

# Down syndrome

A resource for educators

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He rauemi mā te kaiwhakaako



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# Introduction

This booklet examines how Down syndrome can influence learning and provides strategies teachers can use in the classroom.

It examines key areas where students with Down syndrome may need support and features some whole class strategies that may benefit all students, particularly those with Down syndrome.

It focuses on supporting you where specialist assistance may not be available, but you are searching for ways to adapt your classroom programme to meet the diverse needs of your students.

The strategies outlined in this booklet will be most effective when used in the context of good planning, knowing your students and what makes each of them unique, setting goals, and regular inquiry into what works and what doesn't.

If you need more intensive, specialist support, look into a referral to a Resource Teacher: Learning and Behaviour (RTLB) or to your local Ministry of Education district office.

## Helpful link

Visit the Inclusive Education Online Knowledge Centre where you will find a more indepth guide on students with hearing loss, as well as videos and links to student and teacher experiences.

<http://inclusive.tki.org.nz>

# Down syndrome – what is it?

Down syndrome is a genetic condition that people are born with. It affects development throughout life and is caused by an extra copy of all or part of chromosome 21.

## How Down syndrome can influence learning

Every situation and every student is different. Students may need significant help with a range of day-to-day tasks or may work independently.

Their experiences will vary, depending on the impact of their disability, any associated health conditions, their family setting and circumstances and individual factors such as age and personality.

Research shows children and young people with Down syndrome may take longer to acquire the same skills as other students in key developmental areas, for example, socially, physically (their fine and gross motor skills, particularly) and in their thinking and communication skills.

Students with Down syndrome may find it challenging to:

- ▶ learn new skills at the same pace as their peers
- ▶ maintain concentration and focus on tasks
- ▶ communicate using spoken language
- ▶ process information and understand complex verbal instructions
- ▶ develop functional use of literacy and numeracy.

# How can I prepare for a student with Down syndrome?

Start by talking with the student, their families, whānau, specialist teachers and other members of your student's team to understand your student and his or her learning potential.

You will find a student's family, whānau and specialists know the student best and will be a key source of information. Talk to them (and your student) to build good understanding of a student's practical, emotional and learning needs.

Share with parents, family and whānau the knowledge you gain about teaching their child. Encourage them to support learning at home. Share their child's success with them. Involve them – and your student – in key decisions. Connect families and students with other people in your school community.

You may also like to consider using the Individual Education Plan (IEP) process to help you prepare and plan. The IEP process can be a good way to bring people together and plan collaboratively and doesn't always need to result in a formal IEP plan.

The most important thing is prepare and plan well and to regularly review what you do and what's happening.

For more information on the IEP process, refer to the Ministry's IEP guidelines, *Collaboration for Success: Individual Education Plans*, available in print and online at [www.seonline.tki.org.nz/IEP/IEP-Guidelines](http://www.seonline.tki.org.nz/IEP/IEP-Guidelines)

## Starting out – ideas to think about

**There's no one-size-fits-all**

All of your students bring a huge variety of skills, needs and interests to their learning. These differences are as unique as their fingerprints. Students want access to learning in the way that works best for them.

**Know your student**

Talk with the student, family, whānau, specialist teachers and other members of your student's team to come to understand your student and their learning potential. Find out about the student's interests, likes and the things that motivate the student.

**Ako**

Be a learner as well as a teacher. Reflect on the impact of your practice and actions.

- ▶ What is important (and therefore worth spending time on), given where my students are at?
- ▶ What strategies (evidence-based) are most likely to help my students learn this?
- ▶ What has happened as a result of my teaching and what will I need to do next?

## You don't need a separate curriculum

Take a flexible, inclusive approach to teaching and you will find very little, or only in some areas, adaptation to the curriculum is required. Be flexible in the goals you set, as well as the teaching methods, materials and assessments you use. Keep in mind, a student's curriculum needs may change as a child gets older and moves from primary to secondary school.

## Plan and prepare

Talk with and involve your student, their parents, family, whānau and other specialists.

- ▶ Build a team around your student.
- ▶ Develop a good learner profile.
- ▶ Set clear goals and check in often.

## It matters how you 'see' disability

Be a disability champion in your school and your classroom. See the student first (not their disability). Look at the world through their eyes. Understand how societal attitudes can create barriers for students. Design your classroom in a way that removes those barriers and works for all students and all ways of living in the world.

