Acknowledgements

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James Darlison
Rizwana Kahn
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Unit 1: Introduction

a) Down’s syndrome today

- Each year, more children with Down’s syndrome than ever before are entering community playgroups and nurseries, attending their local mainstream school and joining in social activities with typically developing siblings and friends.

- Each year more young adults with Down’s syndrome are living in the community, gaining qualifications and experiences and succeeding in a wide variety of ordinary jobs.

- Given the chance to develop their self-help skills and independence, people with Down’s syndrome can respond positively to many of today’s challenges in mainstream schools, colleges of further education, employment and independent living.

- While many will need some support to benefit from the opportunities on offer, the amount of help they need will vary greatly from one individual to another.

- The important fact is that increasingly children and adults with Down’s syndrome are being recognised as people in their own right, able to participate in meaningful ways to the life of their communities.

- This is a very different state of affairs from that which existed in the UK prior to 1970, when children with Down’s syndrome were considered ineducable and were often placed in institutions where they lived out their relatively short lives.

- Expectations of these children were low and they received little in the way of support, stimulation or social experiences. As a consequence, they often failed to develop into confident individuals with the skills necessary to promote their inclusion in the wider community. Instead they stayed in their institutions separated from family and friends.

- Over the last thirty years, research has increased our knowledge about the capabilities of people with Down’s syndrome. At the same time, significant advances in health care, early intervention and family support have vastly improved the quality of life for young people with Down’s syndrome and their families, with most parents opting to bring up their disabled child alongside typically developing siblings.

- Major changes in education law have given children with Down’s syndrome the right to full time education. In the early days, most were placed in special schools. However, in recent years, a steadily increasing number are being educated in the mainstream. As a result, expectations of individuals with Down’s syndrome have increased, alongside greater acceptance by society at large.
Unit 1:

- Professor Sue Buckley sums up the situation thus: “Individuals with Down’s syndrome are people first, with the same rights and needs as everyone else. Their development is influenced by the quality of care, education and social experiences offered to them, just like all other people.”

b) Some basic facts

- Down’s syndrome is the most common identifiable cause of learning disability.

- Two babies with Down’s syndrome are born every day in the UK- about 1 baby in around 1,000 live births.

- Down’s syndrome is a genetic condition caused by the presence of an extra chromosome 21. A baby born with Down’s syndrome thus has three copies of chromosome 21 instead of the usual two.

- In most children with Down’s syndrome, every cell in the body has the extra chromosome (standard Trisomy 21). In 1-2% of babies, only some cells will contain the extra chromosome (mosaic Trisomy 21). However, in either case, the effects of the extra genetic material are likely to be very much the same.

- While children with Down’s syndrome share certain physical characteristics, these will vary from child to child. Most importantly, each child will inherit its own family looks and characteristics.

- Although Down’s syndrome is caused by genetic factors, environmental influences and upbringing play a critical role in their development, as with any other child.

- Children with Down’s syndrome will vary as widely in their development and progress as typically developing children and each will have their own individual talents and aptitudes.

- Children with Down’s syndrome will all have learning difficulties, but these can vary from mild to very severe. At the age of five, the most able children are often functioning near the average level for their age. At the other end of the ability range, there are children with profound and multiple disabilities, often linked with conditions such as autism or epilepsy.

- Generally speaking, children with Down’s syndrome develop more slowly than their peers, arriving at each stage of development at a later age and staying there for longer. Consequently, the gap between children with Down’s syndrome and their peers will widen with age.

- As with many children, progress for those with Down’s syndrome is a continual but unsteady process, continuing into adulthood where the learning of new skills still goes on. The progress of people with Down’s syndrome does not decline with age, nor as was previously thought, do they plateaux in their development.
Unit 1:

- People with Down’s syndrome are living longer than ever before. The average life span, which has been increasing steadily over time, is now 60 years.

c) The aims of inclusion

- The vast majority of children with Down’s syndrome will benefit from placement in a local mainstream school, receiving their education alongside typically developing peers of their own age.

- Research indicates that children with Down’s syndrome placed in the mainstream do at least as well if not better than children of similar ability in special schools.

- Regular opportunities to learn and play alongside typically developing peers gives children with Down’s syndrome the role models they will need to encourage them to develop age-appropriate behaviour.

- Most children with Down’s syndrome have well developed imitation skills and are keen to join in with group activities. They are, therefore, likely to learn by copying other children.

- Through play and social interaction in school, they will acquire the social skills required to make and sustain relationships. Placement in a school within their local community will also provide the opportunity for them to make friends with children they will see outside school.

- While support may be required to facilitate learning, successful inclusion promotes independence. Although the demands of the curriculum may increase as the child gets older, they should progressively be more able to function as ordinary members of the school community, seeking help as and when they need it.

- Inclusive education benefits not only the child with Down’s syndrome, but also leads to greater understanding and less prejudice in the local community and ultimately in society at large.

- Children in inclusive schools learn to become more tolerant and patient and to support each other, rather than competing. They also learn to value diversity and to appreciate that everyone has something to bring to the life of the school.
d) Attitudes to disability

The Special Educational Needs and Disability Act (2001), which came into force in September 2002, makes it unlawful for educational providers to discriminate against disabled children by:

i) treating them less favourably than a non-disabled child on the grounds of their disability, without justification,

ii) failing to take reasonable steps to ensure that they are not placed at a substantial disadvantage compared with other pupils who are not disabled,

iii) failing to plan strategically for and make progress in improving the physical environment, increasing pupils’ participation in the curriculum and improving ways in which written information provided to other pupils is also provided to disabled pupils.

- Staff working with children with Down’s syndrome need to be aware of and guard themselves against commonly held attitudes to disability.

- Don’t feel sorry for children with a learning disability and as a consequence give them special treatment. Children do not ‘suffer’ from Down’s syndrome and special treatment will only serve to isolate them from their peers.

- Always listen to the child, even if their primary form of communication is signing, gesture, body language or inappropriate behaviour. Don’t think you always know what is best. Children who kick their teaching assistant are almost certainly unhappy about what she is trying to make them do.

- Take care not to discriminate against the disabled children and deny them the same opportunities as others. Where there are difficulties in allowing a child to participate safely in an event or activity, share your worries with the parents and your colleagues so that a solution can be found.

- Watch out for bullying or victimisation by staff or other students. Never tolerate name calling or teasing, as it is just as unpleasant and hurtful as racist or sexist language. Where the child clearly dislikes treatment or
intervention being offered by an outside agency, discuss whether the programme is really necessary or if the same objectives could be achieved in a different way.

**Useful reading**


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Unit 2: Effective Strategies for Inclusion

a) Good inclusive practice

- Wherever possible, LEAs should respond positively to parental requests for inclusion at four or five years of age, rather than prejudging the likelihood of a successful placement using preschool assessment information.

- Children with Down’s syndrome should attend a local school to allow the development of friendships and community links. To minimise problems at transfer, a through primary school is generally preferable to separate infant and junior schools.

- Most children who successfully reach Year 6, should be able to benefit from inclusion at secondary level. Prior to secondary transfer, close liaison should be established with the secondary school of the parents’ choice, to overcome natural anxieties and ease transition.

- Unless there are compelling reasons for keeping children in a nursery or reception class for an extra year, children with Down’s syndrome should be placed with their peer group and move up with them each year.

- Under no circumstances should children be separated from their friends by keeping them back part way through their school career. Where there are concerns about curriculum access, schools should seek advice on differentiation.

- Between 15 and 25 hours teaching assistant support are recommended in the early years, with direct support being reduced gradually as the child becomes more independent. In exceptional cases, for example where the child is not yet toilet trained or is at risk of injuring themselves or others, full time support may be necessary.

- As direct support is reduced, more time should be given by the teaching assistant to planning with the class teacher and to the preparation of differentiated teaching materials.

**THE ROLE OF THE TEACHING ASSISTANT**

- **In-class support**
  - Small group work
  - One to one teaching

- **Liaison & planning**
  - Preparation of teaching
  - Assessment & record keeping

Should decrease as child gains in independence.  
Should increase as curriculum becomes more complex.
Unit 2:

- LEAs should ensure that all staff working with a child with Down’s syndrome have access to high quality training and ongoing support.

- Schools should ensure that every child receives direct input from a qualified teacher on a regular basis. Under no circumstances should total responsibility for the child’s teaching programme be left to a teaching assistant.

- In the secondary sector, subject and support teachers should plan together to ensure that the curriculum is appropriately differentiated.

- To foster independence, teaching assistants should be encouraged to offer flexible support across the classroom. Help should be offered only when required and children taught to solve their own problems, seeking help only when they really need it.

- Outside the classroom, individual help should be kept to a minimum and the assistance of peers encouraged. Where safety is an issue, supervision should be offered but at a distance.

- Withdrawal should only be used when strictly necessary, to facilitate optimal learning. Wherever possible, support should be offered in the classroom. If withdrawal is considered essential, children should be offered the option of bringing a friend or working in a small group.

- In the secondary sector, students should be placed in mixed ability groups wherever possible. Where setting is in place, consideration should be given to placing the student with Down’s syndrome in a set with well motivated peers to provide good models of learning and behaviour.

- Regular access to advice from a qualified speech and language therapist should be available to all schools catering for a child with Down’s syndrome. In most cases, termly or half-termly visits, backed up by a structured language programme, should be sufficient.

- Where direct therapy is required, this should be offered in school to allow staff to learn appropriate ways of working and to encourage joint planning between the class teacher, the therapist and the teaching assistant.

- All schools should have at least termly advice and support from an educational psychologist or advisory teacher. Where outreach is provided by staff from a special school, they should be trained in good inclusive practice.

- Schools should work closely with parents and ensure that effective forms of communication are in place. Where concerns are expressed by school staff, parents should be informed at the earliest stage and efforts made to resolve the problems cooperatively.

- A special school placement should only be considered when all other options, including a change of mainstream school, have been explored.
b) Creating an inclusive school

- Inclusive schools welcome diversity and foster the development of friendships, alongside the achievement of learning objectives, for all their students.

- The inclusive school is one where:
  - The classroom climate is as important as the curriculum.
  - The environment is warm, positive and accepting.
  - All students are made to feel good about themselves.
  - Students learn respect and tolerance of one another.
  - Students learn ways of working together so everyone can participate.

- Every teacher in an inclusive school:
  - Accepts responsibility for the learning of all students in their classes.
  - Gets to know each student before deciding how best to teach them.
  - Works towards the full participation of each and every student.
  - Involves the peer group in meeting the needs of individual students.
  - Celebrates the achievement of all students.

- To work towards being more inclusive, the Senior Management Team need:
  - To set aside time to plan together to meet the needs of all students.
  - To consider the social effects of pupil groupings.
  - To look at the way support is used throughout the school.
  - To recognise the importance of disability awareness in the curriculum.
  - To raise the profile of peer support in all areas of school life.

- Friendships with peers are often the key to a child’s sense of self-identity and emotional security. To foster the development of friendships:
  - Provide ample opportunities for children to interact normally.
  - Encourage the use of peer tutoring or buddy systems.
  - Use circle time to explore feelings.
  - Establish circles of friends to support individual students.

**KEY FACTORS FOR INCLUSIVE PLACEMENT.**

- A positive attitude of the whole school
- A flexible approach to the use of support staff.
- Ownership by the class teacher of the child’s learning programme.
- Good communication between the school and the parents.
- Support for the school from LEA services.
Unit 2:

c) Classroom planning & IEPs

• In developing an inclusive timetable for the student with Down’s syndrome, teachers need to combine information they receive from parents, colleagues and other professionals with observation of the student in the classroom, their response to the teaching programme offered and the results of any more formalised assessment procedures.

• By using all four sources of information, the class teacher should be able to build up a picture of:
  1) the child’s language and communication skills,
  2) their gross and fine motor skills,
  3) their literacy skills,
  4) their numeracy skills.

• In addition they should be aware of:
  5) the student’s individual learning style,
  6) their ability to function independently,
  7) their social skills and ability to form relationships,
  8) their level of inclusion in the life of the school.

• This information should then form the basis of the student’s Individual Education Plan, with targets being selected from at least six of the eight areas described above.

• In drawing up an IEP, care should be taken to set targets and design appropriate objectives to cover times when the student is:
  i) involved in class activities without individual support,
  ii) participating in differentiated activities with in-class support
  iii) working individually on specifically designed programmes of work.

DEVELOPING AN INCLUSIVE TIMETABLE

UNSUPPORTED ACTIVITIES.

FULL PARTICIPATION WITH PEERS

MULTILEVEL TEACHING.

INDIVIDUAL OR SMALL GROUP SUPPORT

DISTINCT OR SPECIALISED ACTIVITIES.

WITHIN CLASS OR BY WITHDRAWAL

SUPPORTED PARTICIPATION.

MULTILEVEL TEACHING OR CURRICULUM OVERLAPPING.
Unit 2:

- All adults involved in delivering the student’s programme should be involved in drawing up the IEP.

- At regular intervals the IEP should be reviewed to ensure that:
  i) The targets are still appropriate and the interventions still effective,
  ii) attention is being paid to social as well as curricular goals,
  iii) the student is becoming more independent as well as more skilled,
  iv) staff are becoming increasingly confident in meeting the student’s needs.

- While each school or LEA will have its preferred model for IEPs, some examples are appended which may prove useful.

