

A booklet about teaching
language development
in school.



Down's
Syndrome
Scotland

helping people realise their potential



Developing language skills



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Preface

This booklet is designed to provide essential information and teaching strategies for secondary school teachers and learning support assistants to empower them to enable pupils with Down's syndrome to access the curriculum.

The booklet outlines the learning profile specific to young people with Down's syndrome and focuses on the impact that language delay can have on learning. Advice and guidance is provided in the following areas:

- How pupils with Down's syndrome learn and the strategies that can be used to facilitate their learning
- Language development in pupils with Down's syndrome, and the levels of language that can be attained
- Continuing to develop reading skills
- Teaching phonics and spelling
- How to teach new concepts and choose new and associated vocabulary.
- Building sentences and grammar
- The difficulties that may affect writing.
- Assisting pupils to demonstrate knowledge and understanding.
- Using the curriculum to develop speech and language skills.

Differentiation of the secondary curriculum is vital to the successful inclusion of all pupils who have significant learning disabilities.

For further information please contact Down's Syndrome Scotland.

Language in the Secondary School

Literacy and Language Development

For many children language development is a simple process. However, children with Down's syndrome often experience significant delays. Language is one of the most important life skills. Support in developing language, spoken, signed, gestured or combinations of all three, may be significantly important for children with Down's syndrome. Additional input and encouragement is almost always needed at home, in school and in the community in order to improve everyday communication.

Pupils with Down's syndrome, like everyone else, need to communicate to reach their true language potential.

How does language develop in children with Down's syndrome?

The spoken language of pupils with Down's syndrome is usually late to appear, can be relatively more delayed than other areas of development and slower to develop once it does begin.

During the early stages language may consist of single words or two or three word phrases.

When we refer to speech we are referring to only one form of expressive language. To

understand

how speech develops it is important to make a clear distinction between:

- Receptive language
- Expressive language
- Speech

Receptive language is the knowledge and understanding that is gathered from the environment, in other words from people, objects, sounds, words and gestures. Exposure to receptive language is vital to the development of communication.

Expressive language is communication made through crying, laughter, and words either verbal or written, gesture, sign, or communication aids. Spoken language is only one form of expressive language.

What level of language can we expect?

Language development in all pupils with Down's syndrome is wide and varied but in general most pupils entering secondary school will have a spoken vocabulary of around six hundred words or more with a comprehension vocabulary that is considerably larger. This includes words that are understood but not yet being used. They are likely to use more nouns compared to verbs, prepositions, and other parts of speech. Word endings may be omitted or be incorrect for example, the use of tenses and plurals. The use of shorter sentences and simpler grammar and the use of 'telegraphic' speech is common, and the content is limited to relatively concrete, descriptive material. Some pupils may still have a very small vocabulary and be limited to one hundred or fewer words. They may therefore communicate in single word or two word phrases. Other pupils may be fluent and use complete sentences in communication. Pupils of all ages commonly encounter articulation difficulty.

Pupils are likely to be slower to learn new words and sentence structures. The rate of acquisition in general, does not keep up with their cognitive age. The range of words understood, and the length of utterances are likely to be less than that of their peers. However, there is no limit or plateau to the vocabulary acquisition. It requires focus throughout life.

It is highly probable that grammar will be more delayed than vocabulary. It may not be incidentally learned and in the majority of cases will need specific structured teaching. However, the comprehension of grammar for most pupils is likely to be well in advance of its use.

How do children with Down's syndrome learn?

Pupils with Down's syndrome have a specific learning profile in which there are characteristic strengths and weaknesses. It is important to identify the unique profile of each child as this will in turn identify the factors that facilitate and inhibit learning. This will then provide a base line for planning and implementing meaningful and relevant programmes of work.

There are many characteristics that can be attributed to specific disabilities, but it is important to note that few pupils experience all of them. These characteristics may influence the rate of educational progress and levels of achievement. However, it should be recognised that the main inhibiting factors are those that can be created, often inadvertently, by those responsible for the learning that takes place.

