, or release gases into it, when disturbed. Free flowing solids such as grain can also partially solidify or 'bridge' in silos causing blockages which can collapse unexpectedly.
- Fire and explosions (eg from flammable vapours, excess oxygen etc).
- Residues left in tanks, vessels etc, or remaining on internal surfaces which can give off gas, fume or vapour.
- Dust may be present in high concentrations, eg in flour silos.
- Hot conditions leading to a dangerous increase in body temperature.

Some of the above conditions may already be present in the confined space. However, some may arise through the work being carried out, or because of ineffective isolation of plant nearby, eg leakage from a pipe connected to the confined space. The enclosure and working space may increase other dangers arising through the work being carried out, for example:

- machinery being used may require special precautions, such as provision of dust extraction for a portable grinder, or special precautions against electric shock;
- gas, fume or vapour can arise from welding, or by use of volatile and often flammable solvents, adhesives etc;
- if access to the space is through a restricted entrance, such as a manhole, escape or rescue in an emergency will be more difficult (see *Emergency procedures*).

What the law says

You must carry out a suitable and sufficient assessment of the risks for all work activities for the purpose of deciding what measures are necessary for safety (**The Management of Health and Safety at Work Regulations 1999, regulation 3**). For work in confined spaces this means identifying the hazards present, assessing the risks and determining what precautions to take. In most cases the assessment will include consideration of:

- the task;
- the working environment;
- working materials and tools;
- the suitability of those carrying out the task;
- arrangements for emergency rescue.

HSE's free leaflet *Five steps to risk assessment* will help you further. You may need to appoint competent people to help manage the risks and ensure that employees are adequately trained and instructed (**The Management of Health and Safety at Work Regulations 1999, regulation 7**). Of course, you may be the best person to do this, however, you may need to train someone else or engage the services of a competent person for additional help.

If your assessment identifies risks of serious injury from work in confined spaces, such as the dangers highlighted above, the **Confined Spaces Regulations 1997** apply. These regulations contain the following key duties:

- avoid entry to confined spaces, eg by doing the work from outside;
- if entry to a confined space is unavoidable, follow a safe system of work; and
- put in place adequate emergency arrangements before the work starts.

These duties, and what you need to do, are further described in this document.

Avoid entering confined spaces

You need to check if the work can be done another way so that entry or work in confined spaces is avoided. Better work-planning or a different approach can reduce the need for confined space working.

Ask yourself if the intended work is really necessary, or could you:

- modify the confined space itself so that entry is not necessary;
- have the work done from outside, for example:
- blockages can be cleared in silos by use of remotely operated rotating flail devices, vibrators or air purgers;
- inspection, sampling and cleaning operations can often be done from outside the space using appropriate equipment and tools;
- remote cameras can be used for internal inspection of vessels.

Safe systems of work

If you cannot avoid entry into a confined space make sure you have a safe system for working inside the space.

Use the results of your risk assessment to help identify the necessary precautions to reduce the risk of injury. These will depend on the nature of the confined space, the associated risk and the work involved.

Make sure that the safe system of work, including the precautions identified, is developed and put into practice. Everyone involved will need to be properly trained and instructed to make sure they know what to do and how to do it safely.

The following checklist is not intended to be exhaustive but includes many of the essential elements to help prepare a safe system of work.

Appointment of a supervisor

Supervisors should be given responsibility to ensure that the necessary precautions are taken, to check safety at each stage and may need to remain present while work is underway.

Are persons suitable for the work?

Do they have sufficient experience of the type of work to be carried out, and what training have they received? Where risk assessment highlights exceptional constraints as a result of the physical layout, are individuals of suitable build? The competent person may need to consider other factors, eg concerning claustrophobia or fitness to wear breathing apparatus, and medical advice on an individual's suitability may be needed.

Isolation

Mechanical and electrical isolation of equipment is essential if it could otherwise operate, or be operated, inadvertently. If gas, fume or vapour could enter the confined space, physical isolation of pipework etc needs to be made. In all cases a check should be made to ensure isolation is effective.

Cleaning before entry

This may be necessary to ensure fumes do not develop from residues etc while the work is being done.