# Teaching students with Down syndrome – a framework

There is extensive well-documented evidence about the teaching approaches that consistently have a positive impact on learning.

The evidence says all students need teachers who:

- ▶ create supportive learning environments
- ▶ encourage reflective thought and action
- ▶ enhance the relevance of new learning
- ▶ facilitate shared learning
- ▶ make connections to prior learning and experience
- ▶ provide sufficient opportunities to learn
- ▶ inquire into the teaching-learning relationship.

See *The New Zealand Curriculum*, pg 34.



# Creating an accessible and supportive learning environment

Accessible and supportive classrooms can be a rich teaching resource for helping students learn about diversity and positively relate to one another.

They can foster student collaboration, problem solving and learning and give all students a sense they belong at school and can participate.

There are many ways you can create a more accessible and supportive school and classroom environment.

Here are some key questions to think about and discuss with your students and their families and whānau.

*Research suggests that students with Down syndrome do better when they learn alongside their typically-developing peers, where they spend their time in places and activities with other pupils of the same age from the local community, irrespective of their level of learning ability.*

## School environment

- ▶ Is the school environment easy to move around in?
- ▶ Are the school's boundaries clear and do students know where they are allowed and not allowed to be?
- ▶ Do you need to reinforce school rules about returning to school after breaks?

*Ellen loves school, but often tires more readily as the school week progresses. In general, it takes Ellen a bit longer to learn new things and complete her school work (compared to her peers).*

*But she can pick things up quickly when tasks are broken down into smaller steps and when a task is repeated in different ways.*

## Classroom environment

- ▶ Are all classrooms well organised and free of clutter – is there an unobstructed pathway to frequently used areas such as the teacher's desk?
- ▶ Do you need class rules to keep bags well stowed, chairs pushed in and desks tidy?
- ▶ Are desks and chairs set up well for students who find it a challenge to get into the right position to learn?
- ▶ Have you reduced any distractions in the classroom or outdoor environment, for example, noise levels to help your students hear and concentrate on what you are saying?
- ▶ Where will you seat students to make sure they can all hear best and maintain their attention easily?
- ▶ How will you give students who need to move around to stay focused and concentrate, opportunities to take breaks and refresh themselves?

- ▶ Are your expectations of classroom behaviour clear so it is easy for students to understand what is expected from them?
- ▶ Can all students use all the tools and equipment in class and participate in all curriculum areas?
- ▶ Is any additional assistive technology required (such as specialist classroom furniture or writing tools)?

*Dai is a teenager who is developing into a successful, independent student. He's able to use his literacy and numeracy skills to write emails, fill out forms, go shopping and buy his own lunch at school. He's developed a habit of working with his teachers to list all the learning tasks he needs to complete for each subject over the course of a week, with every task broken down into smaller tasks. He also gets his teachers to adapt their course material into pictorial graphs and charts to help him learn more easily.*

# Using the key competencies to guide teaching

*The New Zealand Curriculum* identifies the key competencies students need to live, learn, work and contribute as active members of their communities.

These key competencies are relevant to all students and all learning areas. They include:

- ▶ thinking
- ▶ using language, symbols and texts
- ▶ managing self

- ▶ relating to others
- ▶ participating and contributing.

Three of these competencies are explored in more detail on the following pages to show how they might relate to students with Down syndrome.

*Some students may have medical issues commonly associated with Down syndrome. For example, issues related to their heart, respiratory system, eyesight or hearing. Regular hearing and vision checks are recommended for students with Down syndrome.*

## *The New Zealand Curriculum* key competencies

### Using language, symbols and texts

## Teaching support

All students need the opportunity to express their knowledge through a variety of language, symbols and texts.

Language and symbols represent and communicate information, experiences and ideas. Through language and symbols, people produce texts of all kinds – oral, written, visual.

Many students with Down syndrome will enjoy reading, visual learning and using sign and gesture. They may find learning from listening, making sense of oral and written language and retaining what they have been taught challenging.

You may need to support students with Down syndrome to communicate their ideas effectively. Using communication systems such as signing or visual tools and assistive technology is likely to help them participate and communicate with their classmates.