Many pupils with Down's syndrome initiate fewer conversations than their typically developing peers. The greater the amount of experiences and opportunities there are to communicate, the greater the opportunities there are to practise talking. All language skills improve with practice, for example:

- Planning and producing words
- Sentences
- Use of grammar
- Phonological skills
- Speech articulation

How can we facilitate learning?

Typically developing pupils acquire language skills by talking naturally to each other. It is critical to the language development of pupils with a language delay that specific programmes are undertaken to provide as many quality opportunities for speech and communication as possible. Each person involved with the pupil needs to consider the quality of communication with the pupil and the importance of listening to them in everyday activities.

Limited language understanding, a poor short-term auditory memory together with slow auditory processing means that pupils with Down's syndrome will encounter difficulty following verbal directions. In such circumstances crucial learning milestones may be missed especially if there is no reduction in the length of instructions given or the rate at which they are delivered.

Critical factors in facilitating learning are:

- Quality of presentation and instruction
- Limited verbal instruction backed up by demonstration and /or pictorial representation
- Avoiding complex or ambiguous language when giving instructions
- Use of relevant language
- Pace and timing of lessons
- Relevance of tasks
- Tasks matched to the ability of the pupil
- Level of difficulty of the task, neither too easy nor too difficult
- Prior knowledge and understanding of the pupil
- Appropriate level of support, avoiding over support which creates learned helplessness
- Promoting independent learning skills
- Building self-esteem and self-motivation

Should we continue to develop reading skills?

The written word makes language visual and can help to overcome difficulties that many children with Down's syndrome encounter. Consequently, there is a strong connection between learning to read, which improves working memory, and the development of language skills.

Many pupils are able to develop their reading skills to a useful and practical level and as a result they improve and develop their use of language and their language understanding. Reading improves the learning of sentence structure necessary for spontaneous speech. Additionally, reading is an area of the curriculum where many pupils with Down's syndrome excel.

Reading is significantly important in helping pupils with Down's syndrome:

- Access the curriculum
- Improve their speech and language skills
- Develop their knowledge and understanding of new concepts
- Increase their self-esteem
- Work independently

Which words should we choose?

When planning a language programme, the choice of words will depend on the language developmental level and age of the pupil and should include:

- Useful words that the pupil uses
- Daily words that the pupil has difficulty articulating
- Vocabulary from specific subjects and lessons
- School vocabulary such as subject and teacher names together with timetables
- Vocabulary for needs and feelings
- Vocabulary for interests

- Vocabulary for home life
- High frequency words such as pronouns, prepositions, and conjunctions
- Vocabulary from reading schemes and text books

Should we teach phonics?

Pupils at secondary level may have more success with phonics. However, they are likely to have different levels of ability to:

- Hear the sounds that make up words
- Say the sounds accurately
- Recognise the sounds in words
- Say single words
- Say words of different length and difficulty
- Speak in sentences

There is no set way or pace at which individual pupils with Down's syndrome develop the skills necessary to develop phonological awareness. Pupils will benefit from learning phonics and through this may build on their reading, writing, and spelling, and practising speaking and developing clear speech.

Teenagers will need more age appropriate resources than those used in early years phonics schemes. Initial sound pictures should be more grown up in their design such as substituting 't' is for 'tiger' instead of 'teddy' and making use of photographs or maturely styled art work.

Pupils will initially learn to hear, see, and recognise letters in simple regular two and three letter words. It may be helpful to focus on the start of words instead of word ending. Tasks involving visual and auditory discrimination between simple two letter consonant/vowel blends such as 'ha, sa, ta, ba, ca, and ma', within words such as 'hat, sat, tap, cat, and man' may help to develop word attack skills when decoding unfamiliar words in text.

Although the phonic skills of pupil with Down's syndrome are widely varied they will still require the same variety of teaching methods used when learning to read, write and spell. Many pupils will be able to use these phonic skills to read, write and spell new and unfamiliar words.

How should we teach spelling?