### INDIVIDUAL EDUCATION PLAN

<table>
<thead>
<tr>
<th>Teaching objective:</th>
<th>Class activity:</th>
<th>Intervention strategy:</th>
<th>Success criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusion</strong></td>
<td>Christmas play. All Year 3 children involved.</td>
<td>To be given lots of time to practice lines. Friend to stand beside her.</td>
<td>To perform in play in public and to remember lines.</td>
</tr>
<tr>
<td><strong>Level of support:</strong></td>
<td>Unsupported</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Literacy</strong></td>
<td>TA to teach words from book on flash cards, with group of peers, before book introduced.</td>
<td></td>
<td>To read Book 5 to teacher with 90% accuracy.</td>
</tr>
<tr>
<td><strong>Level of support:</strong></td>
<td>With LSA support in class</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independence</strong></td>
<td>To be asked to get dressed 5 minutes before peers. Practical help from LSA to be gradually reduced as she gets more competent. Ongoing encouragement &amp; praise for speed.</td>
<td>Successfully dressed, including fastenings, with minimal help and back in class with peers 3 times out of 5.</td>
<td></td>
</tr>
<tr>
<td><strong>Level of support:</strong></td>
<td>With TA support on 1:1 basis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name:** Sarah Palmer  
**Class:** 3  
**Date:** September 2002  
**Level of support:** With LSA support in class
## Unit 2:

**INDIVIDUAL EDUCATION PLAN**

<table>
<thead>
<tr>
<th>Name: Sam Jameson</th>
<th>Class: 8 Blue</th>
<th>Date: September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching objective</td>
<td>Class activity</td>
<td>Intervention strategy</td>
</tr>
<tr>
<td>Language</td>
<td>Lunch time-selecting own meal.</td>
<td>Lunchtime supervisor to prompt then wait at least 1 minute for response.</td>
</tr>
<tr>
<td>Social skills</td>
<td>Coming to school.</td>
<td>Friends to call for Sam on way to bus stop.</td>
</tr>
<tr>
<td>Learning style</td>
<td>History lesson. (Pupils discussing topic in small groups then writing up own account.)</td>
<td>TA to go over topic discussed and record main ideas, plus key words. Then to move away and work with others until task completed.</td>
</tr>
<tr>
<td>Numeracy</td>
<td>Maths lesson (middle set with two teachers).</td>
<td>Teacher to work individually with Sam within classroom on strategy.</td>
</tr>
<tr>
<td>Strategy/provision</td>
<td>Monitoring arrangements</td>
<td>Progress towards target</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Date: 10/15/2015</td>
<td>T.A. reads in: Malhew book</td>
<td>Richard has achieved the following:</td>
</tr>
<tr>
<td>Teach 7 years old students how to read.</td>
<td>Half termly work sampling</td>
<td>Formally likes to use the computer.</td>
</tr>
<tr>
<td>Teach reading this book to help Robert think of familiar things he wants to write about.</td>
<td>Monitoring by class teacher</td>
<td>Still needs some prompting with writing half termly.</td>
</tr>
<tr>
<td>Reading book: Malhew book.</td>
<td>T.A. to prompt out write.</td>
<td>Can &quot;count&quot; independently but often needs to be prompted to do so.</td>
</tr>
<tr>
<td>Use flash cards. First words, 2 words a week.</td>
<td>T.A. to keep up pace.</td>
<td>Richard can write 5 sentences by the end of the week, but only very simple.</td>
</tr>
<tr>
<td>I will learn to spell 2 words a week from the High Frequency list.</td>
<td></td>
<td>Remembers capital letters 50% of the time.</td>
</tr>
<tr>
<td>I will learn to spell 2 words a week from the High Frequency list.</td>
<td>T.A. to keep up pace.</td>
<td>Can spell 10 short high frequency words independently but needs visual prompts of other words in his sight vocabulary.</td>
</tr>
<tr>
<td>I will learn to spell 2 words a week from the High Frequency list.</td>
<td></td>
<td>Needs to maintain some previous learning words.</td>
</tr>
</tbody>
</table>

**Unit 2:**

- **Pupil's name:** Richard Clarke
- **Year:** 3
- **Action/reaction plan:**
- **Teacher:** Ann Brown
- **Date:** Sept 12
- **Review date:** Dec 12
### SEN Action Record

**Unit 2:**

<table>
<thead>
<tr>
<th>Target and criteria for success</th>
<th>Strategies/provision</th>
<th>Monitoring arrangements</th>
<th>Progress towards target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard to follow teacher instructions, repeated by TA if necessary and then again by class teacher personally. Re-inforce using eye contact and positive praise. Richard to collect beads as reward for each time he co-operates.</td>
<td>Richard to follow teacher instructions, repeated by TA if necessary and then again by class teacher personally. Re-inforce using eye contact and positive praise.</td>
<td>Much improved and mainly achieved - some reluctance to attend class for 8-10 success rate, further work to be undertaken.</td>
<td>Richard to continue to write in phonetic book for follow up work in speech and language and literacy sessions.</td>
</tr>
</tbody>
</table>

**Pupil's name:** Richard Clarke
**Date:** Sept-Dec

---

- Number of beads given to Richard for the co-operation target to be recorded in homework book so that Mr. & Mrs. Clarke can praise Richard at home.
- Mrs. & Mrs. Clarke to continue to write in phonetic book for follow up work in speech and language and literacy sessions.
<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Management 40m</td>
<td>A: A1 Group 14m</td>
</tr>
<tr>
<td>C: 30m Reading/Phonics</td>
<td>C: A1 Group 14m</td>
</tr>
<tr>
<td>T: 30m Reading/Phonics</td>
<td>T: A1 Group 14m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>E: 30m Reading/Phonics</td>
<td>E: A1 Group 14m</td>
</tr>
<tr>
<td>O: Speech &amp; Language</td>
<td>O: A1 Group 14m</td>
</tr>
<tr>
<td>N: 15m TA Mrs Blake</td>
<td>N: 15m TA Mrs Blake</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>F: A1 Group 14m</td>
</tr>
<tr>
<td>P: A1 Group 14m</td>
</tr>
</tbody>
</table>

Other targeted support outside lessons, e.g. small break times between lessons.

---

### Assessment, Planning and Review
- Half term review of work sampled
- Weekly spelling

### Grouping for teaching purposes
- Work in small groups of V/K/E/L/I/2B/2C
- Grouped by TA, works with partners in pairs in Numeracy supported by TA
- Includes whole group for initial planning

### Present all meeting

---

Parent / carer comment at review

### Parent / carer's signature

---

Agreed action
- Continue with current level of intervention

- Move to School Action Plan

- Complete request for a statutory assessment form

---

Cease additional action
- Refer to support service outside agency, specific

---

Note: All units in work with Richard as co-ordinator.
Unit 2

**SEN action record**

**Individual education plan and review**

_Pupil's name: John Slater_

**Year: X**

**Action: Action Plan**

**Teacher's name: D. Bennett**

**Start date: Jan**

**Review date: March**

---

**Details of school funded support:** 3 hours TA support

**Details of support services/other agencies:** Down's syndrome Adviser, Speech & Language Therapist

**Details of additional LEA funded support:** 24 hours LSA support

---

**Target and criteria for success**

I will make sure I obey the class rules and work well for the adults who are helping me.

I will use longer sentences more often in my speaking and writing by using the joining words I have learned.

I will continue to practice my 2, 5 and 10 times tables and use them in some involving money.

I will aim to score 8 out of 10 in my tests.

---

**Strategic provision**

- Teachers/TAs to remind John of targets.
- Teachers/TAs to give verbal praise.
- Maths when John works co-operatively.
- Follow strategies advised by Speech Therapist.

---

**Monitoring arrangements**

Monitor and record in the book.

Monitor and record in Home-school book.

---

**Progress towards target**

John has achieved this target and now works well with the new TA.

John has achieved the target well.

PAT has improved his written work. These sentences are now longer but tend to be somewhat repetitive.

Concentrate more on writing more relevant varied sentence structures.

John has achieved 10 out of 10. Progressing aim 5 is table but not at random.

Needs to continue 2-3 table nearly achieved. 7 out of 10 most weeks.

---

SEN action record, ended February
d) Using support staff effectively

- To help children learn, it is important that teaching assistants are never asked to take responsibility for teaching new skills without appropriate training and support.

- They should encourage cooperative learning and the involvement of more able peers to provide good role models.

- They should act as a bridge between the child and the mainstream curriculum, rather than providing very different work.

- They should liaise regularly with the class teacher and provide feedback on the child’s response to the curriculum.

- To encourage the development of age-appropriate behaviour, teaching assistants should ensure that children with Down’s syndrome spend most of their time with typically developing peers of a similar age.

- They should set high expectations and refuse to accept immature or silly behaviour. To overcome memory problems, they should remind the child regularly about school and class rules.

- Interactions with peers providing good models of behaviour should be fostered and other children encouraged to tell the child when they don’t like their behaviour.

- To facilitate the formation of friendships, teaching assistants should give the child opportunities to interact without close adult supervision. No Velcro’ed assistants please.

- They should encourage other children to befriend and support the disabled student, trusting them and sharing responsibility with them for the student’s welfare.

- They should make sure the child has the opportunity to take part in the whole range of school activities.

- To help the child become more independent, teaching assistants need to allow children to make mistakes and then try to solve their own problems before seeking help.

- They should avoid being a helicopter, hovering over the child in case they have any problems.
Unit 2:

- They should give the child responsibilities within the classroom and let other children see that they are not dependent on having a minder.

**WHAT SORT OF LEARNING SUPPORT ASSISTANT?**

- A VELCRO’D ASSISTANT.
- A HELICOPTER ASSISTANT.
- A BRIDGE Builder

The class curriculum  The child
Unit 2:

Useful reading

1. Booth, T. et.al. (2000) Index for Inclusion. CSIE.


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Unit 3: Developing Language Skills

a) Language development in Down’s syndrome

• Learning to talk is one of the most important things that children do. It is the basis of their social, emotional and cognitive development. Consequently, progress in learning to talk will benefit every other aspect of the child’s life.

• For children with Down’s syndrome, speech and language skills are often significantly delayed, more so than their non-verbal abilities. Research has identified a specific profile of speech and language delays and difficulties associated with Down’s syndrome.

• Many children with Down’s syndrome experience some hearing loss, especially in the early years. Over 50% are likely to have a conductive loss due to glue ear, resulting from frequent upper respiratory tract infections. These infections tend to be exacerbated by the small sinuses and narrow ear canals typically found in children with Down’s syndrome. In addition, up to 20% may have a sensorineural loss, caused by developmental defects in the ear or the auditory nerves.

• If the child you are working with does not respond to verbal instructions, it is important to determine whether they are ignoring you, whether they don’t understand what you are saying or whether they are simply unable to hear you properly. Remember, hearing can fluctuate on a day to day basis, so monitor the child’s responses carefully and get professional help if you are in doubt.

• Children with Down’s syndrome often have difficulty making speech sounds because of low muscle tone in the tongue and lips making their speech imprecise or slurred. A smaller than average oral cavity leaves less room for the tongue which may appear to be too big for the mouth, thus impeding speech production.

• Mouth breathing due to nasal congestion or enlarged tonsils and adenoids will also affect intelligibility, fluency and resonance. Vocal chords may be swollen, affecting their ability to vibrate, resulting in the hoarse voice typical of many children with Down’s syndrome.

• Language learning is affected by the child’s skills in auditory discrimination and auditory processing as well as their short term auditory memory. All of these are slow to develop in children with Down’s syndrome.

• Short term auditory memory is the memory store used to hold, process, understand and assimilate the meaning of spoken language. A poor short term auditory memory will affect the child’s ability to follow and respond to the spoken word as well as the rate at which new words are learned.
Unit 3:

• Because of their poor working memory, children with Down’s syndrome have greater difficulty than their peers with:
  - processing and retaining spoken words,
  - understanding and responding to spoken language,
  - following verbal instructions,
  - learning abstract or unfamiliar vocabulary,
  - remembering rules and routines,
  - developing organisational skills,
  - remembering sequences or lists.

• Critically, words disappear too quickly from the memory. A child struggling to process and remember what was said can quickly become overloaded if given unfamiliar vocabulary or long complicated sentences. If that happens, they will either switch off completely or retain only parts of what they have heard, typically the beginnings or ends of sentences.

• This poses real problems for children in school situations with a high auditory content such as carpet time, circle time, listening to a new story, assembly, whole class discussions, whole class instructions or mental arithmetic sessions.

b) Strategies to promote language

• To reduce the effects of any hearing loss, children with Down’s syndrome should be placed near the front of the class and background noise kept to a minimum.

• The teacher should speak clearly and directly to the child, taking care over similarly sounding words such as ‘trees’ and ‘cheese’. She should maintain eye contact and use visual cues such as pictures, signs or exaggerated facial expressions to support speech.

• To gain their attention, use the child’s name before giving them an instruction or asking them a question.

• New vocabulary should be written on the board, once the child has learned to read, and other children’s answers repeated back.

• Any verbal input should be supported in visual form, i.e. keywords, symbols or drawings.

• To improve articulation and phonology, consult a speech and language therapist about activities that can be incorporated into the child’s learning programme.
Unit 3:

COMMUNICATION MATRIX

<table>
<thead>
<tr>
<th>Record exactly what the child says or signs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIGNS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SINGLE WORDS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TWO OR THREE WORD PHRASES</strong></td>
<td></td>
</tr>
<tr>
<td><strong>LONGER UTTERANCES (NOT ONES COPIED FROM OTHER PEOPLE)</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Record examples of language used for different purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INITIATING A CONVERSATION</strong></td>
</tr>
<tr>
<td><strong>ASKING A QUESTION</strong></td>
</tr>
<tr>
<td><strong>REPORTING ON PAST EVENTS</strong></td>
</tr>
<tr>
<td><strong>GIVING INSTRUCTIONS</strong></td>
</tr>
<tr>
<td><strong>SHOWING IMAGINATION</strong></td>
</tr>
<tr>
<td><strong>PLANNING AHEAD</strong></td>
</tr>
</tbody>
</table>

- Keep records of the child’s expressive and comprehension abilities. Ensure that their true abilities are not underestimated. Observe them and write down the gestures, signs and words that they already use. Ask the parents to do the same at home and compare the two lists.

- Listen and respond to all the child’s communications. Create opportunities for them to make choices.

- Give them time to organise their thoughts and find the words they want to use. Count to 30 before jumping in.
Unit 3:

- Use styles of conversation that will encourage them to expand on and develop their verbal contribution. Try to avoid closed questions that require only a one word answer.

- Simplify your language whenever you can. Try to use key words in a sentence e.g saying “Come here” instead of “Come closer so that I can hear what you are saying”.

- Back up words with gestures e.g. finger to lips and “Shhh” instead of “Stop talking and get on with your work”. Use signs and reading activities to support all speech work.

- Repeat individually any instructions given to the class as a whole. Check the child has understood by asking them to repeat back what you said.

- Give the child with Down’s syndrome opportunities to practice their language in situations that are meaningful for them. Wherever possible, encourage them to take the lead e.g. giving instructions to their peers as teacher’s helper.

- Give choices. Instead of “Where were you when you lost your book?” try “Where’s your book? On the floor? In your tray?”.

- To improve short term auditory memory:
  Play memory games such as “I went to market and I bought.....” Teach rehearsal techniques e.g. repeating subvocally an instruction as they complete a task or take a message.

c) Using sign to facilitate language development

- Children who cannot say what they want or how they are feeling may develop inappropriate behaviours. Visual prompt cards or cards showing feelings may empower the child to communicate their needs visually before they can do it verbally.

- Children with Down’s syndrome learn to use gestures long before they can talk. First words are typically delayed even when early vocabulary is understood. Being able to sign means children are able to communicate more effectively and thus frustration is reduced.

- Ideally, signing systems such as Makaton or Signalong should be introduced before the child starts school. However, it is important that parents and school staff are familiar with
Unit 3:

the child’s signing system and can back it up both at home and in school.

- Signs help children to use new words while their speech is still difficult to understand. Signs are a bridge to speaking and will be needed less as speech develops. As long as adults talk as they sign, signing will not delay speech development.

Example of Communication book - using symbols to describe emotions and feelings.
Unit 3:

- Children who sign have been found to acquire larger spoken vocabularies than those who don’t. However, it is important that speech sound work is ongoing alongside the use of signs. The focus should always be on learning to say words with signs as an aid not as an alternative.

- Speaking should be encouraged as the main means of communication from around four years of age. By school age, signs should only be used when necessary and speaking should be the focus for daily communication.

- Nevertheless, communication will be improved if the whole class are taught to use and understand the first 50-100 signs.

d) Teaching reading to teach talking

- Children with Down’s syndrome have difficulty learning language from listening alone. However, they find it easier to learn visually. As a consequence, printed words are easier for them to remember than spoken words.

- Print can be used from as early as two years of age to support language learning. Many children with Down’s syndrome begin to read at an early age and can remember printed words with ease.

- Reading to children with Down’s syndrome and teaching them to read may be the most effective way to develop speech and language skills from infancy right through the school years.

- Research studies show that teaching reading has a significant effect on the development of language and working memory for children with Down’s syndrome.

- All language targets can be taught with the aid of written materials, even to children who are not able to remember the words or read independently.
Unit 3:

- Reading activities teach new vocabulary and grammar. Reading enables children to practice complete sentences, teaches word order and supports correct pronunciation.
- Reading can help speech at the level of sounds, whole words or sentence production.