Check the size of the entrance

Is it big enough to allow workers wearing all the necessary equipment to climb in and out easily, and provide ready access and egress in an emergency? For example, the size of the opening may mean choosing air-line breathing apparatus in place of self-contained equipment which is more bulky and therefore likely to restrict ready passage.

Provision of ventilation

You may be able to increase the number of openings and therefore improve ventilation. Mechanical ventilation may be necessary to ensure an adequate supply of fresh air. This is essential where portable gas cylinders and diesel-fuelled equipment are used inside the space because of the dangers from build-up of engine exhaust. **Warning: carbon monoxide in the exhaust from petrol-fuelled engines is so dangerous that use of such equipment in confined spaces should never be allowed.**

Testing the air

This may be necessary to check that it is free from both toxic and flammable vapours and that it is fit to breathe. Testing should be carried out by a competent person using a suitable gas detector which is correctly calibrated. Where the risk assessment indicates that conditions may change, or as a further precaution, continuous monitoring of the air may be necessary.

Provision of special tools and lighting

Non-sparking tools and specially protected lighting are essential where flammable or potentially explosive atmospheres are likely. In certain confined spaces (eg inside metal tanks) suitable precautions to prevent electric shock include use of extra low voltage equipment (typically less than 25 V) and, where necessary, residual current devices.

Provision of breathing apparatus

This is essential if the air inside the space cannot be made fit to breathe because of gas, fume or vapour present, or lack of oxygen. Never try to 'sweeten' the air in a confined space with oxygen as this can greatly increase the risk of a fire or explosion.

Preparation of emergency arrangements

This will need to cover the necessary equipment, training and practice drills.

Provision of rescue harnesses

Lifelines attached to harnesses should run back to a point outside the confined space.

Communications

An adequate communications system is needed to enable communication between people inside and outside the confined space and to summon help in an emergency.

Check how the alarm is raised

Is it necessary to station someone outside to keep watch and to communicate with anyone inside, raise the alarm quickly in an emergency, and take charge of the rescue procedures?

Is a 'permit-to-work' necessary?

A permit-to-work ensures a formal check is undertaken to ensure all the elements of a safe system of work are in place before people are allowed to enter or work in the confined space. It is also a means of communication between site management, supervisors, and those carrying out the hazardous work. Essential features of a permit-to-work are:

- clear identification of who may authorise particular jobs (and any limits to their authority) and who is responsible for specifying the necessary precautions (eg isolation, air testing, emergency arrangements etc);
- provision for ensuring that contractors engaged to carry out work are included;
- training and instruction in the issue of permits;
- monitoring and auditing to ensure that the system works as intended.

Emergency procedures

When things go wrong, people may be exposed to serious and immediate danger. Effective arrangements for raising the alarm and carrying out rescue operations in an emergency are essential.

Contingency plans will depend on the nature of the confined space, the risks identified and consequently the likely nature of an emergency rescue.

Emergency arrangements will depend on the risks. You should consider:

Communications

How can an emergency be communicated from inside the confined space to people outside so that rescue procedures can start? Don't forget night and shift work, weekends and times when the premises are closed, eg holidays. Also, consider what might happen and how the alarm can be raised.

Rescue and resuscitation equipment

Provision of suitable rescue and resuscitation equipment will depend on the likely emergencies identified. Where such equipment is provided for use by rescuers, training in correct operation is essential.

Capabilities of rescuers

They need to be properly trained people, sufficiently fit to carry out their task, ready at hand, and capable of using any equipment provided for rescue, eg breathing apparatus, lifelines and fire-fighting equipment. Rescuers also need to be protected against the cause of the emergency.

Shut down

It may be necessary to shut down adjacent plant before attempting emergency rescue.

First-aid procedures

Trained first aiders need to be available to make proper use of any necessary first-aid equipment provided.

Local emergency services

How are the local emergency services (eg, fire brigade) made aware of an incident? What information about the particular dangers in the confined space is given to them on their arrival?

Relevant law

- The Confined Spaces Regulations 1997;
- The Management of Health and Safety at Work Regulations 1999;
- The Control of Substances Hazardous to Health Regulations 2002 (as amended);
- The Personal Protective Equipment at Work Regulations 1992 (as amended);
- The Provision and Use of Work Equipment Regulations 1998;
- Electricity at Work Regulations 1989;
- Workplace (Health, Safety and Welfare) Regulations 1992.