To write fluently pupils need to learn to spell the words they want to write. Importantly the words that should be the main focus of early spelling programmes should include the functional words that promote independence and foster self-esteem such as:

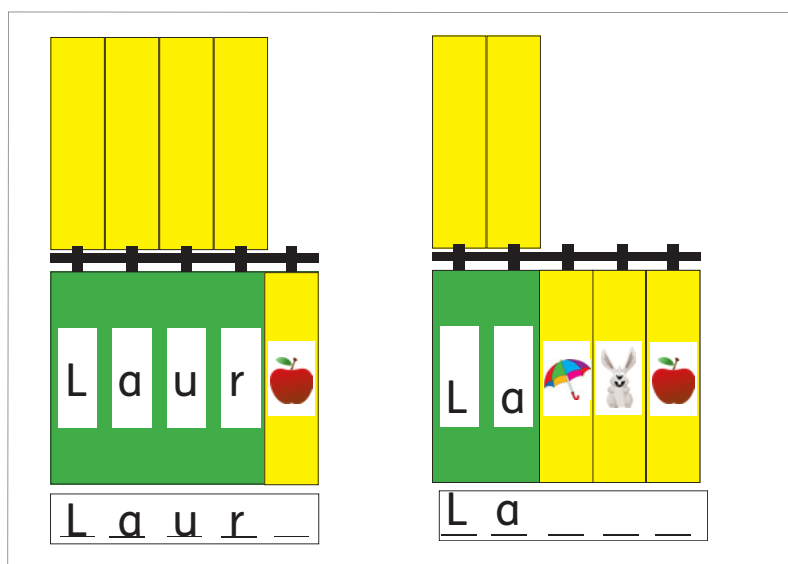
- Name and address
- Names of family and friends
- Words for correspondence
- Names of familiar places, objects, possessions, and interests

Additionally, spelling of subject-based vocabulary can be taught alongside the learning of each new concept and practised in English Language work involving sentence structure, grammar practice and written responses. Providing the pupil with a personal dictionary with sections for each subject will provide a means of:

- Listing the functional vocabulary for each subject
- Keeping a record of new vocabulary
- Providing the basis for a spelling programme
- Assisting the pupil in independent writing

Use the same methods in teaching spelling to pupils with Down's syndrome as would be used with typically developing pupils. 'Look, Spell, Cover, Write and Check' is effective at any age. Learning to write a name or a word can be done by copying all but the last letter then writing the last letter independently. Progress by adding one letter at a time until the pupil can write the whole word without copying. See Figure 1.

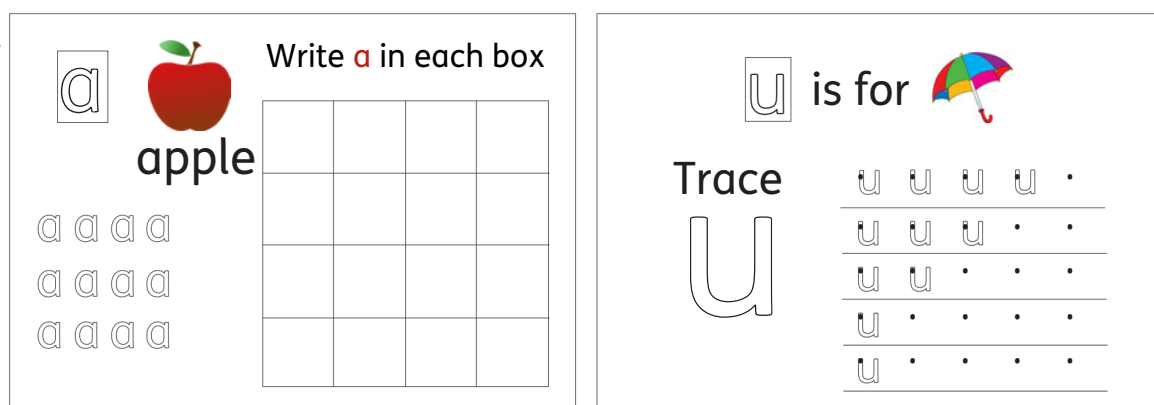
Figure 1, Look, Cover, Write and Check



It may be beneficial in the initial stages of a spelling programme to include the letters required for names and addresses in the pupil's handwriting programme. That is in learning to spell 'Laura' the letters L, a, u and r would be the focus of a short handwriting programme where the pupil would focus on the correct letter formation of the necessary letters, see Figure 2.