Useful reading


Language resources

1. Devon Learning Resources, 21 Old Mill Rd., Torquay. TQ2 6AU. Tel: 01803 605531

2. DownsEd, The Sarah Duffen Centre, Belmont St., Southsea, Portsmouth, Hants. PO5 1NA. Tel: 023 9285 5330

3. LDA, Duke St., Wisbech, Cambs. PE13 2AE. Tel: 01945 463441

4. Philip & Tacey, North Way, Andover, Hants. SP10 5BA. Tel: 01264 332171

5. The Signalong Group, Communication Language Centre, North Pondside, Historic Dockyard, Chatham, Kent. ME4 4TY. Tel: 01634 832469

6. Winslow Press, Telford Rd., Bicester, Oxon OX6 OTS. Tel: 01869 244644

7. Makaton Vocabulary Development Project, 31 Firwood Drive, Camberley, Surrey, GU15 3QD. Tel: 01276 681368

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Unit 4: Differentiating the Curriculum

a) Why differentiate?

- John Visser defines differentiation as “the process whereby teachers meet the need for progress through the curriculum by selecting appropriate teaching methods to match an individual child's learning strategies, within a group situation”

- It is thus an integral part of effective teaching practice for all pupils, enabling them to work at their own level and pace, make progress and achieve. It requires an understanding and awareness of individual differences between pupils and the implications of these differences in terms of access to the curriculum.

- Differentiation is by no means a simple business. It calls for the modification of curriculum objectives and learning outcomes, of activities, resources and forms of assessment. Each needs to be matched to the pupil’s individual abilities and needs, strengths and weaknesses, learning styles, aptitudes and developmental stage.

- The temptation is to look for a single solution e.g. focussing solely on the ability of the child. Attention is paid to the pupil’s level of attainment and the content of the lesson simplified accordingly. However little thought is given to how the pupil learns most effectively. When differentiating the curriculum for a pupil with learning difficulties, how the content is delivered is at least as important as the content itself.

- It is important not to become restricted by any single technique. In particular, withdrawal from mainstream activities either physically or by the use of totally different subject matter should be avoided as it restricts opportunities.

- Effective differentiation aims to use the pupil’s strengths and learning styles, while taking into account their areas of weakness and developmental stage. A flexible approach is, therefore, required.

- Pupils with learning difficulties are often the ones who are most vulnerable to ill chosen learning, making them more susceptible to avoidance behaviours and failure. This is particularly the case for pupils with Down’s syndrome who often do not cope well with many common classroom practices e.g. whole class teaching, learning through listening and follow up work based on the completion of written tasks.

- To ensure differentiation takes place in a meaningful way, school policies and practices, teaching approaches, assessment procedures and attitudes may need to be adapted. It may also entail changing views of what constitutes achievement.
Unit 4:

- The depth of understanding and pace of learning expected within the National Curriculum framework can be a problem for teachers endeavouring to meet the needs of pupils with learning difficulties. Finding the right balance between the curriculum content and the level of experience, skill and understanding of the pupil is not always easy.

- The question arises as to how much of the curriculum is appropriate for pupils with Down’s syndrome to study. There are two factors to be considered. The first is simply that some areas of the National Curriculum are more accessible than others and will need less modification, if any. The second is that the level of ability in pupils with Down’s syndrome varies enormously, as it does for typically developing pupils.

- Generally speaking pupils with Down’s syndrome develop more slowly than their peers. Since the developmental gap between pupils with Down’s syndrome and their peers will widen with age, helping them access the curriculum can become more problematic at secondary level. While some pupils may be functioning at Level 2 or above in many subjects, others will still be working towards Level 1.

- By the time pupils reach Key Stage 4, the issue of curriculum access becomes even more problematic. Instead of pursuing narrow curricular objectives, schools may need instead to focus on vocational skills, independence and social competence.

- There is a tension, however, between these aims and the need to relate pupil progress to achievement in the National Curriculum. There is a minimum that all teachers should expect any pupil to experience, giving them some relevant understanding of the subject as well as useful skills. This means there must be a fine balance between the subject content in a lesson or activity and the pupil’s individual needs.

- As the DfES/QCA note in their curriculum guidelines ‘Planning, teaching and assessing the curriculum for pupils with learning difficulties’:
  “All pupils should be provided with opportunities to acquire, develop, practice, apply and extend their skills in a range of contexts across the curriculum. These skills will also be relevant to life and learning outside and beyond the school”.
Unit 4:

Key Stage 2
The Prince and the Princess

We have read a story about Gehest and the Wolf. We are going to write about the Prince and the Princess.

The princess was _______ and _________. ________

We need to choose words to describe the Prince and the Princess. Choose the correct words to use in your sentences.

The Prince

weak brave tall

strong shy

gentle kind

handsome ugly

The prince was _______ and _________. ________

He had a _______ _______ face.

The Princess

smile brown

long hair

unhappy beautiful

green happy eyes
Unit 4:

Regular class 3 worksheet

**PARTY TIME**

You are planning a party. Think about what you will need and what you would like. Use this sheet to jot down your ideas.

Food:
Savoury -
Sweet -
Cake:
Drinks:
Music:
Decorations:
Games:
Party Bags:
Extras:

Examples of differentiated work
### Unit 4:

Examples of differentiated work

<table>
<thead>
<tr>
<th>cakes</th>
<th>birthday-cake</th>
<th>plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>burger</td>
<td>banana</td>
<td>chips</td>
</tr>
<tr>
<td>jelly</td>
<td>knife, fork, spoon</td>
<td>drink</td>
</tr>
<tr>
<td>sausages</td>
<td>ice-cream</td>
<td>crisps</td>
</tr>
<tr>
<td>coke-cola</td>
<td>apple</td>
<td></td>
</tr>
<tr>
<td>strawberries</td>
<td>presents</td>
<td>balloons</td>
</tr>
</tbody>
</table>

*Party Word Sheet*
Unit 4:
Examples of differentiated work

Science  KS3: Materials and their properties

ACIDS AND ALKALIS
THE pH SCALE.

We are going to look at ACIDS and ALKALIS

➢ An acid is a liquid like lemon juice.
➢ Baking soda is an example of an alkali.
➢ We are going to find out if a substance is an acid or alkali.
➢ To do this we will use a special chemical called universal indicator and look at the pH scale.
➢ The universal indicator can show us if something is an acid or an alkali or if it is acidic or alkaline.

WHAT TO DO

➢ Look at the liquid in the test tubes.
➢ The liquid is green. If you add some universal indicator to the liquid in the test tubes, the liquid may change colour.
➢ If the test tube contains an acid it will turn red when you add universal indicator.
➢ If the test tube contains alkali it will turn purple when you add universal indicator.
➢ If the test tube is not acidic or alkaline it will stay green when you add universal indicator. It means that it is neutral.
Unit 4:

Examples of differentiated work

My Scientific Investigation to test for Acids or Alkaline:

- The liquid in test tube 1 turned ...........................................

- This means it is an .......................... or it is ..........................

- The liquid in test tube 2 turned ...........................................

- This means it is an .......................... or it is ..........................

- The liquid in test tube 3 stayed ...........................................

- This means it is .............................. It is not an ..........................

It is not an ..............................

neutral    green    acidic    red

alkali     acid     alkaline  purple
b) Planning for differentiation

- In order to achieve child-centred differentiation, teachers should be aware of each pupil’s current knowledge and understanding, their level of skill and ability and their level of development and aptitude in the relevant subject area. They also need to be aware of the pupil’s general learning strengths and weaknesses as well as their preferred learning style.

- Building upon this knowledge, staff should decide upon appropriate learning objectives within the topic or subject area. These should be staged in small steps. It is also important to achieve a balance between experiences with which the pupil is familiar and new activities which they will find challenging.

- Curriculum planning, therefore, involves drawing upon a wide range of material. Teachers will need to identify, from schemes of work, appropriate objectives that the pupil can access and achieve. The fact that the child with Down’s syndrome may be working at a very different level from their peers does not mean that the subject or topic they are working on has to be different.

- In many cases, however, it will not be appropriate for the pupil with Down’s syndrome to access in full the same programme of study as their peers. It may be more suitable for them to focus on particular aspects of the topic. For example, teaching the vocabulary and safety aspects of electricity may be more useful than trying to teach about electric currents as an abstract concept.

- Within the same subject area, teachers will need to determine individualised objectives and tasks for the pupil with Down’s syndrome, rather than expecting them to complete the tasks set for the rest of the group. The pupil may lack the skills, knowledge and understanding required to achieve the intended outcome of the activity. Failure to recognise this is often the cause of avoidance tactics or refusal to comply. The focus must be on what the pupil is likely to learn from an activity.

- In some cases, pupils level of understanding and attainment may mean that some programmes of study and performance descriptions from earlier key stages are more appropriate.
Unit 4:

- Curriculum mapping, mapping the programmes of study and level descriptors across the key stages, will often clarify how the main objectives of a particular activity can be re-interpreted to allow the child to demonstrate the level at which they are working. The aim is to differentiate the task so that it addresses a performance descriptor associated with a younger child but in a context that reflects the child’s own age and interests.

<table>
<thead>
<tr>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place events and objects in chronological order (KS1) and events, people and changes into correct periods of time. (KS2)</strong></td>
</tr>
</tbody>
</table>

**Level W1**
- Identify differences between photographs of child now and as a baby.
- Distinguish between old and new – objects, pictures and photos.
- Sequence a few events experienced by child – photos, pictures, symbols, words.
- Sequence school day into simple order – photos, symbols, and flashcards.

**Level 1**
- Sequence pictures of child at different ages.
- Sequence pictures of related objects belonging to people of different ages – walking stick, pushchair, and bicycle, nappy, pants.
- Sequence objects, pictures & events pertaining to child’s life in order to develop a sense of chronology.
- Sequence days of week and use as a simple timeline.

**Level 2**
- Sequence events & objects studied within a historical context.
- Place a selection of toys, pictures, artefacts in chronological order & answer questions about the newest / oldest.
- Sequence months of year to use a time line e.g. as calendar of school year.
- Use time line with non-standard units to sequence items such as several generations of family photos.

**Level 3**
- Use timelines marked in decades to sequence & compare objects / people / events beyond living memory.
- Use timelines marked in centuries to sequence & compare objects / people / events in historical time.
- Develop an understanding of historical time into periods, within which events, people and artefacts can be located.

**Level 4**
- Develop an understanding of the use of dates to locate events, people and changes within time.
- Begin to make appropriate use of dates & chronological terms to produce structured work.

- It calls for creative thinking and imagination on the part of the teacher, common sense, flexibility and additional resources. This all requires good planning and liaison between subject teachers and support staff to help prepare and differentiate materials.
### Unit 4:

#### KEY PRINCIPLES FOR DIFFERENTIATION

#### CONTENT
+ Decide upon the main focus you wish the pupil to learn.
+ Look at level descriptors below the standard key stage and at programmes of study from earlier key stages to give you ideas.
+ Check content relates to previously acquired knowledge & skills.
+ Try to reflect points from the pupil’s IEP.
+ Ensure you provide opportunities for pupil’s personal skills, such as independence & cooperation with peers, to be developed.

#### APPROACH & CONTEXT
+ Ensure learning objectives are broken down into small steps.
+ Ensure they are clearly focused & short.
+ Use familiar & meaningful material.
+ Build in additional repetition & reinforcement.
+ Choose appropriate contexts- whole class, small group or partner.
+ Choose appropriate level of support- TA, peer or teacher.
+ Consider learning outcomes at the same time as planning tasks.

#### PRESENTATION
+ Remember pupils learn best through a multi-sensory approach- seeing, copying, doing, feeling.
+ Present all work visually- print, diagrams, pictures, symbols.
+ Ensure oral instructions are reinforced visually.
+ Use concrete & practical materials whenever possible.
+ Teach key words & subject specific vocabulary.

#### RESPONSE & ASSESSMENT
+ Ensure that the methods of response expected are realistic & appropriate.
+ Provide alternative means of recording- computer, dictaphone, pictures, digital camera, flash cards or stickers.
+ Look at level descriptors below the standard range for the key stage.
+ Provide lists of words within the pupil’s sight vocabulary, including key words, to aid free writing.
+ Decide how progress will be monitored and recorded.
c) The learning profile of pupils with Down’s syndrome

- Children with Down’s syndrome are not simply developmentally delayed but have a specific learning profile. When planning and differentiating programmes of work, the characteristic learning profile, together with individual needs and variations within that profile, must be considered and matched to the subject matter.

- The following factors are typical of many, but not all, children with Down’s syndrome. Each has implications for their education.

  i) Strong visual awareness and visual learning skills. The ability to learn and use sign, gesture and visual support. The ability to learn using the written word.

  ii) The desire and ability to learn from their peers, to imitate and take their cue from them.

  iii) Delayed motor skills, fine and gross, leading to clumsiness and manipulation difficulties.

  iv) Auditory and visual impairments leading to hearing and sight loss.
Unit 4:

v) Speech and language delay. Problems with articulation, comprehension and expression.

vi) Poor short term auditory memory. Problems with consolidation and retention.

vii) Short concentration span. Difficulties with generalisation, thinking and reasoning.

• When planning the curriculum for pupils with Down’s syndrome, the most important factor to take into account is the fact that these children are strong visual learners and poor auditory ones. They need a visual, practical and kinaesthetic approach, using real life concrete and practical materials.

• Generally speaking, the development of motor skills in many children with Down’s syndrome lags behind that of typically developing peers. This is particularly apparent in the early years and is due to poor muscle tone (hypotonia) and loose ligaments. However, given appropriate practice and encouragement, most children can make good progress.

• Problems with gross motor skills often improve by the time children reach the end of their primary education. However, many may still find difficulty in coping with stairs or keeping pace with their peers in PE and games. Some children with Down’s syndrome dislike large team games, finding them confusing and overwhelming. This may be due to the pace of the game as they tire more easily than their peers, to the level of noise or to the complexity of the rules.

• Some children have particular problems with balance and spatial awareness or may be frightened of physical contact or being knocked over. However, other children with Down’s syndrome enjoy this aspect of school life very much, so it is important not to deny them the positive opportunities for social participation that sport offers. Further, since obesity can be a problem for some pupils with Down’s syndrome, regular exercise is essential for their wellbeing.

• Many children with Down’s syndrome have particular difficulties with fine motor skills. In addition to hypotonia, the fingers are often short and the thumb set low down. This affects their level of dexterity, manipulation and hand-eye coordination. These in turn affect their ability to hold and control a pen or pencil, cut out with scissors or manipulate small objects such as multilink cubes.

• Many children with Down’s syndrome need additional help in developing the correct pencil grip, as they often persist in using an early tripod grip with their pencil resting on the base of their thumb.
Unit 4:

• Lower muscle tone can also make it harder for them to sit upright for lengthy sessions, particularly if chairs and tables are too high for good seating and posture. If a child is to achieve good fine-motor control it is important for them to be seated in a stable and upright position with both feet flat on the floor or a solid box and their forearm comfortably on the desktop.

• Many children with Down’s syndrome have shorter attention and concentration spans than their typically developing peers. They tend to be more easily distracted and have difficulty focusing on more than one task at a time. Some may find it hard to cope with longer sessions or double lessons. Others may be unable to concentrate if there is a high level of background noise or movement. Where they are supported intensively on a one to one basis, they may become very tired and need a break.

• Staff may need to plan into the child’s timetable (or have readily available), additional activities to cater for their short concentration span. In general, children with Down’s syndrome benefit from a range of finite activities interspersed with short breaks.