Some of the above law is relevant because of the nature of the work to be carried out inside a confined space, eg where there are risks from machinery, electricity or from hazardous substances.

Further guidance

Safe work in confined spaces. Confined Spaces Regulations 1997. Approved Code of Practice, Regulations and guidance L101 HSE Books 1997 ISBN 0 7176 1405 0

Guidance on permit-to-work systems: A guide for the petroleum, chemical and allied industries HSG250 HSE Books 2005 ISBN 0 7176 2943 0. The relevance of this guidance is not restricted to the petroleum industry. It will be helpful in any industry or work activity where the preparation and application of permits-to-work are being considered.

5 steps to risk assessment Leaflet INDG163(rev2) HSE Books 2006 (single copy free or priced packs of 10 ISBN 0 7176 6189 X)

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This document is available in priced packs of 20 from HSE Books, ISBN 0 7176 1442 5. Single free copies are also available from HSE Books.

This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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Urban rodent control and the safe use of rodenticides by professional users

HSE Information Sheet MISC515

Introduction

This information sheet is aimed at people working in rodent control in urban areas. It gives guidance on the precautions you need to consider when carrying out treatments to control the two main urban pest species, brown rats (*Rattus norvegicus*) and house mice (*Mus domesticus*). It assumes that you are competent and have been adequately trained.

Rodents pose a threat to people's health and may cause significant damage to commodities and the fabric of buildings. The primary aim is to avoid infestation, as once established, rats and mice can be difficult to control.

You may have to deal with infestations inside and outside buildings and there may be populations of rats in the sewer system. It is important to review approaches to control holistically and integrate a range of control measures into your treatment strategy. Relying on rodenticides alone does not guarantee that the infestation will always be eradicated and numbers may quickly recover after treatment. It is important that following measures to reduce rodent numbers you consider ways of improving environmental management at the site. This should provide effective, long-term control of rodent infestations. You should concentrate particularly on improving hygiene and proofing, maintenance and repair of buildings.

If your assessment confirms that rodenticides are necessary, it is important to use them safely. This information sheet contains advice on how to minimise the risks rodenticides may pose to human health, non-target animals and the environment.

What to do before treatment

Client details

When you receive notification of an infestation, take some basic information including:

- details of the person reporting it;
- where rodents have been seen (indoors/outdoors); and
- if indoors, a suitable time to gain access.

In commercial premises, it is useful to establish who to report to on site and if there are parts of the site where pest control technicians may have restricted/no access.

If you have treated this site before, it is good practice to review the previous strategies, advice and potential problems associated with the site before visiting. It is important to involve your client when discussing the range

of strategies you intend to adopt. If your previous advice has not been followed, then this will need to be revisited, underlining the importance of environmental management in the successful control of rodent populations. It is also important to explain to the client that you will need regular access to the site during the treatment phase and at the end to remove bait that has not been eaten. Convenient times for revisits should be agreed.

Site survey

You should carry out a site survey to establish the type, level and extent of the infestation. The survey will help you to identify important factors (eg the degree of public access to the site; the presence of children and non-target animals, such as pets and wildlife) that will influence your choice of control strategies for that site. Evidence of poor housekeeping and hygiene, alternative sources of food and obvious building/drain defects should be noted on the site plan. It may be useful to obtain photographic evidence of poor environmental management practices.

During the survey, try to establish the rodents' food sources. This will be particularly important if you intend to use concentrates to formulate your own baits, as part of the treatment strategy. Reducing the availability of alternative food at the start of a treatment, or shortly afterwards, can encourage rodents to feed on your bait. Where there are rats you should note obvious drainage defects, such as broken pipes, defective chamber covers, bad brickwork, half channels inside manholes, stoppers missing from the rodding eye or surface water gullies and bring them to the attention of your client.

Where there is an obvious defect that may allow rat invasion from neighbouring properties, it is good practice to tell your client of the risk this may pose and where appropriate report it to the local authority, who may be able to initiate a repair.