Figure 2,

Handwriting



Pupils with significant learning disabilities will benefit from using multi-sensory methods which help them as follows:

- Tracing over the letters of a word
- Spelling the word aloud
- Laying out letter cards or magnetic letters
- Mentally taking a photograph of the word
- Breaking words into syllables such as pen-cil and con-tain
- Learning word families such as hat, sat, cat, and rat
- Learning letter strings such as st, sc, sp, and str,scr spr

Most structured spelling schemes are likely to be suitable provided the materials are motivational and pupils are provided with adequate regular practice opportunities.

How do we teach new concepts and the associated vocabulary?

It is important to be aware of the way in which pupils with Down's syndrome learn to read as this differs in some ways from traditional methods. When teaching a child with Down's syndrome to read new vocabulary the ideal method is to use whole word sight recognition using the 'Look and Say' method. Using phonics to decode words may be more difficult for some pupils as it involves accurate hearing and good auditory discrimination of sounds together with problem solving skills. All of these are common areas of difficulty for pupils with Down's syndrome.

Make all the activities interesting, fun, and meaningful to make the experience of reading enjoyable. Make use of paired reading opportunities where pupils only read the words they know, and the remaining words are read by an adult or peer. Additionally, use modelled reading where the sentence is read by the tutor and then read by the pupil.

How can we build sentences and teach grammar?

Teaching sentence structure and grammar will enable the pupil to build their language skills and language knowledge. Activities that will help to build sentence and grammar skills are:

- Joining simple phrases using 'and', 'with', 'beside', 'on' and 'in' will help build the understanding of sentence structure.
- 'Heads and Tails' activities using beginnings and endings of sentences, where the pupil sorts or matches the heads to the appropriate tails.

Provide practice in reading simple sentences that are within and just ahead of the pupil's comprehension of spoken language. Written text unlike spoken text is a permanent record of information or instruction and does not rely on short term memory. It can be backed up by illustration and allows more time for processing the meaning. Reading grammatically correct sentences gives the pupil practice in speaking grammatically correct sentences that they would otherwise be unable to produce. Additionally, provide practice in speaking in longer sentences as this will help commit them to memory and provide an aid to communication.

Which difficulties are most likely to affect writing?

When demonstrating understanding of new concepts and ideas pupils generally respond using written and verbal language. This requires a level of language proficiency that few pupils with Down's syndrome will have achieved. Other difficulties that may affect writing need to be considered:

- Low muscle tone in the hands means that a pupil's hand muscles may tire more quickly than peers, limiting the amount of writing that can be undertaken in one session.
- Fine motor difficulty may result in letter formation being problematic. Writing may be slower.
- Consequently, the amount of writing that can be undertaken in one session will be less than peers.
- Poor short term auditory memory can mean that a pupil may be able to formulate a sentence but unable to hold the details in the short term working memory long enough to get them down on paper.
- Short concentration span together with difficulty staying on task for lengthy periods of time will limit the time that can be spent in one session on written work. Therefore, lengthy pieces of written work are unlikely to prove successful.
- Difficulty with sequencing may affect the ability to put letters, words, and sentences in the correct order. Additional difficulty may arise when required to recall and record events or retell a story in the correct order.
- Recalling previous knowledge and knowing which information is relevant may be problematic for some pupils and is likely to produce difficulty when required to write from memory alone.
- Lack of previous knowledge will have a significant impact on the pupil's ability to deal with imaginative and predictive writing.

Although there are a variety of difficulties that may affect an individual pupil's ability to write, it is important to note that not all pupils will encounter these difficulties, and many will have issues in a few or only one area. It is important to assess each individual pupil and determine his or her particular strengths and weaknesses prior to undertaking written activities.

How can pupils demonstrate knowledge and understanding?

In delivering the curriculum it is essential to adapt the way that pupils are expected to respond. Many pupils may have difficulty with written work and will need to use alternative methods that require little or no writing.

Matching or mapping pictures to word cards, sentence cards or sorting cards requires no writing. Recording this type of response can be made by photographing the student's work. Alternatively, responses can be scribed by an adult although this does not promote independence and should be limited to occasional use.