• Where any child has a speech and language impairment, thinking and reasoning skills are inevitably affected. As a result, children with Down’s syndrome can find it more difficult to make generalisations, to transfer skills from one situation to another or to make decisions and choices. In addition, grasping abstract concepts and problem solving abilities may be affected.

• Pupils with Down’s syndrome generally take longer to learn and to consolidate new skills. Further, their ability to retain new learning can fluctuate from day to day. In addition, many are passive learners and the consolidation of new skills may be compromised by poor motivation, avoidance strategies or inconsistent performance.

• Many children with Down’s syndrome are sensitive to failure and can, therefore, be unwilling to tackle new tasks. Some may have particular difficulty in correcting wrong responses once a mistake has been made and highlighted.

• Research has shown that some pupils with Down’s syndrome tend to make poor use of acquired skills and in fact have higher levels of ability than they generally exhibit.
INVESTIGATION IN SCIENCE

INVESTIGATION REPORT (Year 7 class worksheet)
Name: 
Tutor Group: 
Science group: 

1. What I will try to find out:

Prediction: What I think will happen:

because

(you should mention a theory)

2. Planning: What I will vary:

What I will not change to make a fair test:

What I will measure / observe:

Apparatus

Hazards

Safety precautions

Method

Diagram

3. Interpreting results (table of results: tape graph paper here unfolded)

4. Conclusions: What I found out (patterns):

Explanation (Why did this happen? Does it fit a theory? Which one?)

Do my results match my predictions?

What I predicted:

What I found out:

Do they match?

5. Evaluation: Was the experiment accurate? A good method to use?

Were the results accurate?

Do the results fit a pattern? If not why not?

How could I improve the method I used?

(Check that scientific words, symbols and formulas have been used correctly).
**Unit 4:**

**Differentiated work sheet**

<table>
<thead>
<tr>
<th>INVESTIGATION IN SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INVESTIGATION REPORT</td>
</tr>
<tr>
<td>Tutor Group</td>
</tr>
<tr>
<td>Science Group</td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Experiment title</td>
</tr>
</tbody>
</table>

1. What I will try to find out  

What I think will happen  

2. Planning: What I will change  

3. Picture of my experiment  

4. Results:  

5. Conclusion:  

6. Evaluation: Was it a good experiment?
Unit 4:

d) Modifying written worksheets

- Many classroom activities start from written instructions on the board, from worksheets or from textbooks. Secondary schools in particular commonly use modified worksheets for pupils with special needs. Although modified worksheets should by no means be used as the sole form of differentiation and their purpose should be carefully considered, they can make a valuable contribution to the bank of resources for pupils with Down’s syndrome.

- Pupils with Down’s syndrome characteristically rely on their visual learning skills rather than their auditory skills. Poor short term auditory memory, poor auditory discrimination and possibly a fluctuating hearing loss, all combine to make learning by auditory means alone very difficult. On the other hand, the combination of strong visual skills with the ability to read, means that the use of modified worksheets, using the printed word with pictures and diagrams for reinforcement, is often extremely useful.

- In preparing worksheets for a student with Down’s syndrome the following tips, adapted from Lewis, may be helpful:

  i) Use meaningful material within or close to the pupil’s experience.

  ii) Introduce new concepts in a familiar context.

  iii) Make the tasks self contained.

  iv) Provide plenty of visual cues - pictures, diagrams and print.

  v) Ensure illustrations tie in closely with text and task.

  vi) Give plenty of opportunities for success.

  vii) Use the pupil’s feedback to decide whether or not the worksheet fulfils your educational aims and objectives.

  viii) Supplement the worksheet with a taped version of the task instructions, which the pupil can play for reinforcement.

  ix) If possible try out several different versions of the same worksheet to discover what works best for the individual pupil.

  x) Differentiate clearly between text and illustrations.

  xi) Leave a wide border all round the edge of the page.
Unit 4:

xii) Highlight and explain key words and any that are new to the pupil.

xiii) Illustrate key words if possible.

xiv) Use type or print not handwriting.

xv) Use subheadings to break down and structure the written sheet.

xvi) Use a simple uncluttered layout. Too busy a page causes confusion.

xvii) Break up continuous text. Highlight instructions in some way: in a box, particular font or colour.

xviii) Use coloured as well as white paper, both for variety and to help the pupil distinguish one subject area from another.

xix) Use simple and familiar language. Keep sentences short and concise.

xx) Avoid ambiguous words. Use active rather than passive verbs.

Useful reading


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Unit 5: Developing Literacy Skills

a) Learning to read

- Reading is one area of the curriculum where many children with Down’s syndrome can excel, often placing them within the range of skill exhibited by their typical peers.

- In the early years, structured teaching should begin with matching, selecting and naming pictures. Photos of familiar everyday objects or family members are a particularly useful resource. This should then proceed to word matching, selection and reading. Because children with Down’s syndrome are visual learners, they will find it easier to learn whole words rather than letter sounds or syllables.
Unit 5:

- First reading books should have uncomplicated stories and ideas with simple sentences and accompanying pictures. Supplement these with home made books using photos of the child’s day or weekend activities. Use a digital camera in school or ask parents to provide suitable pictures.

- As well as home made story books, create scrapbooks which can be used to teach words in categories e.g. furniture, animals or transport. Use the child’s interests as a guide and try to extend them to design topics for the whole class.
Unit 5:

- New vocabulary should be introduced gradually, using flashcards. Teach the words from the first books in the school reading scheme or words the child already uses or understands. Well structured reading schemes such as Oxford Reading Tree have proved particularly successful for children with Down’s syndrome. However, books should be selected that reflect real experiences familiar to the child not fantasy.

- Begin early with sentence work. Make sentences with words the child already knows, using Velcro’d strips or sentence holders. Match flashcard words to sentence strips. Teach the small connecting words which can prove particularly difficult. Link reading to the child’s comprehension of spoken language and use it to develop grammar and syntax.

- As a general rule, the introduction of symbols such as Rebus to aid reading should not be necessary for most young children with Down’s syndrome. However, symbols can be effective in teaching older children abstract concepts such as time or in framing ‘what’, ‘who’, ‘where’ and ‘why’ questions.

- Once children have mastered the initial or logographic stage of reading, whereby they recognise words by their visual pattern, they should be ready to move on to the second or alphabetic stage. Here letter/sound correspondence is developed and used to build unknown words from their component parts.

- Most children with Down’s syndrome maintain their progress in reading by relying on logographic visual memory strategies. However, unless they acquire phonic skills, their progress will eventually slow down or even stop.

- While children with Down’s syndrome can develop alphabetic strategies, they are unlikely to do so before they achieve a reading age of at least seven. So don’t worry if phonics don’t appear to catch
Unit 5:

I am in my barrel.

Gergo is on the car.

Anna is in the car.
Unit 5:

on in the early years. Nevertheless, children with Down’s syndrome should always be included in class phonics and in work around the literacy hour.

• Schemes that use a very visual approach such as Jolly Phonics or Alphabats provide easier access to this learning than more auditory approaches. To aid the development of phonic skills, use words the child can read as a whole. Teach simple word families with similar beginnings and endings. Teach initial sounds, graduating to CVC words and simple blends. However, don’t lose heart if progress is slow. Persevere and they will eventually cotton on.

• Remember that reading text is a powerful tool for teaching speech and language to children with Down’s syndrome and for supporting their cognitive development. Combined with writing, reading can help improve communication, enabling pupils to achieve greater independence and enhance their attainment across the curriculum.

b) Teaching handwriting

• Handwriting is usually a difficult skill for children with Down’s syndrome to acquire because of their poor muscle tone and consequent fine motor problems. Try to encourage the child to take part in emergent writing activities with the rest of the class. Let them produce a mark or scribble on the top of their pictures to represent their name.

• Try the child with different types and thickness of writing implement, pencil grips or writing slopes to make the process easier. To increase learning experiences and keep the pupil motivated, use a wide range of multisensory activities and materials as alternatives to pencil and paper. Practice letter shapes using shaving foam, sand, finger paint, playdough or chalk.

• Teach correct letter formation from the beginning using Rol’n’Write plastic letters. Alternatively, use letters cut out of sandpaper or with arrows drawn on to indicate which way to move their pencil. Visual aids to encourage correct pencil grip can be helpful e.g. drawing a dog on the child’s hand, between the thumb and index finger, to be stroked by their pencil as they write.

• Provide squared paper to encourage consistency in size of letters. Reduce the size of the squares over time. Let the child use lined paper with wide spacing until they can write confidently.
In teaching independent writing, encourage the child to use the following sequence:

i) Write on top of the word using a different coloured pencil or crayon.

ii) Trace over the word using tracing paper.

iii) Complete a dot to dot version of the word.
iv) Copy the word directly underneath the model.

v) Copy the word from a separate card.

vi) Copy the word from the board or a wall display.

vii) Write familiar words from dictation.

vii) Tell a story to an adult then let them dictate it back one word at a time.

• For some children with extreme finger and hand weakness, advice from an occupational therapist or specialist teacher for pupils with physical difficulties may be helpful.

• It can be useful for the younger child to have a collection of items specifically chosen in order to improve strength in wrists and hands, and improve finger dexterity. These can be contained in a brightly coloured box and offered at times when your child has finished their activity earlier than their peers or simply needs a change of activity.

**Strengthening Activities - examples:**

• Small squishy ball, which does not spring back into shape immediately - count the seconds before it regains its shape
• Bull-dog clips and pegs
• A stress ball
• Pop-together beads and threading beads
• Lego and multi-link etc.
• Plasticine for pinching small bits off and rolling into balls or snakes
• Squeaky squeeze toys
• Jumpy frogs, and Tiddly-winks
• Picking up small items such as macaroni and putting into bowls, or fairy cake trays
• Cutting practice - special spring-loaded scissors can help
• Play dough
c) Developing writing skills

- Producing any form of written work is a highly complex task. Difficulties in short term auditory memory, speech and language development and the organisation and sequencing of information, make a considerable impact on the acquisition and development of writing skills for many children with Down’s syndrome.

- Particular areas of difficulty are:
  Sequencing words into grammatically correct sentences, sequencing events and information into the correct order, taking notes and dictation, organising thoughts and relevant information onto paper, completing lengthy written tasks, copying text from the blackboard.

- To encourage more independence in the early stages of writing, provide the child with a writing folder. This should consist of a set of cards with Velcro strips, to which flashcards of the words the child knows are attached. A blank card with strips of Velcro can then be used to create new sentences using words selected from the folder or new words written onto blank flashcards.

- Ensure pupils are only asked to write about topics which build upon their experiences and understanding. If the class are being asked to copy from the board, select and highlight key sentences for the pupil with Down’s syndrome to copy.

- Allow pupils who find it hard to copy from the board to copy from a version of the text placed next to them. Focus on what is essential for the pupil to record, or use cloze procedure on previously prepared worksheets that can be stuck into the child’s book or folder.
Unit 5:

A writing folder

- Pace any dictation appropriately. Include repetition and ensure the vocabulary used is chosen to suit the language ability of the pupil.

- Encourage the use of cursive script to aid fluency. Teach upper and lower case letters simultaneously to aid generalisation.

- Use a conversation diary to reinforce the link between reading and writing. Provide lists of keywords, word banks, word and picture dictionaries.
Unit 5:

- Where the child continues to find writing difficult, try to provide alternative methods of recording:

  Worksheets where the pupil underlines or rings the correct answer, worksheets with blanks for the correct words (cloze procedure), sentence or picture cards for the child to put in order, pictures, symbols or flashcards for the pupil to select and paste in, self adhesive stickers with words written on, word stamps with an ink pad, a tape recorder or dictaphone, a word processor with specialist software such as Clicker 4.

- Encourage children to work in pairs or groups, enabling the child with Down’s syndrome to dictate their ideas to a peer who acts as a scribe. Try not to create a situation where the pupil is totally dependent on their teaching assistant acting as their secretary.

Worksheet to assess comprehension
d) Strategies for spelling

- Spelling is a particular issue which will need to be addressed independently from that of writing. The use of phonics as an aid to developing reading and spelling skills can be problematic for children with Down’s syndrome as it requires good hearing, fine discrimination of sounds and advanced problem solving skills.
Unit 5:

- Many pupils with Down’s syndrome learn to spell words purely by relying on their visual memory and learning the shape of the word. However, others will acquire a basic knowledge of letter/sound correspondence or learn to recite the letter names when writing out a word.

- In developing spelling skills, use words the child can already read. Teach spellings as visually as possible e.g. using the look-say-copy-cover-write-check approach. Colour code similar letter groups or patterns within words. Use multi-sensory methods e.g. finger tracing over sandpaper letters.

- As children’s reading improves, they will begin to associate sounds with letter strings and patterns. Draw the child’s attention to strings such as ‘ing’ or ‘tion’ as they are reading. Make a dictionary using words the child knows how to spell.

- Finger spelling may help some children remember letter names and letter patterns. Learning to finger spell can be an enjoyable game for a group of children to play together. Check educational suppliers for good visual teaching materials e.g ‘vowel and blend snap’, ‘ten minutes a day’ or ‘wordspell’.

- Build a word bank using index cards in a box. Group words under headings e.g. people, animals, school, home, or arrange them alphabetically but colour code them with pictures representing the categories at the front of the box.

- Colour code lists of keywords required for different subject areas e.g. green for geography, red for science. Use the same colours for exercise books and worksheets to aid recall.

Useful reading


Unit 5: Literacy resources

1. DownsEd, Sarah Duffen Centre, Belmont St., Southsea, Portsmouth, Hants. PO5 1NA. Tel: 023 9285 5330

2. LDA, Duke St., Wisbech, Cambs. PE13 2AE. Tel: 01945 463441

3. Taskmaster, Morris Rd., Leicester, LE2 6BR. Tel: 0116 2704286

4. Winslow Press, Telford Rd., Bicester, Oxon, OX6 0TS. Tel: 01869 244644

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Unit 6: Acquiring Numeracy Skills

a) Mathematical learning

- Most children with Down’s syndrome encounter difficulties with mathematics. It is helpful to note, however, that the developmental stages passed in the acquisition of mathematical concepts appear to be similar to those passed by typically developing children. If good teaching methods are applied, there should be few if any plateaux in learning.

- In order to undertake mathematical operations, pupils must attain a general developmental readiness. They must be competent in classification, one-to-one correspondence, the cardinal and ordinal aspects of number, conservation, flexibility and reversibility. Children with Down’s syndrome are likely to be slow in developing these concepts and may have particular problems with the language of mathematics e.g. same/different, more/less.

- The initial informal stages of mathematical learning are vital to the development of skills in matching, comparing, sorting, labelling, mapping and ordering. It is particularly important for children at this stage to fully understand the concepts ‘same’ and ‘different’. These are acquired in an unstructured manner, together with language and conversational skills, through interaction with peers and adults and by becoming absorbed in day to day activities.

- The transition from informal to formal is very gradual. Pupils with Down’s syndrome may encounter difficulty associating informal maths knowledge with formal school maths. Connections are likely to be made slowly and sometimes maths may be perceived as a set of unrelated facts.

- Making these connections takes time, a variety of experiences and carefully directed teaching. Worksheets with pictorial representations of mathematical facts are semi-abstract and symbolic. If introduced too early they can confuse the fragile links being formed between existing concepts.

- The use of structured concrete materials is important in securing these links, not only in the early years but also during concept development stages in higher level mathematics. Concrete materials can be held, moved, grouped and separated, allowing pupils to visualise mathematical processes. This makes them much more real than pictorial representations alone.