Block treatments

Effective control of rodents in the urban environment may be difficult in buildings with multiple uses and/or occupiers. There may be several agencies involved in controlling rodents. Where possible it is good practice to co-ordinate control measures to make sure all premises on that site are inspected and, where necessary, treated. This will reduce the chances of rodents surviving the treatment by avoiding the control measures and reinvading the areas you have treated.

Risk assessments

The information gathered during the survey should enable you to identify the hazards on the site and determine the

risks posed to:

- human health (eg through accidentally eating bait, particularly by children);
- non-target animals (eg through eating bait and/or poisoned rodents by pets and/or wildlife);
- the environment (eg through contamination of watercourses).

This risk assessment will determine the treatment strategy you adopt. After considering control measures such as proofing, improvements in hygiene, environmental management, and non-chemical approaches to control (eg traps) you may conclude you still need to use a rodenticide. Before carrying out any work you should carry out an assessment, as required by the Control of Substances Hazardous to Health Regulations 2002 ('the COSHH assessment'). This will help to make sure the product you select and its method of application will effectively control rodents, while minimising risks to yourself and anyone else who comes into contact with the rodenticide. At this stage, you should decide where to lay bait points and, if appropriate, how to prevent access by children and non-target animals, eg by:

- locating baits in inaccessible positions;
- directly baiting outdoor rat holes;
- using materials available on site to protect bait points;
- placing baits in locked or otherwise secure premises;
- using self-made bait boxes which are fit for purpose;
- using proprietary tamper-resistant bait stations.

COSHH and the Management of Health and Safety at Work Regulations 1999 require that assessments are carried out to identify any risks to operators and others who may be affected by the treatment. There is a requirement to record the findings of the assessment, unless they are so simple that they can be easily recalled and the conclusions explained at any time. However, small companies with fewer than five employees are not required to keep a written record, although it is good practice to do so.

Bait formulation

The bait formulation should be appropriate to the conditions and circumstances of the infestation. A wide range of ready-to-use products are approved under the Control of Pesticides Regulations 1986 (as amended 1997)/Biocidal Products Regulations 2001 (as amended 2003) for use as rodenticides, formulated on a variety of bait bases.

Rodenticide concentrates for preparing dry or liquid baits are also available. You should use a bait base that is suitable for the infestation, such as the primary food the rodents are eating. If you decide to use a concentrate, you must justify its use within your risk assessment. If you prepare and mix your own bait, you may need to take additional precautions, including the use of personal protective equipment as identified by your COSHH assessment. It is illegal to exceed the recommended

concentration. Doing so will mean the finished bait poses a greater risk and is likely to make it less palatable to the rodents. It is also illegal to add substances such as flavour enhancers to ready-to-use products to try to improve their palatability.

You must check the approval conditions granted for each product you intend to use.

Active ingredients

Active ingredients are divided into three main groups, reflecting the way they work. Acute rodenticides act rapidly (within 24 hours), but may induce bait shyness if a sub-lethal dose is eaten. Sub-acute rodenticides may not cause death for several days, even though a lethal dose may be consumed during the first 24 hours and feeding may continue during this period. Chronic rodenticides are slow-acting and the anticoagulants belong to this group. They can cause death in a minimum of 2-3 days, but on average it takes 5-7 days.

Anticoagulants can be sub-divided into first and second-generation anticoagulants, based on their potency, or into single-feed and multi-feed anticoagulants, depending on the number of feeds required. Your choice of active ingredient will be determined by the characteristics of the site, previous treatment history (if available) and the conditions of use on the product label. The choice of product will influence operational aspects of the treatment regime.

Remember:

- **only use a product that has been approved under the Control of Pesticides Regulations 1986 (as amended 1997)/Biocidal Products Regulations 2001 (as amended 2003) for use as a rodenticide;**
- **comply with the statutory conditions of use, which are given on the product label;**
- **follow directions for use and any other information supplied with the product;**
- **make sure you carry out all the control measures identified in your own COSHH assessment.**

Failure to do this may result in action by the enforcement authorities.

Guidance for treatment

Restricting access to foodstuffs is an essential precursor to treatment.