Providing activities that reduce the need for writing will allow a quick response, (See figures 3, 4 and 5 at the back of this booklet for some examples), and will keep the pupil motivated such as:

- Categorising
- Filling in missing words and/or phrases
- Yes or no and true or false
- Tick boxes
- Prompt sheets with pictures and/or words
- Question and answer links
- Multiple choice answers

Copying from textbooks, prepared text or from the blackboard can be simplified by providing shorter text highlighted or underlined within the longer text. Writing can be further enabled by providing words within the pupil's sight vocabulary or including a list of key words, phrases, or sentences.

How can we use the curriculum to develop speech and language?

All areas of the curriculum require language and each subject will have its own specific vocabulary. Many everyday words have different meanings when used in other contexts within a particular subject, such as the words 'higher' and 'lower' when describing numbers on a horizontal number line where the digits are at one level. The new concept of 'higher' words and phrases and 'lower' referring to greater and lesser quantities must be taught.

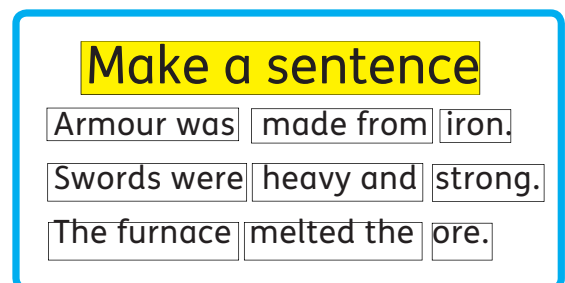


Figure 6 Magnetic board combining words and phrases

Joint planning and collaboration between teaching staff, learning support assistants, learning support staff and speech and language specialists is imperative. All must decide upon the learning outcomes for the pupil. Careful thought must be given to how any new vocabulary will be introduced and used to form phrases and sentences.

Word and phrase cards can be backed either with magnetic strips and used on a metal board, see Figure 6 magnetic board combining words and phrases or with Velcro and kept in a personal writing folder, see Figure 7. Personal writing folder. The cards can then be combined to form extended phrases or sentences. These when made can then be used as a permanent model for writing, thus reducing the stress upon the short term working memory.

Phrases from subject texts can be joined using conjunctions and prepositions to make extended phrases or sentences, see Figure 8. Using prepositions and conjunctions.

Where words

Round houses were built inside hill forts.

The woman wears a shawl over her dress.

Crannogs were built on lochs near the shore.

Joining words

Celtic farmers grew and barley.

The woman wore a dress with a shawl.

Crannogs made people safe from the enemy.

Figure 8. Using prepositions and conjunctions

Information should be carefully selected according to the individual pupil's language and cognitive levels. From there a selection of sentences can be created and used as the basis for teaching the lesson. Later the sentences put on card, cut in half, and made into beginnings and endings of sentences, as 'Heads and Tails, see Figure 9 Heads and Tails (p11). These will provide the means of recording and demonstrating knowledge and understanding.

The diversity of writing skills can be accommodated by:

- Photocopying the sentences produced by the pupil, see Figure 9
- The pupil copying their completed sentences
- Copying part of each sentence, see Figure 10 Partly written Heads and Tails

| Heads | Tails |
|-----------------------|-----------------|
| Jewish sabbath is | on Saturday. |
| Jews worship in | the synagogue. |
| Families are together | on the sabbath. |

Figure 9 Heads and Tails

| Heads | Tails |
|-----------------------|--------------|
| Jewish sabbath is | on Saturday |
| Jews worship in a | |
| Families are together | |
| | |
| | |
| the synagogue. | on Saturday. |
| on the sabbath. | |

Figure 10 Partly written Heads and Tails

Printed words, phrases, or sentences on A4 card halved length-wise can be split, gathered, and bound together on a comb. Selective division of the words or word groups can then be flipped over to provide another means of producing grammatically correct phrases and sentence, see Figure 11.