- Generalisation and understanding of the abstract nature of maths requires a considerable length of time with structured, concrete, ‘real’ materials, slowly building connections. Gradually the pupil will grasp.
Unit 6:

the concept of conservation of number, the realisation that five objects, regardless of size, shape, colour or arrangement, still count as five.

• Commercially produced materials may be helpful at this stage but should always be used alongside real objects. Although colourful and fun to use, materials such as ‘Compare Bears’ or ‘Peg People’ are still in a sense abstract as we do not count such things in real life situations. Additionally, commercial materials may inhibit learning as pupils may prefer to play with them rather than using them as a tool for learning.

• However, recent experience suggests that the ‘Numicon’ materials produced at The University of Brighton, may be of real value to children with Down’s syndrome. ‘Numicon’ is concerned with how all children learn about numbers and emphasises the value of using structured visual representations to teach the relationships between numbers.

• Its multi-sensory approach is proving successful because of the ability of pupils with Down’s syndrome to learn by using their visual and spatial memory. ‘Numicon’ materials make use of patterns and aim to develop pupils’ number concepts by providing information on position, action, colour and shape. Children internalise the images of the number plates to give them a visual image for each number that will support later numerical operations.

Using Numicon
Nevertheless, it is important that children realise that there is a real purpose to the use of mathematics and that it is not just an activity that takes place in school. It is vital, therefore, to create real situations with everyday objects to count e.g. giving out pencils or exercise books, setting the table for lunch or putting straws in bottles of milk.

b) The language of maths

- For children with Down’s syndrome, competence in number is linked to their level of knowledge and understanding, not to their syndrome. Children of similar developmental levels are likely to share the same level of competence in counting skills and counting principles. Prior to undertaking any mathematical operation or task, the language skills and short term memory of the pupil are the first to be put to the test.

- Difficulties in processing language, together with remembering what to do and in which order, restrict the ability of children with Down’s syndrome to complete mathematical tasks. Calculations and word problems all require language. Difficulties arise because of:
  a) the abstract language of maths, which is unlikely to provide a basis for understanding;
  b) the use of symbols to represent numbers and the use of concepts which cannot be decoded using contextual cues as in reading;
  c) the need to recall and use many steps, rules and number facts which require language.

- Limited comprehension inhibits the ability of the child to solve word problems. As mathematical levels increase, so do the demands placed on reading and language skills.

- Learning to read maths words at the same time as developing understanding will help the child memorise the key vocabulary. Similarly, children should be taught to recognise and understand associated maths terms and symbols.

- Ensure the child can match, select, name and understand all associated words. Teach the language of maths alongside maths teaching rather than as an afterthought. Personal word lists and keyword flash cards displayed clearly during tasks and assignments will help jog the child’s memory.
Unit 6:

Maths vocabulary

Using and applying maths:
Results, outcome, check, explain, record, make, test, predict.

Number and algebra:
A lot, all, some, both, another, not any, many, same, more, less, every, enough, as many as, first, second, third,... last, add, subtract, take away, guess, estimate, two times, multiply, units, tens, hundreds, odd, even.

Fractions:
Same, different, as big as, smaller than, larger than, greater than, whole, piece (of the.....), part, complete, halves equal, unequal, quarters, one quarter, two quarters, three quarters, one half.

Time:
again, now, after, soon, today, before, later, yesterday, early, late once, tomorrow, twice, quick, slow, first, next, last, days of the week, weeks in a month, months of the year, o’clock, half past, quarter past, quarter to, seconds, minutes, hours, days, weeks, months, years.

Size, width, height, length:
big, small, little, fat, thin, long, short, thick, wide, narrow, comparative and superlative forms of words, as big as, longer than, shorter than, order compare, all units of measure.

Area, volume, capacity:
a lot, lots, a little, a bit, a small bit, empty, full, much, most, more, more than, less than, same, and all units of measure.

Weight:
Heavy, light, heavier than, lighter than, heaviest, lightest.

Money:
Coins, how much, how much altogether, cost, price, change.

Shape:
Round, dot, spot, line, circle, rectangle, square, hexagon, pentagon, oval, triangle, diamond, sphere, cylinder, cuboid, pyramid.

Spatial Relationships:
In, on, under, by, beside, behind, in front of, next to, over, through, inside, outside, out, to, off, above, below, round, up, down, front, back, left, right forwards, backwards, top, bottom, middle, first, last, next.

c) Difficulties associated with learning maths

- Difficulties that arise from visual-spatial impairment in some pupils may mean that they will encounter difficulty when differentiating
Unit 6:

between numbers, e.g. 6 and 9, 2 and 5, 17 and 71, and between operation symbols e.g. + and x, - and =, < and >.

- The directional aspect of maths may be problematic e.g. using a number line, vertical addition, left-right regrouping and alignment of numbers or writing across the paper in a straight line. The recognition and understanding of the associated vocabulary should be taught alongside each, to help reduce confusion.

- Some children encounter difficulties with fine and gross motor skills and may have problems in handling small objects. Consequently they may not develop concepts through manipulation of objects in loosely structured exploratory play. Opportunities need to be created in a structured and progressive way, encouraging pupils to manipulate, investigate and use concrete materials. Adult intervention may be necessary to explain what is being discovered and why. This should then be followed by sufficient practice to consolidate their learning.

- Other problems with maths faced by some children with Down’s syndrome include counting past a given number, as the child may have forgotten the specific number or may not fully understand the cardinal principle of final tag representations.

- Providing a visual prompt to help child stop at the correct number can help in the early years. Ensure the child touches each item and says the number as they count. Teach that two items are called two and count “one, two” emphasising the ‘two’. Introduce three items and then four. If the child is confident, interrupt the count and ask the pupil to say what the last one will be.
Unit 6:

- Typically pupils may not be able to assess whether they have the necessary skills to solve a problem, identify and select appropriate processes, organise information, examine the problem solving process they are using, make adaptations to the process when necessary, evaluate their answers and identify errors, generalise strategies to different situations.

- Pupils with Down’s syndrome often have good rote memorising capabilities. Rote learning enables retention of facts, reduces stress on short term memory and enables the development and use of mathematical processes and strategies. However, it is important to teach understanding prior to memorising basic facts.

- Teach children to count on and back from numbers other than 1. Use coins to teach children to count in 2s, 5s, 10s and 50s, far more useful in real life than learning their 3 or 4 times tables.

- Additionally, it is important to consider whether or not concepts have been adequately covered in previous lessons and whether any component part has been omitted e.g. it would be inappropriate to teach long division to a child who has not yet understood the principle of division as sharing or made the connection between multiplication and division.

- Lack of significant thinking skills compounds problem solving difficulties. Pupils need to be given opportunities to undertake problem solving and other maths ‘thinking’ activities even before they have mastered computation. Encourage the pupil to:
Unit 6:

read and understand the problem,
look for the key questions and recognise important words,
select the appropriate operation,
write the number sentence (the equation) and solve it,
check their answers,
correct any errors.

• Help pupils to solve problems by demonstrating and providing a permanent model i.e. a completed item or task. Verbalise the key words associated with each step with the permanent model in view. Instruct the pupil to complete each step while saying the key words out loud. Finally, allow the pupil to complete subsequent problems on their own, with the teacher’s model still available.

• Provide adequate experiences with real life materials, time for exploration and situations where the ‘right’ answer is irrelevant. Use careful, accurate and appropriate language. Provide helpful technologies and convey to the pupil that getting it wrong is a necessary part of learning.

d) Acquiring basic skills

• In planning the maths curriculum for a child with Down’s syndrome, learning outcomes should be feasible and activities and tasks manageable, within the resources available. They should be relevant to the child’s capabilities and realistic, by providing the appropriate skills for future needs.

• In curriculum planning, neither the child’s IQ nor the Down’s syndrome label are of much use in target setting. More relevant to the teacher are their number vocabulary, their ability to enumerate and their level of task understanding. Additionally, it is important to bear in mind their level of self motivation, the quality of tasks and instruction and the pupil’s individual and preferred learning style.

• You will need to recap and revisit previously covered materials and teach key mathematical terminology as a specific skill. Use directed practice together with teacher instruction, followed by independent practice and positive feedback. During the directed and independent practice, provide many and varied opportunities to manipulate concrete materials to assist conceptual understanding.

• Consider existing background knowledge. Mathematics depends heavily on previously learned skills. Consequently, it is important to ensure that prerequisite skills have been acquired prior to the introduction of new ones.
Unit 6:

- Attentiveness during practice is as crucial as the time spent on the task. Distributed practice, meaning regular practice in small doses, is particularly beneficial e.g. two ten minute sessions per day are likely to be better than a two hour session once a week.

- Initially children need to learn that counting involves pointing to objects individually and giving each a specific and different number name. The stable order principle, which comes next, involves the realisation that counting the same set of objects several times will always give the same result.

- In learning the cardinal principle, the child becomes aware that the final number of a count represents the whole group. Next, the abstraction principle illustrates that the number of objects in a set will remain the same however they are arranged. Finally, the order irrelevant principle involves teaching the child that the number of objects in a set will remain the same whatever order they are counted in.

- Practical activities to develop these principles should be devised, progressing along the following sequence:
  
i) Sorting and matching like objects by colour, size and shape

  ii) Rote counting objects from 1-10

  iii) Counting up to 10 objects in a row

  iv) Associating numerals with the written words, spoken words and appropriate amounts
Unit 6:

v) Selecting up to 5 objects from a set of 10
vi) Matching numerals 1-5
vii) Selecting numeral 1-5 on request
viii) Sequencing numerals 1-5 in correct order
ix) Sequencing amounts 1-5 in correct order
x) Identifying and selecting correct numeral on request
xi) Labelling amounts 1-5 with correct numeral
xii) Copying numerals 1-5 on request
xiii) Repeating items (v) -(xii) using numerals 1-10
xiv) Counting left to right using 1:1 correspondence
xv) One digit addition e.g. 3+4
xvi) Counting objects to 20
xvii) Subtracting one digit e.g. 4-2

Useful reading

Unit 6:

Maths resources

1. DownsEd, Sarah Duffen Centre, Belmont St., Southsea, Portsmouth, Hants. PO5 1NA. Tel: 023 9285 5330

2. LDA, Duke St., Wisbech, Cambs. PE13 2AE. Tel: 01945 463441

3. Numicon Ltd., Unit D, Prospect House, The Hyde Business Park, Bevendean, Brighton BN2 4JE. Tel: 01273 609991

4. Winslow Press, Telford Rd., Bicester, Oxon, OX6 0TS. Tel: 01869 244644

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a) Causes of inappropriate behaviour

- The most common form of inappropriate behaviour in all children, including those with Down’s syndrome, is behaviour designed to gain attention.

- Children with Down’s syndrome may be particularly attention seeking because:
  
  They enjoy being the centre of attention and dislike being ignored.
  
  They are used to having an adult by their side all the time and resent her working with other children.
  
  They are used to getting special treatment and object if it is withdrawn.
  
  They have been successful in using attention seeking behaviour in the past to get their own way or avoid work.

- Sometimes the child with Down’s syndrome will misbehave because they are angry or frustrated.
  
  They may want to do the same work as everyone else but an adult insists they do something different.
  
  They may try to do the same as others, but find they can’t cope without help.
  
  They may presume that the work they are being given is too difficult or uninteresting.
  
  They may get annoyed when other people don’t take the time to understand what they are trying to say.

- Some children with Down’s syndrome may appear to misbehave when they are, in reality, just confused or uncertain about what they are supposed to do.
  
  They may have failed to understand instructions given to the whole class.
  
  They may have forgotten what they have been told.
  
  They may be finding it hard to learn new rules and routines and still do things in the old way. They may be confused by different adults giving conflicting messages.
Children with Down’s syndrome are often subjected to a high level of structure and supervision. As a result they may feel the need to exert some control over their lives.

They may refuse to cooperate with their teacher or assistant as a matter of principle.

They may be difficult if they feel they are given no opportunities to choose their own activities.

They may feel under pressure and need a break.

They may resent being regularly withdrawn from class and separated from their friends.

Finally, the child’s immaturity may lead to behaviours more appropriate to a younger child.

They may not have the concentration or memory skills of their peers.

They may have immature play and social skills.

Immature behaviour may have been ignored or reinforced in the past.

They may have been over supported and had little opportunity to mix freely with their peers.

**b) Strategies for dealing with behavioural challenges**

Before trying to change a child’s behaviour, it is important to observe them in different settings and at different times, to determine when the undesirable behaviour occurs and what triggers it off.

Try to work out why the child is doing it and what rewards they are getting from the behaviour. There is always a reason for behaviours. They may just be copying others, they may find that other children laugh at them, they may get out of activities they dislike. Then change something in the situation so that the behaviour is no longer triggered and see whether it makes a difference.
Unit 7:

DEALING WITH CHALLENGING BEHAVIOUR

DESCRIBE the behaviour very clearly. Observe the child in different settings and at different times to determine: when the behaviour occurs and what triggers it off.

TRY to guess why the child is doing it and what rewards they are getting from the behaviour. There is always a reason for behaviours. Check that they are not just copying other children.

CHANGE something in the situation so that the behaviour is no longer triggered. e.g. change the language you use or present tasks differently. Rearrange the room or support the child more.

IF the child appears to be seeking attention, try to ignore the behaviour but give the child attention whenever they behave well. Make sure no one else gives them inappropriate attention.

ANGER or frustration needs to be tackled at source. Try to understand the cause of the anger. Take the child to a quiet place and give them time and space to calm down.

CONFUSION is best dealt with by very consistent handling and clear instructions. Make sure all adults treat the child in the same way both at home and in school.

• To reduce attention seeking behaviours:

Ensure all teachers and non-teaching staff have appropriate and consistent expectations of behaviour.

Discourage special favours and allowances.

Encourage peers to provide feedback to the child instead of telling an adult.
Unit 7:

Work closely with the parents to ensure that they support the school.

- To reduce frustration:

  Ensure the student is only excluded from class activities when absolutely necessary.

  Make sure tasks are suitably differentiated so they can succeed.

  Encourage peers to be supportive and include the child in their games.

  Take time to listen to what the child is trying to tell you. Use a simple home/school diary to share information.

Examples of home - school diaries

- To avoid confusion:

  Make sure instructions are clear and language is simple enough to ensure understanding.

  Teach the basic rules of behaviour and reinforce them with pictures or lists on the wall. Remind the child of the rules at regular intervals.

  Take time to ease the child from one class or school to the next.

  Compare notes with your colleagues and with the parents, to make sure you are all giving the same message.
Unit 7:

• To give children more control over their lives:

Make sure they have opportunities to choose, refuse an activity or do it later.

Try not to support too closely. Give the child space.

Keep the child in the classroom for special work whenever possible. If withdrawal is really necessary, allow them to bring a friend.

Give the child the opportunity to interact with their peers without continual adult supervision.

• To reduce the effects of immaturity:

Keep your expectations as high as possible. Expect the child to behave age-appropriately.

Teach key play and social skills just as you teach literacy or numeracy.

Encourage other children not to baby them.

Encourage parents to give them age-appropriate experiences.

• Most children learn by copying those around them. It is therefore important for children to have good role models. If we place children with Down’s syndrome with much younger peers, their immaturity will be reinforced. Similarly, if they are always with poorly motivated students with unacceptable behaviour, these are the behaviour patterns they will learn.

• Spending at least part of each day working alongside well behaved and highly motivated class members will encourage the child to stay on task. Peers with a positive attitude to school work are also less likely to laugh at silliness or encourage the child with Down’s syndrome to misbehave.