## *The New Zealand Curriculum* key competencies

### Thinking

## Teaching support

All students need the opportunity to use creative, critical and metacognitive processes to make sense of information, experiences and ideas. This includes using thought to develop understanding, make decisions, shape actions and construct knowledge.

Students with Down syndrome may need additional support to become competent thinkers and to problem solve by actively seeking, using and creating knowledge.

Some students may find it challenging to use working memory and recall (briefly holding facts in their heads and manipulating, sequencing, organising and writing down factual information).

They may find developing their understanding, making decisions, shaping their actions and constructing knowledge a challenge. They may find it hard to maintain their attention in a busy classroom too.

Keep students with Down syndrome organised and on task using a range of different tools, as well as giving them regular reminders about when to start or complete tasks.

## *The New Zealand Curriculum* key competencies

### Thinking (continued)

## Teaching support

Representing complex ideas visually, using mind mapping tools, may also work well.

Give them plenty of support to reflect on their own learning, draw on personal knowledge and intuition, ask questions and challenge assumptions and perceptions.

### Managing self

All students need the opportunity to become self-motivated, develop a can-do attitude and see themselves as capable learners. This includes the ability to independently manage their personal care.

Students with Down syndrome may need additional support to develop the personal care and social strategies they need to meet challenges, be independent and be accepted socially.

Students may benefit from role modelling and learning social skills from their peers. You may need to set up your classroom in easy-to-understand, clear ways to support students to learn and build up their self care skills over time.

# Using the learning areas to guide teaching

*The New Zealand Curriculum* identifies eight learning areas that are important for a broad general education, including English, the arts, health and physical education, learning languages, mathematics and statistics, science, social sciences and technology.

There are five general strategies that are useful to keep in mind all the time and a range of specific strategies to consider alongside questions you may ask yourself as part of the teacher inquiry process.



## All learning areas: Five general strategies

1

**Present curriculum content in different ways to help students develop an interest and engagement in learning.**

For example, students with Down syndrome may benefit from having access to pictorial and graphical teaching and learning resources.

2

**Provide options for students to express what they know** – give students the opportunity to choose how they want to communicate about a topic, for example, using video or graphics if they struggle with oral or written communication. You might want to give students additional time to complete tasks where they need it.

3

**Stimulate interest and motivation for learning** – adapt your lessons and introduce alternative options for students to demonstrate what they know and can do. For example, you might want to

lessen the amount of writing required for students who need extra time to copy down information or you might want to encourage students to share a writing task.

4

**Adjust the classroom environment to support learning** – remove physical barriers by introducing technology and adapting the classroom environment to support participation and build up a student's sense of self esteem and independence.

5

**Use technology** – give students access to technology such as a laptop, PC or iPad to develop their ideas and present their work. Alternatively, technology such as pencil grips might work well for handwriting tasks.

## Questions and strategies for all learning areas

### TEACHER INQUIRY QUESTION

How do I strike the right **balance** between providing students with the **necessary support** on the one hand, while helping them **become independent** on the other?

### STRATEGIES

- ▶ Observe your students carefully to decide what they can do independently, when and where.
- ▶ Find out about the student's skills and what he or she enjoys – use this information when you are planning your programme activities.
- ▶ Support students with Down syndrome only when and where it is needed. Support may vary from people (including peers) to other support such as modified writing tools.
- ▶ Use in-class and group support where you can.
- ▶ Plan for students to generalise and use new skills in other learning situations.
- ▶ Seek opportunities to gradually minimise or change the support available to students or move your support to another situation.
- ▶ Review the skills your student has learned regularly to make sure your support is provided in the right place, by the right person and at the right time.
- ▶ Encourage open communication – listen to your students, ask them how they can best complete an activity. Sometimes they may want to give things a go and in other situations they might prefer to have some help.

## TEACHER INQUIRY QUESTION

What are some of the different ways I can encourage students with Down syndrome to **participate and contribute** in the classroom?

## STRATEGIES

- ▶ Adapt your criteria for success. Provide students with lots of specific, meaningful praise and positive reinforcement. Give clear, easily understood instructions about how to make the next step in their learning, what you expect and what they need to achieve.
- ▶ Provide step-by-step instructions to help students learn new skills. Accompany instructions with gesture, pictures and visual or social stories. Let students draw or make their own visual or social stories and instructions.
- ▶ Be aware students who find it hard to get their ideas across in words may prefer to use visual aids such as a photoboard or a poster to communicate their thoughts and understanding.
- ▶ Develop self-help skills by giving students who struggle with memory and recall the option of using additional reference and organisational tools when presenting information.
- ▶ Give students the opportunity to learn about a topic in small groups and develop their social skills at the same time.