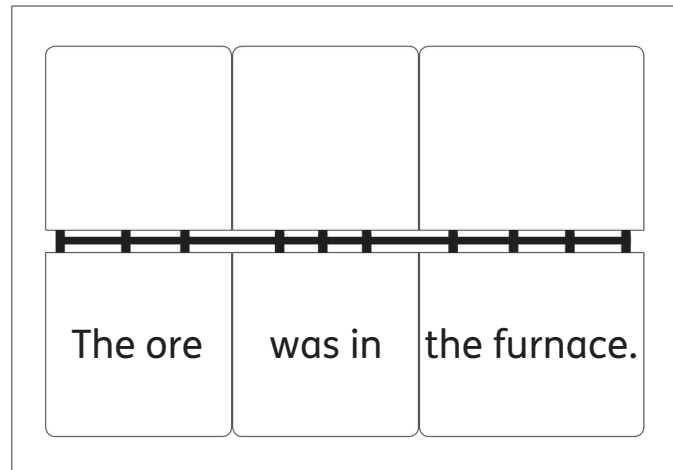


Figure 11. Flip the cards over. Mix and match cards to make phrases and sentences.

How can pupils access the secondary curriculum?

Pupils provided with a differentiated curriculum experience less stress and frustration and are less likely to display behaviour that can be viewed as difficult. Differentiation fosters success, a sense of achievement, builds self-esteem and encourages self-motivation.

To differentiate effectively a sound knowledge of the individual pupil together with a basic knowledge of the particular disability is essential. Differentiation must therefore be pupil-centred. It is dependent on effective classroom management. This should involve collaborative working between subject teachers, learning support assistants, the pupil, and parents/carers. Appropriate teaching methods are critical, and the following should be carefully planned, detailed, and adapted:

- Curriculum
- Teaching styles
- Instruction
- Activities
- Tasks
- Methods of response
- Criteria for success
- Evaluation and assessment

It is important to give instructions in simple and familiar language using short concise sentences focusing upon key words and phrases. Pupils with Down's syndrome require visual presentation, either pictorial or by demonstration, followed by visual reinforcement of tasks and simple written instructions. Additionally, use printed instructions, diagrams, adapted worksheets and flash cards with key words, phrases, or sentences. Make use of familiar formats as this will enable the pupil to work independently.

Conclusion

The methods used to teach children with significant learning disabilities such as Down's syndrome will benefit many other pupils. Motivation is a key factor in the success of any programmes of work. It is essential that pupils with Down's syndrome be provided with real reason for reading and writing. Reading and writing about familiar concepts and situations within the pupil's knowledge base are likely to promote success.

All pupils will benefit from continued reading practice and instruction throughout their secondary education. Reading provides opportunities for independent learning, spoken language practice, learning correct sentence structure and the use of grammar.

The aim of continuing to develop literacy skills throughout the education of pupils with Down's syndrome is to promote independence after secondary school and beyond.

Appendix

Tips for preparing worksheets for pupils with Down's syndrome

Method:

- Use meaningful material that is within, or close to, the pupil's own experience.
- Introduce new concepts in familiar context.
- Make the tasks self-contained.
- Provide plenty of prompts such as pictures, diagrams, and print.
- Provide plenty of opportunities for success.
- Use pupil feedback and behaviour to determine whether the written task sheets achieve your educational aims and objectives.
- Supplement instructions and tasks with a taped version that can be replayed for reinforcement.
- Experiment with different versions of a written task sheet.

Presentation

- Differentiate clearly between text and illustrations.
- Leave a wide border all around the edge of the paper.
- Highlight and explain all key words.
- Illustrate new words if necessary.

- Avoid handwritten worksheets and instructions and use a computer.
- Use subheadings to separate and organise written sheets.
- Avoid confusion by using simple and uncluttered layouts.
- Break up continuous text.
- Use illustrations.
- Ensure the illustrations or diagrams tie in closely with the text.
- Highlight instructions, for example in a box or by a selected font or colour.
- Use coloured as well as white paper for variety or coding.

Language

- Use simple and familiar language.
- Keep sentences short and concise.
- Avoid ambiguous words.
- Use active rather than passive verbs.