• Rules must be clearly spelled out and reinforced on a regular basis to make sure that the child does not forget what is expected. This is particularly important at the start of a new year or if there is a change of teacher or assistant. Pictures of acceptable behaviours, or lists on the wall once the child can read, will also serve as a reminder.

• While some allowance needs to be made for the child’s emotional immaturity, expectations should remain high. Children with Down’s syndrome should never be allowed to get away with disruptive or dangerous behaviours just because they have Down’s syndrome.
Unit 7:

- If problems persist, share your concerns with the parents and develop a behaviour management strategy. Enlist the support of an LEA advisory teacher or psychologist. Don’t assume that the only solution is to move the child to a special school.

- In liaising with parents:
  Keep them informed but don’t report every hiccup.
  Devise behavioural strategies cooperatively.

- Draw on parental expertise in devising a programme.
  Ask the parents not to reprimand children at home for things they have done in school. See they are dealt with before the child goes home.

c) Promoting social inclusion

- To promote social inclusion, make sure the child with Down’s syndrome has learned how to behave appropriately in social situations. They need to understand about rules and routines and be able to cooperate with their peers.

- In group work they must be able to participate and respond appropriately, without dominating or becoming totally passive. They need to learn how to share and take turns. Outside, they need to understand the rules of playground games and what is involved in being a team member.

Example of visual timetable
Unit 7:

- In the classroom, successful inclusion is promoted by ensuring that the child:
  
  Knows the major routines of the day. A visual timetable can help here.
  Has learned the class rules.
  Can participate appropriately in a small group.
  Will respond to requests and instructions from the class teacher.
  Can tidy their work and line up appropriately.
  Can sit still on the carpet or at a table during class or group sessions.
  Cares for others in the group and is aware of their feelings.

- Learning appropriate social and self-help skills is a high priority for most young children with Down’s syndrome. However, many will need extra help and support.

- Key skills should be identified and then taught in small steps. Structured approaches, such as backward chaining - where the child is taught initially to do just the last part of the task and then works backwards one step at a time - can be particularly useful.

- Picture or photo prompt cards can be helpful, as they show the child what it looks like to complete the task. Similarly, peers can be used as role models to demonstrate successful task completion.

- Before starting on a toilet training programme, make sure the child is developmentally ready. Can they retain urine for at least an hour? Do they tell people when they are wet or soiled? If not they may not be ready.

- When teaching dressing skills, make sure they are taught at the appropriate point in the day e.g. coming in from play or changing for PE. Give the child extra time so they don’t feel rushed. If they are really slow, use a timer and give smiley faces for finishing before the bell rings.

- Encourage lunchtime staff to help the child eat independently but not to cut everything up or feed them unnecessarily. If they take a packed lunch, talk to the parents about making sure that it is easy to unwrap. If they need extra time, let them go into lunch a bit early, but don’t encourage them to push to the front of an existing queue.
d) Developing friendships

- All of us need friends and most people make their first friends at school. To develop the social skills required, children must have opportunities to mix and interact without close adult supervision. Where children with Down’s syndrome have high levels of individual support, the adults must make a real effort to move away whenever it is safe for them to do so, allowing the child to relate naturally to the peer group.

- Unstructured and social sessions e.g. assembly, library sessions or choosing time, should never be used for individual work. Children with learning difficulties need as much opportunity as possible to make friends.

- Within the classroom, one-to-one sessions should be kept to the minimum. Whenever possible, the child should be allowed to work with others and to take part in the full range of class and school activities. Where specialised work is needed, one or two other children should always be included.

- To help build relationships, other children should be encouraged to support and help the child with Down’s syndrome. Techniques such as peer tutoring can be a useful way forward. Outside the classroom, a sensible peer or older mentor can be used to provide low level supervision and support. In some schools a rota of volunteer helpers is organised and earns the children involved extra credit.

- In the playground, the child with Down’s syndrome may find it hard to mix as they lack key play skills. If this is the case, think about teaching groups of children games, such as hopscotch or grandmother’s footsteps, that can also be enjoyed by the child with Down’s syndrome.

- Schools that use Circle Time often find it an invaluable tool for enlisting the support of the whole class. Other schools involve a smaller group of peers to form a Circle of Friends. Not only can the other students tell you what the problem is when things start going wrong, but they will almost certainly be able to devise and implement a solution, if you trust them and give them the responsibility.

- While children with Down’s syndrome may not appear to develop what adults perceive as ‘proper’ friendships with typically developing peers, it is important not to undervalue the relationships that are made.

- Although interests and maturity levels may be rather different, all children can work and play together and learn to trust each other.
Unit 7:

- Outside school, parents should be encouraged to provide opportunities for the young person with Down’s syndrome to mix socially with a range of peers, including others with a disability. In this way they will have the chance to make informed choices about the sort of friends they wish to make.

- However, neither parents nor schools should make the mistake of assuming that two young people with Down’s syndrome will automatically like each other, just because they have the same condition.

Useful reading


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Unit 8: Successful Transitions

a) Starting school

- Most children with Down’s syndrome enjoy attending their local preschool playgroup or nursery. Many of the basic building blocks to prepare children for inclusion into mainstream school can be learned in such environments.

- Start planning early so that there is time for effective liaison. In choosing a school, take account of where the child’s friends, siblings or playgroup peers are going as these children will be a support for the child with Down’s syndrome as they start school.

- Ensure that the child’s Statement of Special Educational Need is finalised and that any learning support hours mentioned in it are ready to be put into place. Encourage new teaching assistants to meet with the parents and get to know the child before they start school. Consider having two teaching assistants, rather than one, to avoid overdependence on one adult.

- Try to arrange a visit from school to the home and to the playgroup or nursery. Seeing the child in the security of a familiar setting can be very valuable for a class teacher or teaching assistant who may otherwise underestimate the ability of the child. Remember children are likely to function at a much higher level in familiar surroundings.

- Consider arranging additional visits for the child into school to help familiarise themselves with the layout and the new people. At these times, give them a key adult to whom they can relate.

- Ensure that all primary school staff are fully informed about the child and about Down’s syndrome in general. However make the point that any good teacher can teach a child with Down’s syndrome.

## MEETING INDIVIDUAL NEEDS

**THE NEEDS OF THE INDIVIDUAL CHILD**

**DISABILITY RELATED NEEDS**

**THE NEEDS OF ALL CHILDREN**
Unit 8:

- Carefully consider the first transfer within the primary school. For some children, spending extra time in nursery or reception, especially if they are Summer born or have had little nursery experience, can prove valuable. It can give them time to develop and consolidate key skills without interfering with the development of friendships as children of this age are still able to make and break friendships very easily. However, this should only be done in exceptional circumstances. For the majority of children with Down's syndrome, placement in their correct age group is most beneficial in the long term.

- If you do keep children back a year, they should then move up school with that peer group. Under no circumstances should you try to move any child back to their proper age group or hold them back for a further year at a later stage, as social relationships will be totally disrupted.

b) Moving from Infants to Juniors.

- Changing class each year presents every child with a new set of challenges, with new people teaching them, new routines to learn and a new classroom location. After a long summer break, returning to school requires adjustment even without any other changes to building or personnel that might have occurred. Children with Down’s syndrome do adapt to new situations, but there might be a period of settling in, as they learn the new routines, get to know new people and adjust to different expectations.

- As in all their learning, children with Down’s syndrome will be helped by clarity and practice. They need to be helped to understand the rules and what is expected of them as individuals. They then need to be given opportunities to practice newly learned skills.

- When significant changes occur for any of us, we may revert to recurrent behaviour patterns that emerge when we are insecure or unsure how to cope with change. In children with Down’s syndrome, it is not uncommon for behaviours that have disappeared e.g. thumb sucking or rocking, to reappear temporarily in the new setting. Once the child settles down they should disappear again, so staff should not be unduly worried.

- Having a learning difficulty may make changes that appear relatively insignificant to us seem far greater, particularly for the child with poor social skills or a high level of anxiety. Staff need to be aware of this and to offer support and understanding to the child who may be confused or distressed by quite small changes in routine or personnel.
Unit 8:

- Transition to the junior school presents even more changes than the normal yearly transfer for both children and parents. Transition in an all through primary school requires fewer adjustments than a move from a separate infant school. However, there are still likely to be changes in expectation and approach in the classroom and around the school building.

- These changes are appropriate and add clarity to the development of maturity in the child. If the child continues in an all through primary school it is important to mark the change from infant to junior as a key event in the child’s life. Adults working or interacting informally with the child e.g. welfare or administrative staff, will need to change their expectations accordingly.

- The child’s peers will copy the models of behaviour displayed by the adults around them. They too should be supported in relating to the child with Down’s syndrome as a same-age peer, not as a baby to be looked after.

- Where the infant and junior schools are separate, the two SENCOs should share information well before transfer. Ideally the junior school SENCO should attend the Year 2 annual review.

- The Year 3 teacher should visit the Year 2 class and meet the child. Before that meeting the class should be told about the visit, the name of the visiting teacher and why she is coming.

- The child with Down’s syndrome and the parents should visit the new school and ideally be linked up with a ‘buddy’ who will look out for them when they start. They should be shown where the children wait to go into school and which door they go in. They should be shown the dining hall, the toilets and anything else which might be unfamiliar.

- If decisions on classes have been made, the child should be introduced to their new teacher. They should also meet the Headteacher and the school secretary. Photos that the parents can take home will be useful in teaching the child their names and their job in school. If the child’s teaching assistant is to change, try to appoint them before the transfer so they can spend time getting to know the child and picking up tips from the current assistant.

- At the start of Year 3, there should be a meeting between the parents, the SENCO and the class teacher to agree on forms of communication e.g. a home/school book or telephone calls at pre-agreed times. Dates for IEP meetings need to be set well in advance to enable the parents to be included if they so wish. Routines for the involvement of outside professionals e.g. speech and language therapist or advisory teacher should also be clarified.
Unit 8:

- If transferring to a new school, lunchtime details are likely to be different. Although the child with Down’s syndrome will learn the new rules and routines in time, they should be supported initially by a peer or an identified lunchtime supervisor. Asking the child’s teaching assistant to supervise them at lunch time is not recommended as the child should learn to access the people who are there normally if they need help.

- Consider setting up a play and lunchtime ‘buddy’ system, with older children supporting their younger peers until they settle in. Such an approach is much preferable to providing an adult ‘minder’ for the child with Down’s syndrome, as it encourages the development of independence and normal friendships.

c) Transition from primary to secondary school

- Transition to secondary school can be difficult for many pupils, but particularly so for those with special needs. In contrast to primary school, pupils have to relate to many teachers and find their way to and from different classrooms.
Unit 8:

- Pupils with Down’s syndrome are likely to find adapting to new surroundings and adjusting to new expectations difficult and most will need extra preparation and help. During the final primary year it is vital that plans are made to make this major transfer as smooth and as positive as possible for all involved. Essential elements to successful transition are a positive attitude and a carefully prepared transition plan.

- The first step is choosing a school. There may be one main school which most of the pupils from the primary school feed into. Socially this is the most sensible option as the child will be well supported by familiar friends. However, it might not welcome the child or have inclusive systems in place. In this case the parents may be better looking elsewhere.

- In drawing up a transition plan it is important to start early to allow proper liaison between schools and relevant professionals.

- Ensure the annual review in Year 6 is held in the Autumn or early Spring.

- Make sure that everybody involved with the child is invited to help design the transition plan.

- Invite the class teacher, TA and SENCO from the primary school, the SENCO, form tutor and learning support staff from the secondary, the speech and language therapist, the educational psychologist, the advisory teacher and LEA officer as well as the parents.

- Set up regular meetings between primary and secondary staff to monitor the progress of the transition plan.

- Invite the secondary SENCO and form tutor to the final termly review in the primary school.

- Invite the secondary SENCO, form tutor and TA to observe the child in class.

- Arrange secondary class groupings so that the child with Down’s syndrome has some familiar and supportive friends in the same form group.

- Discuss how home and school can keep communication channels open. Agree who will be the child’s key worker.
• Discuss ways in which the child will access the curriculum and where small group or individual work is indicated.

• Agree targets for the child’s first IEP and how subject staff will become involved in IEP planning and evaluation.

• In some schools, a secondary teaching assistant swaps jobs with their counterpart in the primary school for one afternoon a week during the last half term before transfer. This enables the primary school to learn what will be expected of the child in the secondary school. It enables the new assistant to get to know the child and how he or she learns best and it enables the child to make a positive relationship with someone from their new school.

• The preparation of a personal profile (see example on next page) of the child by the parents, primary staff, speech and language therapist and the child themselves can be really valuable in setting the scene for new staff who may be quite apprehensive.

• Additional visits to the secondary school can be very useful for the child, particularly if they will not have many friends there when they start. Try to encourage at least one friend to go with them and try to visit at informal times so they can see what goes on at break and lunchtimes.

• Help the child draw a plan of the new school and construct a visual timetable showing which rooms are used for which activities. Practice walking the route from home to school and from the playground into the correct room for registration, learning where to hang coats or leave sports kit.

• If the child is going to a secondary school without current friends, try to arrange some visits to a primary school that feeds the secondary and let him accompany those children on their visits to the high school.

• Discuss what sort of equipment and special clothing will be needed and how the student is to store and carry it around the school. Involve the parents in doing some dummy runs to get the student used to carrying a heavy bag around.

• Talk about school dinners and how he is to queue up and pay for them or whether he would prefer a packed lunch.

• Part of any transition plan must involve staff training. New staff are likely to feel anxious and uncertain as to their role and that of teaching assistants. They need opportunities to air their concerns and then ongoing support from colleagues and the school’s Senior Management Team.
Unit 8:

- Discuss how support will be managed to build on the child’s independence and ensure the involvement of subject staff in the child’s learning programme.

- Discuss how time will be found for teaching assistants to liaise with subject staff and be involved in the planning of teaching programmes.

- Discuss who will prepare differentiated teaching materials and when this will be done.

Profile of Oliver Faulkner

Oliver is the oldest of four children. Lucy is ten, Katy is seven and Harry is four. He is very sociable and likes talking to people. He especially likes to know who everybody is married to and if they have any pets!

Oliver has always been part of a big family - he has lots of Aunts and Uncles and cousins. Oliver talks about his Nan and Gramp and Aunty Gemma a lot as they live locally and he spends a lot of time there. He also has a Grandma and Grandad near by who he stays with often. His favourite cousin is Aaron. Oliver likes to talk about all of these important people.

Oliver went to Drayton School from age 5 to nine, then went to St. Nicholas School for two very successful years. His sisters still go there and Harry goes to playgroup there. Oliver has lots of friends in St. Nicholas and is popular with the children. He is very good at swimming and really enjoys it and is also very good at PE.

Oliver likes a routine that he is familiar with and tells us he is looking forward to going to John Mason so he can “play basketball, go on the computers and do cooking”. He says “I like Mr. Legg and doing Music. My best friends at St. Nicholas are Alan Edginton, Daniel Hitchman and Laura Matthews. My cousins go to John Mason, Amy-Jo and Peter Grundy”.

Oliver also enjoys books, especially about animals and knows most animal names. He says when he grows up he wants to be a zoo keeper.

Mr. & Mrs. Faulkner

Oliver has shown increasing confidence and independence this year. As with the other members of the class, he has had a ‘job’ for some of the year. Oliver has been responsible for returning registers to the office for the last half-term. He is happiest when he knows a regular routine, but he has accepted change more willingly as this year has progressed. He is developing a cheeky sense of humour and will often have a chuckle with me!