## TEACHER INQUIRY QUESTION

How do I use the particular **skills and strengths** associated with Down syndrome to support all learning?

## STRATEGIES

- ▶ Provide a range of options for the student to understand and express what they know. Students who find it hard to get their ideas across in words may prefer to use body language, signing, digital tools and visual aids such as a photoboard, digital presentation, visual schedules or a poster to communicate.
- ▶ Spell out what students are learning and for what purpose, for example, say: 'We are practising jumping so you can be in the school sports sack race.'
- ▶ Use plenty of hands on activities and strategies when you teach.
- ▶ Use concrete materials to help embed learning.
- ▶ Observe how a student learns in particular – is it through movement, rhyme, music? – and give the student different ways to demonstrate their learning.
- ▶ Look at the research about the learning styles associated with Down syndrome.
- ▶ Be clear about what you expect and what you don't, particularly with behaviour. Ask family and whānau about their expectations and what works for them.
- ▶ Establish classroom routines and rules that are clear and easy to follow and understand (present those rules in different ways).
- ▶ Give frequent praise and reinforcement for success.
- ▶ Teach tasks in small steps so students can achieve success.
- ▶ Identify what a student is good at and enjoys and use it as the basis for a group activity that the student can lead or take part in to build up their confidence and sense of self.
- ▶ Give students lots of opportunities and time to practise appropriate social behaviour.

## TEACHER INQUIRY QUESTION

How can I **organise the classroom** to support students?

### STRATEGIES

- ▶ Consider adapting your lessons.
  - ▶ Think about your goal in the activity. Ask yourself, 'Am I asking students to get their ideas across and create meaning for themselves and others or am I asking them to demonstrate an understanding of something they have listened to, seen or read?
  - ▶ Be aware of situations when the student will not be able to complete a learning task and provide them with alternatives.

## TEACHER INQUIRY QUESTION

What **resources** would work best for students with Down syndrome?

### STRATEGIES

- ▶ Consider using a range of teaching and learning resources in the teaching and learning process, for example, videos, YouTube clips, podcasts and audio books, as well as written materials.
- ▶ Encourage students to make handy reference aids that feature common subject facts that they can refer back to throughout the school day. You may want to develop these into classroom posters.
- ▶ Use role modelling and peer support to show or demonstrate how a student might achieve and carry out a particular task or learning activity.

## TEACHER INQUIRY QUESTION

How can I influence my **school culture** to provide students with Down syndrome with the opportunity to **make and maintain friendships**?

### STRATEGIES

- ▶ Talk to your school's learning support coordinator or senior management team about how to support all teachers to know more about Down syndrome and the strengths and challenges related to teaching students with Down syndrome. Use school meetings as an opportunity to raise and share ideas.

## TEACHER INQUIRY QUESTION

What can I do to encourage students with Down syndrome to **enjoy being at school**?

### STRATEGIES

- ▶ Encourage students with Down syndrome to develop a social circle of friends and people they know well and are comfortable with (in turn, encourage students not to mother peers with Down syndrome).
- ▶ Use role modelling and peer support to set up a buddy system or use a Circle of Friends approach in the initial stages.
- ▶ Make changes to routines and transition gradually to help students feel well supported.
- ▶ Find out how students with Down syndrome prefer to communicate and encourage your class to communicate with them using their preferred system – make learning fun for everyone.
- ▶ Give students with Down syndrome opportunities to show their strengths and build up a sense of belonging and contribution.

## TEACHER INQUIRY QUESTION

What **information** do I need to know about the student and who should I share this with? I know that it is important to treat this personal information with care.

## STRATEGIES

- ▶ Talk to the student and the student's family to be clear about what information they want shared and who it can be shared with.
- ▶ Give students the opportunity to express their opinions and take those opinions into account.
- ▶ Find out how personal issues such as the use of the toilet, will be managed.
- ▶ If the student uses specialised equipment, find out who needs to know about it.