Use a variety of control methods

The urban environment is a diverse and complex setting, with different types and ages of properties with different uses. It is important that you do not rely solely on the use of rodenticides to control urban rodents. Programmes that integrate a range of methods, including physical and/or biological control, will be more successful in the long term than those that rely solely on chemical means.

While trapping is labour-intensive, it can prove useful in controlling small infestations and may provide an alternative means of control where the use of rodenticides is unacceptable. Break-back traps for use against mice and rats are available. If you intend to use live-traps, they should be inspected regularly, at least once a day, and any captured animals humanely dispatched. Although the use of rodent boards are still permitted, this method does raise concerns about humaneness. You should consider all other options before adopting this method of control and clearly justify its use for each treatment. When using rodent boards, the frequency of inspection and dispatch of captured animals follows that specified for other live-trap methods.

Once adequate control has been achieved the following environmental management measures should be considered:

- improving hygiene by clearing away rubbish;
- reducing harbourage;
- proofing buildings.

Areas that are prone to infestation and reinfestation should be monitored regularly to prevent chronic infestations becoming established. Where you suspect fly-tipping or accumulations of rubbish may be contributing to the persistence of an infestation, the local authority environmental health department may be able to help remove such accumulations.

Rodent behaviour

Rats are particularly shy animals and nervous of strange objects that appear in their territories. It may be better to protect and secure bait points using existing materials, rather than introduce bait containers. During the survey, note any general features (such as gaps underneath paving flags) that you could use to place bait safely. This may eliminate the need for bait boxes and be more effective in bringing the rodent into contact with the bait. It may also reduce the total length of time bait needs to be laid and therefore reduce the likelihood of non-target animals coming across it.

House mice are generally more inquisitive, and so are less likely to avoid new objects in their environment. As a general rule, mouse control is more likely to be successful if small amounts of bait are placed at a large number of locations.

Hoarding of bait

Remember that rats may carry bait away and hoard it, or drop it in areas where children or non-target animals can come into contact with it. If more bait is being consumed than expected for the size of the infestation, consider whether hoarding may be a problem. If you think it is, search for any caches of bait and dispose of it safely. You should secure any place packs/sachets or blocks at the placement site or reconsider the bait formulation being used. It will be more difficult for rats to hoard large quantities of loose grain bait and the quantity of

rodenticide in single pellets or grains will be substantially less than that in intact place packs/sachets or blocks, reducing the potential risk to non-targets if bait is dropped by rodents.

Placing the bait

Outside occupied buildings you may find rats in burrows; piles of rubbish; vegetation or other materials; sheds and garages or other buildings; compost heaps/bins and drains.

In all these situations you must make sure bait is adequately protected from children and non-target animals. If you place the bait in rat burrows, cover the burrow entrances afterwards to reduce the risks of bait being ejected or spilt.

If you place bait inside, directly on the floor, it may be difficult to remove at the end of the treatment. Use of plastic trays or other measures should help to avoid this. You also need to take account of the risks from bait being disturbed as a result of activities of rodents or other animals or changes to the site as a result of, eg building work. You should consider the size and the likely reactions of the rodent population (ie identify areas where rats may feel uncomfortable).

If you cannot find suitable cover to protect baits, you will have to use other measures unless (for indoor baiting) you can control or restrict access to the area where the bait is laid. You can make your own boxes for this, as long as they are fit for this purpose, or you can buy commercially available tamper-resistant bait stations. Where your COSHH assessment identifies it as necessary, you should ensure the bait station is secured in position (eg when the bait is of a type that could be shaken out), and that you have followed the instructions to prevent the container being opened.

Rodenticides may cause rodents to die in inaccessible areas, where it will be difficult to retrieve the dead bodies. This could cause problems with odours and in such locations it may be appropriate to consider alternative control methods, such as the use of traps, to help retrieve the dead bodies.

Monitoring

Once the treatment phase is underway, it is important to monitor it regularly to track its progress. During revisits you should:

- search for and remove any carcasses;
- make sure there is enough bait available;
- check that the baiting points remain secure;
- deal with spillages or other problems as they occur; and
- observe progress of the treatment.

Effective monitoring needs a reliable recording system and should enable you to identify potential problems with progress, such as a decline in efficacy of a particular rodenticide. This should prompt a review of your strategy.