He responds well to discipline in school and is aware of the rules and the boundaries within which we all have to work. He is quick to read a face to judge an adult’s mood!

He settles well to any new work and he is able to concentrate for increasingly long periods of time. He enjoys being able to share his successes with the other members of the class. Within the class he has several special friends - he is very loyal to this group.

I have really enjoyed teaching Oliver this year - his affectionate behaviour and his ready smile are very rewarding for all of the adults who work with him.

Mrs. Dawson
Class Teacher
Unit 8:

- Schools will need to discuss whether the student is better supported by a small number of TAs who cover all lessons, or by different TAs in different subject areas. While there are pros and cons in either approach it is always better to have more than one assistant attached to each child.

- Schools can help transition by recognising the problems students might face and trying to minimise them. Some schools keep Year 7 students with a small number of key teachers who each teach several subjects. Some keep room changes to a minimum or mark key rooms with a clear symbol such as a blue circle on the door.

- In some schools, disability awareness is a key part of their PSHE programme and all students are encouraged to befriend and support the student with Down’s syndrome. Some set up Circles of Friends or use tutor group time to discuss issues such as bullying.

- Homework is often a real issue for the student with Down’s syndrome and their family. To avoid problems, it is important that all staff take the following actions:
  All homework should be differentiated to make it accessible.
  All homework should be written down in full in the student’s planner. It should be accompanied by a short explanation, linking the homework with the preceding lesson.
  Key words or diagrams should be added to provide a visual reminder.
  The use of an extra ‘Homework Explanation Book’ should be considered where there are particular problems.
  The date by which homework should be completed and handed in should be clearly indicated.

**d) Moving from school into the wider world**

- Planning for the needs of the young person on leaving school should begin with the transition review in Year 9 and should involve a whole range of professionals from different agencies: School, Further Education, Health, Social Services, Connexions and Leisure services, as well as the parents, the student themselves and ideally a group of typically developing friends.

- Topics to be discussed should include all of the following:

  (i) Does the young person want to go onto a Further Education course full or part time? What does he or she want to study?

  (ii) Are there suitable courses available locally? Are these inclusive or only for students with special needs?
Unit 8:

(iii) How will the young person travel to the college, get around the building, organise themselves during breaks and at lunchtime?

(iv) Do they have the requisite skills or will these need to be taught in school or at home before they leave school?

(v) Does the college need to make special arrangements for personal support, signing etc?

(vi) Is there appropriate funding for additional staffing and equipment?

(vii) Would they prefer to go out to work? What would they like to do?

(viii) Can the school arrange suitable work experience? How will the young person get to and from the workplace?

(ix) Are there local employers sympathetic to the needs of disabled young people? Can links be established before the student leaves school?

(x) Does the student have ongoing health needs? How are these to be addressed once they leave school?

(xi) Is the student happy to live at home or are they considering living independently or with friends? Do social services have any programmes in place to teach independent living skills?

(xii) Does the student have any hobbies or interests that can be pursued outside school? Are there things they would like to do but have never tried? Are there volunteers or leisure programmes that they could access before they leave school to expand their options?

(xiii) Typically students with Down’s syndrome find it hard to think ahead and imagine what life might be like after they leave school. They will need the chance to sample different experiences before they can make informed choices. However, it is important that they are given the opportunity to make key life choices, rather than having them imposed by well meaning adults.
Unit 8:

Useful reading


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Unit 9: Alternative Accreditation at Key Stage 4

a) Qualifications at the end of the key stage

- Over the last decade, there has been a gradual and very welcome tendency for pupils with Down’s syndrome and others with complex special needs to be included in mainstream education. This is now enshrined as a principle of government policy. The tendency has already had a significant impact on primary education and the impact is necessarily spreading into the secondary years.

- However, the qualification system with which most secondary schools are familiar is not necessarily appropriate for these pupils. It is important, therefore, to look beyond the most common school-based examinations to find alternative but effective ways to promote learning and recognise achievement.

- At key stage 3, the eleven National Curriculum subjects take up the majority of most pupils’ curriculum time. However, at key stage 4, the prescribed National Curriculum is smaller and there is a greater degree of choice. Towards the end of year 9, pupils will choose which subjects they wish to give up and which to study in more depth at key stage 4.

- The main aim at this stage of their education is to work towards national qualifications, which they will usually take prior to the end of compulsory school at the age of 16. Interestingly, however, the recent Green Paper ‘14-19: extending opportunities, raising standards’ proposes much more flexibility about when pupils take qualifications within the 14-19 phase, with the intention of matching the pace of progression more effectively to individual needs.

- Some subjects (English, maths, science, design & technology, a modern foreign language and information and communication technology) remain compulsory. It is expected that for most pupils the curriculum will lead to national qualifications, although this is not a statutory requirement. Pupils are also required to study physical education, religious education, sex education, careers education and citizenship. In most schools pupils also study personal, social and health education. These do not, however, necessarily lead to qualifications. Most pupils also take qualifications in a range of other subjects in addition to those mentioned above.

- There are programmes of study defined for each of the National Curriculum subjects at key stage 4. The National Curriculum Handbook for Secondary Teachers in England contains a clear statement about inclusion. This permits teachers to modify, as necessary, the national curriculum programmes of study to provide all
Unit 9:

pupils with relevant and appropriately challenging work at each key stage.

- Nonetheless, for some pupils, it may not be appropriate to study all the National Curriculum subjects. Schools need to find a balance between covering as much as possible of the compulsory curriculum and meeting pupils' individual needs, perhaps through work-related learning with opportunities to develop basic skills. Disapplication of some National Curriculum subjects can help achieve this.

- For individual pupils, disapplication arrangements permit:
  i) disapplication through a statement of special educational needs of any National Curriculum subject and/or its assessment arrangements at any key stage; (This will apply to the majority of pupils with Down’s syndrome).
  ii) temporary disapplication of any subject and/or its assessment arrangements at any key stage;
  iii) disapplication of specified subjects for specific purposes for the whole of key stage 4.

- In the last case, there are three permitted purposes - to allow a pupil to:
  a) take an extended work-related learning programme (e.g. a work placement or attending a college for one or two days);
  b) emphasise a curriculum area in which they have strengths;
  c) consolidate learning in other areas or across the curriculum.

- Some pupils will take GNVQs and NVQs but the most common qualification at key stage 4 is GCSE. These are at levels 1 and 2 of the National Qualifications Framework and are academically orientated. For many pupils with learning disabilities however, whose achievements are below those required for grade G GCSE (the lowest GCSE grade) or Foundation GNVQ, the above qualifications are not appropriate. This means that, unless schools offer alternatives, some pupils with learning difficulties may be denied recognition of their achievement.

- Moreover, it is important that all pupils are enabled to leave school at 16 with some form of national or external recognition of achievement or qualification, which both reflects their interests, abilities and achievements and accredits skills for independent life. (It is worth noting in this context that recent human rights legislation enshrines the right of pupils to have their achievements recognised.) In addition, the curriculum at key stage 4 should whenever possible promote progression post 16.
Unit 9:

- The range of ability in pupils with Down’s syndrome varies enormously. Some will be capable of achieving well in certain subjects. Where this is not possible, however, suitable and appropriate alternatives, which match pupils’ needs, should be included in the curriculum. In addition, it is also important that pupils take responsibility for their own learning and are motivated towards obtaining recognition of their attainments.

- This is much more likely if the curriculum on offer matches the pupil’s own requirements and interests, is flexible and designed for progress in small steps. It is important, therefore to address two key questions when planning an appropriately matched curriculum for pupils with Down’s syndrome at Key Stage 4:
  
  i) Are suitable accredited alternatives to GCSE offered, e.g. Entry Levels, Certificate of Achievement?
  
  ii) Are courses provided which will develop life skills and basic skills?

- An appropriately matched curriculum should be part of the whole school approach to inclusion, enabling a differentiated response to pupils with SEN. The school will need a supportive senior management team and, ideally, one key member of staff to be responsible for coordinating the programme.

- Areas to consider including in an appropriately matched curriculum will focus upon:
  
  i) Basic skills in literacy and numeracy;
  
  ii) Personal, social and health education;
  
  iii) Vocational and work-related learning;
  
  iv) Developing independence and self-esteem.

- Modular courses with an emphasis on continuous assessment rather than terminal exams are more appropriate. All should have an emphasis on developing life skills to aid the transition into post 16 education and/or life in the community

b) Entry levels

- While it is not always possible or desirable for every area to be recognised, each aspect of the curriculum should be considered in terms of appropriate qualifications. There is, in fact, a range of suitable high-quality accredited qualifications available to schools for pupils working below the level of GCSE or Foundation GNVQ. These are Entry Level Certificates. However, not all parents or schools are aware of the alternatives - partly due to the huge changes and flux going on in the area of qualifications over recent years.
Unit 9:

- All accredited qualifications are ascribed to a level on the National Qualifications Framework (NQF). This covers all types of qualification. For ease of comprehension, the levels covering qualifications most commonly taken in schools are given in the table below.

**ENTRY LEVEL QUALIFICATIONS**

<table>
<thead>
<tr>
<th>Level of qualification</th>
<th>General</th>
<th>Vocationally-related</th>
<th>Occupational</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>A level</td>
<td>VCE</td>
<td>Level 3 NVQ</td>
</tr>
<tr>
<td>2</td>
<td>GCSE grades A*-C</td>
<td>Intermediate GNVQ</td>
<td>Level 2 NVQ</td>
</tr>
<tr>
<td>1</td>
<td>GCSE grades D-G</td>
<td>Foundation GNVQ</td>
<td>Level 1 NVQ</td>
</tr>
<tr>
<td>Entry level</td>
<td>Entry levels, Certificates of Achievement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Entry-level qualifications have been developed to recognise the achievement of pupils working below level 1 of the NQF. They are intended to promote progress to level 1, which includes GCSE Grades G-D, Foundation GNVQ, NVQ Level 1 or equivalent. Entry level certificates are designed to recognise and accredit achievement in small, worthwhile steps and to develop the skills needed to progress onto Level 1. They are available in a range of subjects, many closely linked to National Curriculum subjects but also including vocational subjects and life and work skills.

- There are 3 levels within Entry level: Entry 1, 2 and 3, with level 3 the highest and level 1 the lowest. The levels are broadly equivalent to National Curriculum levels 1, 2 and 3. Entry-level qualifications may cover one, two or three of these levels.

- The key features of Entry Level qualifications are that they:

  Recognise small steps of achievement in key and other skills for independent adult life;

  Enable pupils to work towards and gain a nationally accredited qualification;

  Offer progression to qualifications at NQF level 1;

  Allow pupils who are working below Entry level to work towards units of Entry-level qualifications, leading to centre-based rather than national certification.
Unit 9:

- Entry levels are assessed in different ways depending upon the particular subject and awarding body. These may include written, oral or practical approaches. Some tasks will be completed during the course and some at home. Entry levels can differ widely in terms of formality or flexibility and schools will be wise to look at different possibilities rather than opting for the awarding body they use for most other qualifications in the school.

- As Clausen-May puts it, “A choice must be made but selecting the entry-level award that is right for your students could make all the difference.”

- The main national awarding bodies in England, Wales and Northern Ireland already offer a range of qualifications at Entry level, including several vocational areas. The range will increase in the future as further qualifications are accredited by the regulatory bodies. In addition, there are several other types of awards suitable for pupils working below GCSE Grade G, some of which are outlined below.

c) Other qualifications and awards

- The Unit Award Scheme (AQA), is not a qualification as such but a type of record of achievement, developed to allow pupils to receive formal recognition of their success in short courses of work. Programmes of study are presented as a series of individual units. Each unit is a valid course of study in itself and can be linked to other units.

- Schools may write their own units for different levels of ability. Units must be validated by AQA. In addition, an increasing number of units have been written by the AQA. Each unit specifies the intended learning outcomes (skills, knowledge, understanding and experience) and the evidence required to confirm achievement.

- Pupils are issued with a Unit Award Statement on completion of each unit by AQA. Units can be in traditional areas of the curriculum and in extra-curricular studies such as work experience, leisure, personal and social education, PE and outdoor pursuits. The scheme provides flexibility to meet the specific needs and interests of all types of pupil who benefit from having their achievements accredited beyond what is normally available.

- The National Skills Profile (OCR), is designed especially for pupils with learning difficulties working at Entry Level and is awarded at three levels broadly in line with the three Entry Level stages. It creates a bridge into further mainstream qualifications, but also recognises achievement in its own right. It offers a flexible framework
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of modules, which schools can mix and match to suit the needs of their pupils.

- Each of the skill areas is available at all three Entry Levels. First Grade is the lowest level and is suitable for pupils with the most significant learning difficulties. Second Grade is for pupils with less marked difficulties, while Third Grade is suitable for those working just below GCSE Grade G. There are 5 modules for each skill area at each grade, making a total of 90 modules in all. There are also 13 vocational areas, available at Third Grade only.

- ASDAN has been accredited as an awarding body for qualifications within the NQF. Their Certificate in Life Skills is an Entry Level qualification. It is available at Entry Levels 1, 2 and 3 and offers a framework for the development of personal and social education, citizenship and Independent living skills. 50% of the qualification is assessed through the pupil’s portfolio of work and the remaining 50% through tasks and activities set by ASDAN.

- The ASDAN Youth Award is not a qualification but an award. It is open to all abilities aged 14-19, and is growing in popularity for lower achieving pupils. It is very suitable for KS4 pupils and beyond. The Youth Award offers awards at various levels and recognises a wide range of achievement relating to personal and social skills.

- Youth Awards are offered through a modular, activity-based programme as a series of challenges covering a wide range of options, including sport and leisure, community service, health, survival, artistic and work-related activities. However, the scheme can also be integrated into the curriculum rather than seen as an ‘add-on’ activity. The key skills can be introduced, developed and assessed, and pupils can take key skills qualifications, depending on which award they are working towards.

- The levels taken at key stage 4 are the Bronze, Bronze/Silver and Silver awards. The Bronze Award is highly suitable for pupils who will not achieve a Grade G at GCSE and is a nationally respected award. Pupils will need to obtain two credits, broadly equivalent to 60 hours work.

- For the Silver Award, pupils need to obtain four credits; these include four key skills. For some pupils with Down’s syndrome, the key skill in communication can be difficult. The Bronze/Silver challenge is an award at Bronze level but is for pupils who have achieved four credits but cannot include the key skills needed to obtain the Silver Award.

- ASDAN have now also introduced a PHSE programme, Key Steps, for pupils with special needs in Key Stage 3. This helps prepare pupils for the Youth Award.
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• One other way of recognising pupil achievements is through the use of the Progress File, which has replaced the National Record of Achievement. It offers a formative process leading to a summative document for pupils aged 16 years. It should offer employers or colleges information about the achievements of the pupil. These should reflect all the achievements of the pupil, whether academic or not, including sporting achievements, hobbies, responsibilities, places visited etc.

• Like its predecessor, therefore, it represents a useful way of presenting information about the whole pupil. However, it is not sufficient on its own and should be supplemented with formal and externally accredited qualifications. Several of the national awarding bodies, for example AQA and Open College Network (OCN), have schemes for recognising the Progress File, so that pupils receive formal recognition of their achievements and short courses of work.

• There are many positive reasons why pupils with Down’s syndrome and indeed any pupil with learning difficulties, should have every opportunity to access an appropriately matched curriculum at Key Stage 4. It can make the difference between success and failure for many pupils. Pupils need such opportunities at this stage in their education to be able to display and use their abilities, for these opportunities develop confidence, self-esteem, maturity, happiness, motivation, interaction with peers, independence and life skills.