Acknowledgements

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Gillian Bird BSc (Hons), PG Dip (Is) Director of Consultancy and Education Support Services, The Down Syndrome Educational Trust.

Figure 3: Categorising

Put the picture in the correct place.

Transport

Fruit

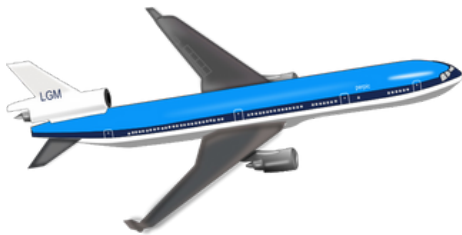


Figure 4:

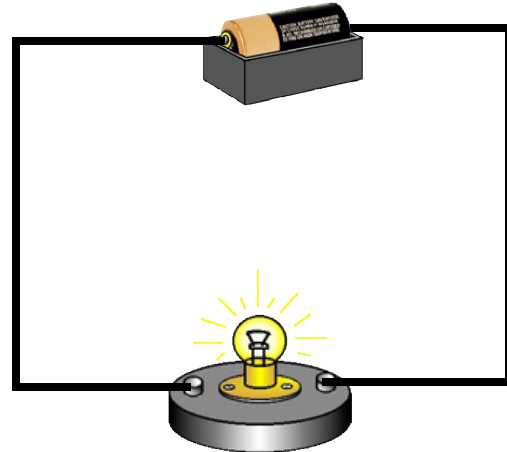
Missing words

Fill in the missing words

1 battery lighting 1 light bulb.

The light is _ _ _ _ _

bright dim

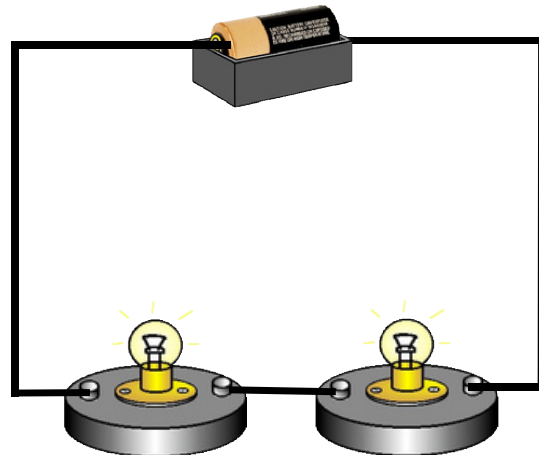


1 battery lighting 2 light bulbs.

1 battery lighting 1 light bulb.

The lights are _ _ _ _ _.

bright dim



2 batteries lighting 1 light bulb.

The light is _ _ _ _ _.

brighter dimmer

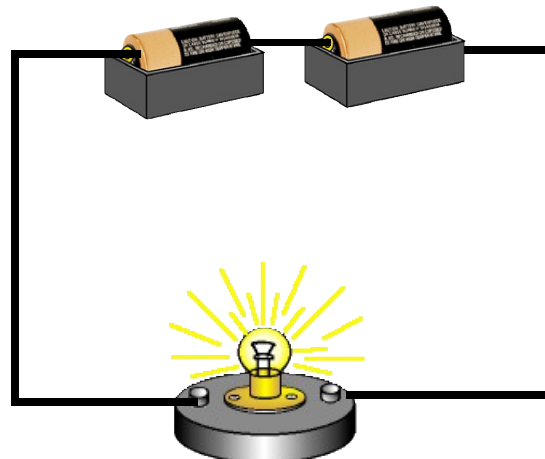


Figure 5:

True or false

Circle true or false for each statement.

| | |
|---|---------------|
| The main parts of a plant are the roots, the stem and the leaves. | True False |
| A plant needs water, light and air to grow. | True False |
| Plants can move from place to place. | True False |
| Plants make their own food with a process called photosynthesis. | True False |
| All plants are poisonous. | True False |

Our Family Support Service offers support to professionals. Please do get in touch to see how we can support you.

Down's Syndrome Scotland is a registered charity in Scotland and we rely on donations to carry out the vital work we do in supporting families.

If you are interested in supporting us please visit www.dsscotland.org.uk or give us a call today.




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