Records

Record where you have placed the bait, which rodenticide you used and how much bait has been laid. For complex and/or large sites, ask the client to provide a site map, if there is one, for you to record the positions where bait has been placed. Tell the person you are dealing with and others with regular access to the site what you have done, where any rodenticide baits are, the products used and the risks associated with their use, what to do in an emergency and your contact details if they need further advice about the treatment. Leave a copy of your written record and a sketch plan of the bait points with them. If possible, obtain their signature to confirm that they have received and understood details of the work that has been carried out.

There may be instances where a treatment is carried out at a site where English is not the first language of your client. So, it may be difficult to ensure that the details of the treatment have been understood. Take reasonable steps to make sure that the hazards and risks associated with the treatment have been understood.

Removal of dead rodents

Search for and remove any dead rodents and dispose of them safely, in line with the product label. This is particularly important to reduce the risk of secondary poisoning, especially in areas where birds of prey or other predators are known to be active, and where large populations of outdoor rodents are being controlled. For further advice on the disposal of rodent bodies contact the EA/SEPA.

Replenishing bait

Once laid, baits should be inspected frequently and where bait has been eaten, it should be replenished as necessary. Determine how often you need to inspect baits from the label instructions and the characteristics of the infestation. It is important to record the amount of bait put down, so you can decide whether larger amounts are needed. Continue baiting until all feeding activity has stopped, as overcoming the neophobic response in rats may take some time. However, if there is little evidence of bait takes after two weeks, it is unlikely that the treatment will prove effective and you should remove the bait and consider an alternative strategy.

Resistance

Resistance to anticoagulants has been confirmed in some rat populations in agricultural areas, although the position in urban environments is unknown. Treatment failures are more likely to be due to inappropriate bait, inadequate quantities of bait, poor bait placement, bait shyness or re-invasion from surrounding areas. But, if these factors have been ruled out and the bait is still being eaten without any obvious decline in the rate of consumption, it may be a sign of the presence of true anticoagulant resistance. Anticoagulant resistance in mouse populations is so widespread, that no first-generation anticoagulants are

approved for use against them. Behavioural resistance in mice has also been reported and if you suspect that you are dealing with such a population, you will need to consider alternative treatment regimes/control methods (eg placing bait directly on the floor rather than in bait boxes), alternative formulations (eg contact dusts or gels) or alternative bait bases (eg using the foodstuffs they are eating at the site).

If you have ruled out all other possible explanations for the persistence of rodent populations in urban areas and suspect that you may be dealing with a resistant population, you should inform RRAG (the Rodenticide Resistance Action Group: RRAG, 1 Gleneagles House, Vernongate, South Street, Derby DE1 1UP Website: www.bpca.org.uk/RRAG/about.htm). This information could identify potential hotspots of resistance in urban areas and will complement the information that already exists for agricultural locations.

Using non-anticoagulant rodenticides

While anticoagulants provide an effective and efficient method of controlling rodents, if they are not available, if they cannot be used or if resistance to them has been confirmed, you may need to consider alternatives such as calciferol (approved for use against rats and mice) or alphachoralose (only approved for use against mice).

Reinvasion

In urban areas, the risks of reinvasion from neighbouring sites may be considerable, especially in areas where general environmental management is poor. It is good practice to liaise with other pest control contractors, regulatory agencies and the general public to coordinate control strategies and reduce the risk of reinvasion. Where members of the public wish to feed wild birds, they should be encouraged to use RSPB-approved bird feeders and be made aware that throwing bread and other food on the ground may, in addition to feeding the wild bird population, provide a food source for rats in the area. General advice on the storage of refuse and the use of rodent-proof bins should be provided where appropriate.

Long-term baiting

Long-term and perimeter baiting may help to control invading rodents, or give you early warning of an infestation, so treatment can be better targeted and timed, ie before an infestation becomes well established. However, consider these approaches carefully and be justified in your risk assessment for each location where they are used. The preferred approach is to use non-toxic blocks or whole grain as a guide to the presence of an infestation that may then trigger the use of a rodenticide. Check baits regularly to establish whether rodents are present.