• However, because much of their programme could not be found within the main GCSE-based curriculum, it is important also to ensure that attainments are recognised through national qualifications. This fact has been acknowledged in the increasing number of Entry Level qualifications made available by the various awarding bodies.

• Much of the focus of these qualifications is on developing pupils’ independence, sense of responsibility and self esteem, their personal and social skills, and the life skills needed to aid their transition into post 16 education and/or life in the community. As far as possible, also, they are designed to allow them to be co-taught with existing qualifications.

• There are, then, considerable opportunities for schools not only to tailor their curriculum to the needs of pupils with wide ranges of special educational needs but to provide formal recognition of the achievements made within that curriculum. This does call for significant planning and commitment from the school, but the benefits in terms of genuine inclusion are incalculable.
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d) Useful addresses

OCR
1 Regent Street
Cambridge CB2 1GG
Tel. 01223 552552
www.ocr.org.uk

AQA
Aldon House
39 Heald Grove
Rusholme
Manchester M14 4NA
Tel 0161 953 1170
www.aqa.org.uk

ASDAN
Wainbrook House
Huddsvale Road
St. George
Bristol BS5 7HY
Tel.0117 941 1126
www.asdan.co.uk

QCA
83 Piccadilly
London W1J 8QA
Tel. 0207 509 5555
www.qca.or.uk

Useful reading


4. Cullen, M., Fletcher-Campbell, F., Bowen, E., Osgood, J., Kelleher, S., (2000), Alternative Education Provision at Key stage 4. LGA educational research programme. NFER.


6. QCA (2000), A brief guide to Qualifications (work-based) levels1-3. QCA Publications

7. QCA (2000), A brief guide to Qualifications (foundation level) level 1. QCA Publications


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Unit 10: Computers as an aid to learning

a) Computers and the curriculum

- For children who learn most effectively from what they see and do, computers offer a host of opportunities to help get around their learning difficulties. The main advantage being that all the information is presented visually. Using a computer can be highly motivating and can often sustain a child’s attention for longer periods than more traditional verbal presentation on its own.

- Research has proven that children with Down’s syndrome learn better from a range of stimuli, including visual, than just from spoken input. Since many have an intermittent hearing loss, the sound capability of the modern multimedia computer makes it even more appropriate.

- Computers offer the child the opportunity to take control of the learning process, which can be particularly rewarding for a child who is rarely in control of their day-to-day life. There is also a reduced need for the kinds of precision with fine motor skills that traditional writing and drawing require. Little wonder then that most children with Down’s syndrome enjoy working with computers.

- Over the last ten years, we have witnessed changing attitudes in society and better opportunities through inclusion. Parents and professionals have higher yet realistic expectations, based on the outcomes of sensible early intervention and targeted learning programmes. We cannot yet set limits on what we can expect in the future, as the book is still being written.

- Many children with Down’s syndrome in mainstream classrooms are using computers in the same way as their peers and are utilising the same software packages, often as part of a ‘bundle’ supplied by the LEA. These packages will usually target a middle ability range within the school and cover most classical aspects of Information Technology, i.e. word processing, data handling, design, modelling and information seeking.

- For children with more individualised targets, requiring a greater level of differentiation, the computer can take on a role far more important than just learning about ICT.

- Since computers were first introduced into education, there has been a vast amount of research and development in the field of software for children with special educational needs. Software that was developed specifically for pupils with SEN has been easily absorbed into the mainstream classroom and indeed into industry and F.E. Software that breaks learning tasks down into small achievable steps and motivates children to take part and practice skills is welcomed by teachers of all children.
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- Many of the classic educational packages, like ‘Blob’ from Widgit and single task programmes produced by Brilliant and Inclusive Technology are especially useful in breaking down tasks to their basic components, building confidence and targeting specific skills in the early years.

- Pre reading skills and productive language difficulties in young children can be effectively addressed using ‘Speaking for Myself’. As a resource and guide to teaching reading to teach talking, it acts as an introduction to the use of signing and symbols and builds a bridge to the spoken and written word.

- This approach has been well researched for children with Down’s syndrome and helps to account for the excellent progress that many are now making with literacy, language and reading.

- For children with Down’s syndrome, visual is good. Thus programmes such as ‘the Animated Alphabet’, ‘Number Pics’ and ‘Alpha Pics’ are ideal in supporting learning. Similarly ‘Number Tiles’ and even the entry levels of the ‘Talking Maths Book’ have proved useful.

- The latest versions of ‘Clicker’ offer many exciting ways to help children with topic work using sound, pictures, animations and video. The innovative ‘Inclusive Writer’ offers almost endless opportunities to develop literacy, vocabulary, spelling and even number work from the simple framework of a talking word-processor with visual on screen support.

- In the same vein, Talking Books from Rosie and Jim, Naughty Stories, Oxford Reading Tree and Cambridge schemes are tailor made for reinforcing reading skills.

- Speaking Starspell, Simple Talking word-processors like Pages and Textease and simple typing programmes with pictures and words are highly recommended. They allow children to take the same route to learning as their more able peers, while letting them work at their own pace, within the same topic areas.

- In a busy mainstream classroom, the opportunities for targeted differentiation are greatly assisted by the wide range of activities that a good framework programme such as ‘My World’ or ‘Clicker 4’ can achieve. These offer the opportunity to create individualised tasks in all subject areas. In addition, numerous ready made activities are now freely available from specialised websites and are a great encouragement to teachers keen to use ICT in the classroom.
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b) Using ICT to promote learning

- Computers can often sustain a child's interest for much longer than traditional teaching.

- Computers offer a highly organised environment in which children are able to learn at their own pace and consolidate their work as often as they like.

- Computers can be adapted to meet the access requirements of children with individual needs.

- Computers also offer the opportunity to enhance the appearance and accuracy of a piece of work thus boosting self-confidence and encouraging learners to undertake new and different tasks.

- Computers can support access to differentiated work that can be presented flexibly in order to meet individual requirements.

- Teachers, children and parents alike have been rewarded by the way in which children have taken to using the computer and the ease with which they can demonstrate and develop skills.

- Children with Down’s syndrome learn best from a combination of visual and auditory stimuli rather than from auditory instruction alone.

- When using the computer, the information is presented in a multi-sensory manner and presentation can be adapted for individual needs.

- Being in control of the computer can be very rewarding for children with Down’s syndrome and supports the development of independence.

- The computer can help to overcome some of the more specific difficulties such as the fine motor control required for handwriting and drawing.
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c: Useful addresses of software suppliers

Inclusive Technology
Gatehead Business Pk.
Delph
OL3 5BX
Tel: 01457 819790
inclusive@inclusive.co.uk
http://www/inclusive.co.uk

Semerc (Brilliant)
Granada Learning Ltd.
Granada Television
Quay St.
Manchester
M60 9EA
Tel: 0161 827 2927
info@granada-learning.com
http://www.semerc.com

Widgit Software
124 Cambridge Science Park
Milton Road
Cambridge
CB4 0ZS
Tel: 01223 425558
www.widgit.com
info@widget.co.uk

Crick Software
35 Charter Gate,
Quarry Park Close,
Moulton Park,
Northampton
NN3 6QB
Tel: 01604 671691
info@cricksoft.com
http://www.cricksoft.com

Sherston Software Limited
Angel House
Sherston
Near Malmesbury
Wiltshire
SN16 0LH
Tel: 01666 843200
info@sherston.co.uk
http://www.sherston.co.uk

Topologika Software Ltd
Harbour Village
PENRYN
Cornwall
TR10 8LR
United Kingdom
Tel: 01326 377771
info@topologika.com
http://www.topologika.com

Rickett Educational Media
R-E-M
Great Western House
Langport
Somerset
TA10 9NA
Tel: 01458 254700
info@r-e-m.co.uk
http://www.r-e-m.co.uk

DSET
Sarah Duffen Centre
Belmont Street
Southsea
PO5 1NA
Tel: 02392 855330
info@downsed.org
http://www.downsed.org

Resource Education
51 High Street,
Kegworth,
Derby
DE74 2DA,
Tel: 01509 672222
ws@resourcekt.co.uk
http://www.resourcekt.co.uk

Don Johnston Software
18/19 Clarenden Ct.
Calver Rd
Winwick Quay
Warrington
WA2 8QP
Tel: 01925 256500
dwhyman@donjohnston.com
http://www.donjohnston.com
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**d: Computers in school and children with Down’s syndrome**

‘ICT’ the essentials list

**Pre-school/ early years:**
**Cognitive software** using ‘space bar’ and ‘return’ keys-i.e.
Switch suite (Inclusive Technology)
Blob (Widgit)
**Early reading and language**
Speaking for Myself (Topologika)
‘Jemima’ songs and rhymes (Inclusive Technology)
**Mouse use/training**
Foundation mouse skills (E-Soft)
Living books (Bronderbund)

**Primary/ secondary**
**Talking wordprocessor-i.e**
My first words (RM)
Pages (Semerc)
Talk Write (Resource)
Textease (Softease)
Inclusive writer (Inclusive Technology)
+ Curriculum based clip art
**On Screen worksheets**
Inclusive writer (Inclusive Technology)
Clicker (Crick)

**Reading support**
Living books (Bronderbund)
Talking books (Sherston)
Wellington Square (Semerc)

**Spelling**
Starspell 2000 (Fisher Mariott)
Wordshark (White Space)
Sounds and Rhymes (Xavier)
Gamz2 (Inclusive Technology)

**Memory training**
Mastering memory (CALSC)

**Numeracy**
Numbershark (White Space)
Number tiles (Topologika)
Talking mathsbook (Topologika)

**Keyboard Training**
First keys (Widgit)
Type to learn (TAG)
Speedy keys (Semerc)

The importance of using computers is growing for all children. Children with Down’s syndrome working in mainstream classrooms or in special provision should have access to tried and tested curriculum software for use in most subject areas. The ‘essential’ list gives guidance on the types of software that will be of most value, and should already be available in any well-resourced SEN department. Where they are not available in school they can be accessed through the learning support teams in most areas.

Alongside this a well-resourced SEN department will have access to a scanner and digital camera to personalise work and individualise materials. When schools are planning and allocating budgets, remember that the software is equally as important as the hardware and include the costs of paper for printing and upgrading software as better versions become available. Try to get to at least one education computer exhibition and use the free demonstration software available from most suppliers in order to evaluate new software as it comes on to the market.

Teachers and LSAs will undoubtedly need to use some of their own time to develop their own IT skills, but this is likely to be a very good investment in their own, as well as their children’s future.

Although particular pieces of software will run effectively on old computers, children with Down’s syndrome and other learning difficulties arguably benefit more from fast multimedia systems than their more able peers. These should be available in classrooms and not just in computer suites.
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**e: Useful websites for further information**

**Some websites dealing with Down’s syndrome issues**
The Down’s Syndrome Association Website with links to national and international organisations  [http://www.dsa-uk.com](http://www.dsa-uk.com)
Down’s Syndrome - Your Questions Answered [http://www.dsa-uk.com/Literature/Downs_questions.htm](http://www.dsa-uk.com/Literature/Downs_questions.htm)
The Down’s Syndrome Association Education Area [http://www.dsa-uk.com/Education/Education.htm](http://www.dsa-uk.com/Education/Education.htm)
Including Pupils with Down’s Syndrome in Primary Education [http://www.dsa-uk.com/Literature/Education/Inclusion_Books/Primary.html](http://www.dsa-uk.com/Literature/Education/Inclusion_Books/Primary.html)
Downright is an independent organisation based in the North West, working in close collaboration with the Down’s Syndrome Association and the Down Syndrome Educational Trust; [http://www.downright.co.uk/](http://www.downright.co.uk/)
Down Syndrome Educational Trust - the website offers advice and information for parents and professionals caring for individuals with Down’s Syndrome and offers research findings and a catalogue of teaching resources. [www.downsnet.org/downsed](http://www.downsnet.org/downsed)

**Some websites dealing with inclusion issues**
Alliance for Inclusive Education - a website that describes this organisation’s campaign for inclusion [www.btinternet.com/~allfie](http://www.btinternet.com/~allfie)
Centre for Studies on Inclusive Education (CSIE) Inclusion page- advice and information on the work of the CSIE in promoting inclusive education. [www.inclusion.uwe.ac.uk](http://www.inclusion.uwe.ac.uk)
Enabling Education Network (EENET) - an information sharing network aiming to support and encourage inclusion. [www.eenet.org.uk](http://www.eenet.org.uk)

**Some websites with curriculum resources**
Northern Grid for learning offer SEN resources: [www.northerngrid.org](http://www.northerngrid.org)
Advisory Unit: Computers in Education - this company’s website has a Concept Keyboard Exchange with free downloadable resources to use with their Concept Plus program [www.advisory-unit.org.uk](http://www.advisory-unit.org.uk)
BBC On Line Education - starting point for resources and links to other websites [www.bbc.co.uk/education](http://www.bbc.co.uk/education)
Channel 4 Learning - on-line support for Channel 4 School television programmes [www.4learning.co.uk/index.cfm](http://www.4learning.co.uk/index.cfm)
Creative Communicating - ideas and resources for children with disabilities [www.creative-comm.com](http://www.creative-comm.com)
Crick Software - this company’s site has free downloadable resources on their Clicker Grids for Learning page for users of the Clicker program. [www.cricksoft.com](http://www.cricksoft.com)
EduWeb - Curriculum support site from RM, parts of which are free [www.eduweb.co.uk](http://www.eduweb.co.uk)
IntelliTools - this company’s site has a free Activity Exchange where resources made with their products can be downloaded free of charge
Some websites for general professional development in SEN
BECTa (The British Educational Communications and Technology agency) - information on ways of using ICT in education. www.becta.org.uk
BECTa Special Needs and Inclusion area - lots of information about using ICT to support learners with special needs, including links to the archives of useful mailing lists www.becta.org.uk/inclusion/index.html
David Fulton Publishers - specialise in books about teaching special education. www.fultonbooks.co.uk
DfEE Special Needs - information on legislation, organisations and projects. www.dfee.gov.uk/sen
Education Unlimited - news items and articles on educational topics on this website developed by the Guardian/Observer newspapers. www.educationunlimited.co.uk
Inclusion - a free, searchable catalogue of on-line resources to support teaching professionals, parents and carers in meeting individual learning needs. www.inclusion.ngfl.gov.uk

Inclusive Technology - this company’s website has useful information pages on topics of interest to teachers of children with special educational needs. www.inclusive.co.uk
Mailbase - a directory of discussion lists primarily for the UK higher education community. www.mailbase.ac.uk
National Association for Special Educational Needs - the NASEN website gives information about its activities. www.nasen.org.uk
National Grid for Learning - a collection of resources brought together by the UK Government. The Schools area has a Special Needs section. www.ngfl.gov.uk
Qualifications and Curriculum Authority - an overview of curriculum, assessment and qualifications. www.qca.org.uk
Questions Publishing On-line - this website has a search facility that enables you to find articles published in Question’s group of journals, as well as descriptions of relevant books. www.education-quest.com
Teacher Training Agency - the special educational needs section gives information on the latest government policies regarding the training of teachers in SEN. www.teach-tta.gov.uk/sen/index.htm
Times Educational Supplement - an on-line version of the educational newspaper. www.tes.co.uk
Widgit Software - the special needs section of this company’s website has lots of useful information. www.widgit.co.uk

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