Bait stations should be established on likely runs by vulnerable buildings and premises. Where possible, these should be camouflaged. As well as being secure, the bait should be protected from the effects of moisture. Baits

based on whole grain, pellets and wax blocks are usually the most suitable for this purpose. Wax blocks and sachets should, where necessary, be secured inside bait stations.

Retrieval of bait

After you have finished the treatment, you must make sure all traces of bait have been removed from the site and disposed of according to the label instructions. You cannot rely on others to carry out these tasks. If you are denied access to the premises to do this, it is good practice to record when you attempted to retrieve the bait and to explain to the client in writing that responsibility for disposal has now been transferred to them. You may wish to leave details of the requirements for disposal of the rodenticide(s) that have been used. If a previous contractor has not removed the bait they laid, you should give them the opportunity to do so. If they do not do this in the time frame specified, they will have no further claim on it, but you will have a duty of care to dispose of this rodenticide safely. Rodenticide that you have retrieved from a treatment you have undertaken may be reused if it is clear that it has not been contaminated or marked by the rodents, providing it can be stored in line with the approval conditions of the product.

Storage of bait

Keep all rodenticides secure in a suitable store. You should keep bait in its original packaging, except when put into a new container for use, when a current copy of the product label should be attached. It is illegal to offer such relabelled bait for sale, or supply it to others. Equipment used during treatments should be cleaned after use. Where bait is prepared from a concentrate, ensure it is labelled with the bait label supplied.

Rodent-borne diseases

Rodents carry diseases that may be serious or even life-threatening to people. These may be caught by contact with surfaces or water contaminated with rodent urine. You should wear waterproof gloves when working in areas that may be infested. Cover cuts and abrasions on exposed parts of the body with waterproof dressings. Wash exposed skin thoroughly before eating, drinking or smoking and after completing work. If you cut yourself, clean and dress the wound immediately. If you regularly work in rodent-infested areas, your employer should provide you with the HSE pocket card, *Leptospirosis: Are you at risk?*. Alternatively, you may obtain one from HSE Books (see 'Further reading').

Urban situations

Domestic premises

Dealing with rodent infestations in and around domestic premises poses particular problems with placement and protection of bait. It is important to explain to the householder the risks associated with the use of rodenticides. Once baits have been laid, make sure the

householder knows their location and is aware that they must not be moved or disturbed. Children and non-target animals, such as pets, may not be present at the time of your survey and/or treatment, but may be there at other times. If this is the case, it is important to place baits in such a way to prevent contact. If adults with learning difficulties are present, you must ensure that a responsible person has been informed of the treatment regime and the risks associated with the use of rodenticides. It is good practice to leave written details about the products you have used and the actions needed if bait is consumed accidentally.

Unprotected stores of pet food may attract rodents and householders with pets should be advised to store such food in sealed containers. Poorly constructed compost heaps and compost bins placed directly onto soil may provide harbourage for rats and should be inspected during your survey. To discourage such infestations, give householders advice on their construction (placing them on a hard flat surface such as concrete or stone paving flags) and measures to exclude rats (eg by surrounding the base with fine chicken netting). General advice on the importance of sound structural maintenance of the property (eg sealing gaps under doors and around service pipes) should be given where appropriate.

Commercial (non-food) premises

The risk of infestation within commercial, non-food premises will be influenced by the work that takes place in them. A thorough survey should establish the areas that may be prone to infestation. Where catering facilities are on-site this may be an important area to examine in detail.

Commercial (food) premises

Under food safety legislation, owners of food premises must periodically visually check for signs of pests and have a pest control reporting system in place. This should provide you with information on any recent sightings and may provide details of previous treatments. Where you are concerned about general standards of hygiene, you may wish to discuss this with the local authority environmental health department's food enforcement staff.

Large institutions (eg hospitals, prisons etc)

Large institutions may have several locations that are prone to infestation. The presence of vulnerable individuals and restricted or limited access to particular areas will need to be considered when deciding on your control strategy. On-site kitchens may be an important focus of rodent activity. If waste disposal systems for food discharge directly into the drainage/sewer system, this could act as a rich source of food for rodents. So it is essential that you do a thorough site survey and the methods and routes for disposing of food waste are established. Rodents may also invade other parts of the building when food is transported from the kitchen to where it is eaten. Service ducts may provide a route for the rapid spread of rodents through the complex and should be examined for evidence of rodent activity. If the

ducting is classified as a confined space, then those undertaking inspections and treatments must be adequately trained to work in confined spaces.

Access restrictions to particular areas of the site may mean that it is not feasible to place rodenticide baits in all parts. Integrating a range of control methods, combined with close monitoring of the progress of the control programme, is essential in such locations.

Parks and gardens

Dealing with rodent problems in open urban situations creates particular problems regarding the protection of bait points, particularly where rats may be associated with lakes and ponds. Place baits directly into active burrows, especially in areas where the public have restricted access, such as islands on a lake. Loose grain and pelleted formulations may be suitable for such purposes. Cover all treated holes, and regularly monitor for evidence of bait consumption, spillage or disturbance.

Sewers

Urban sewers provide an ideal environment for rats. A protocol agreed between the Local Government Association (LGA) and Water UK, in liaison between local authorities and water companies in England and Wales, was issued in December 1999 and should ensure better coordination of public sewer control. This is available at: www.water.org.uk/index.php?raw=88.

If you are concerned about drainage defects contributing to infestations, you should report these to the local authority, who can liaise with the appropriate water authority or can serve a notice on the private sewer owners.

Further advice

You can get further advice on dealing with rodent infestations from rodenticide manufacturers and distributors, the British Pest Control Association (BPCA) (Tel: 01332 294288; Website: www.bPCA.org.uk); the National Pest Technicians Association (NPTA) (Tel: 01949 81133; Website: www.npta.org.uk); the Chartered Institute of Environmental Health (CIEH) (Tel: 020 7928 6006; Website: www.cieh.org.uk), the Environment Agency (Tel: 08708 506506; Website: www.environment-agency.gov.uk); English Nature (Tel: 01733 455000; Website: www.english-nature.org.uk) and the Department for Environment, Food and Rural Affairs (DEFRA) (Tel: 08459 335577; Website: www.defra.gov.uk). For guidance on the legislation, consult the Health and Safety Executive (HSE) Infoline: 08701 545500; Website: www.hse.gov.uk).

Further reading

The safe use of pesticides for non-agricultural purposes. Control of Substances Hazardous to Health Regulations 1994. Approved Code of Practice L9 (Second edition)
HSE Books 1995 ISBN 0 7176 0542 6

Recommendations for training users of non-agricultural pesticides Guidance HSE Books 1990
ISBN 0 11 885548 4

Guidance on storing pesticides for farmers and other professional users Agriculture Information Sheet AIS16
HSE Books 1996

Leptospirosis: Are you at risk? Pocket card INDG84
HSE Books 1990 (single copy free or priced packs of 20 ISBN 0 7176 2546 X)

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Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

DEFRA leaflets *Rats* WM04 (DEFRA 2003) and *House mice* WM05 (DEFRA 2003) are available free from DEFRA's Wildlife Administration Unit on 0845 601 4523. They are also available on DEFRA's website at www.defra.gov.uk/wildlife-countryside/vertebrates/leaflets.htm

The control of rats with rodenticides: A complete guide to best practice Central Science Laboratory. Available at www.csl.gov.uk/prodserv/cons/RatControlGuidelines.pdf

The control of rats with rodenticides: Guidance for best practice Central Science Laboratory. Available at www.csl.gov.uk/prodserv/cons/RatShortGuidelines.pdf

The BPCA codes of practice for operational procedures (BPCA 2002):

Guidelines for the safe use of Anticoagulant

Rodenticides by professional users

Humane use of rodent boards

Guidance note for the management of mammals and birds using live capture traps

Available from BPCA Tel: 01332 294288

For information about health and safety ring HSE's Infoline Tel: 08701 545500 Fax: 02920 859260
e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This information sheet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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Great health and safety myths



The myth Risk assessment must always be long and complex

The reality On its own, paperwork never saved anyone. It is a means to an end, not an end in itself - action is what protects people. So risk assessments should be fit for purpose and acted upon.

OK, if you're running an oil refinery, you're going to need a fair amount of paperwork. But for most people bullet points work very well indeed.

See what we mean - check out our example risk assessments.