## TEACHER INQUIRY QUESTION

How can I integrate **peer support** into teaching and learning?

## STRATEGIES

- ▶ Encourage rapport among students by making a class bulletin board featuring school-based and out-of-school interests. Ask students to bring pictures of themselves involved in different activities as a way to help them identify common interests.
- ▶ Create an environment where students can clearly see one another, identify social cues and practise and learn turn taking, for example, during mat time (for young students) or during group work (for older students).
- ▶ Discuss the usual rules of conversation, for example, maintaining personal space between people, using eye contact and facial expressions, opening and closing conversations and taking turns.

## TEACHER INQUIRY QUESTION

How can I support students to learn **social behaviours and language**?

### STRATEGIES

- ▶ Use 'When you have done this, then you can do that' to motivate task completion and reward with a desired activity.
  - ▶ Make them part of the school community by acknowledging and building on their strength of sociability (for example, social understanding and empathy are often areas of strength for students with Down syndrome).
  - ▶ Give lots of opportunities to practise what to say and do in different situations particularly social ones.
  - ▶ Use role modelling to show or demonstrate how to participate and contribute in different situations and contexts.
- ▶ Use the attention rule – give attention to the behaviour you want to encourage and teach a student's classmates to do the same.
  - ▶ Help students learn when physical contact is socially appropriate.
  - ▶ Think about ways you can support students to build up their knowledge and understanding using peer role models and social stories.
  - ▶ Consider using aural texts such as video recordings to teach and clarify the language used in the classroom (for example, when it is appropriate for students to talk, appropriate ways to gain attention, take turns, the vocabulary and grammar of school talk etc).
  - ▶ Use strategies such as prompting, cueing or giving forced alternatives to develop students' knowledge of social language, for example, by asking, 'Was your friend happy or sad when you did that?'



## TEACHER INQUIRY QUESTION

How can I increase a student's **expressive speech and language skills**?

### STRATEGIES

- ▶ Give students opportunities to understand and express what they know in multiple ways, for example, through text, speech, dance, movement, illustration, storyboards, video and web tools.
- ▶ Teach vocabulary – consider teaching new words by pairing the spoken word with a picture and/or sign of the word.
- ▶ Use visual strategies and support to scaffold language skills.
- ▶ Write key words on the whiteboard that students can refer to (a student may also like to develop their own word bank they can use at school and at home).
- ▶ Students may find games or drama and role play a good way to take part and practice their speech, language and vocabulary.
  - ▶ For example, they may find it useful to use visual tools such as a visual story or poster to get their ideas and understanding across.
  - ▶ For example, they may like to use a tablet or video to record, play back and monitor their speech.

## TEACHER INQUIRY QUESTION

Can I **lessen the amount of writing** students need to do within each learning area?

### STRATEGIES

- ▶ Be clear about the purpose of writing in your lessons.
  - ▶ Ask yourself: 'Is copying the date at the top of the page essential to the handwriting task?' If not, change the task so your student can complete the activity.
  - ▶ Ask yourself: 'Am I asking for handwriting legibility or am I asking my students to express their knowledge in writing?' If it is the latter, let students express their knowledge using their voice and a dictaphone.
- ▶ If a student finds it challenging or painful to write explore options such as:
  - ▶ having extra time
  - ▶ reducing the amount of writing
  - ▶ using worksheets.
- ▶ Consider providing a student with a buddy who can act as a scribe or to share lesson notes as an alternative to copying information from the board.

## TEACHER INQUIRY QUESTION

What are some of the different ways I can help students develop their understanding of the **structure and organisations of texts**?

## STRATEGIES

- ▶ Use visual resources to support students' recall of information.
- ▶ Use recapping to summarise ideas in a conversation and to give students the chance to rethink and catch up (if they have lost track).

## TEACHER INQUIRY QUESTION

What **tools or materials** might help with writing tasks?

## STRATEGIES

- ▶ Consider giving students the option of using assistive technology for writing (for example, a computer and computer software with word prediction). Avoid letting a student struggle with handwriting where there is little evidence of it improving.
- ▶ Use worksheets students can fill in (as an alternative to asking them to write notes).
- ▶ Suggest students present what they know and can do in video or through another visual medium.
- ▶ Try a variety of writing tools (for example, ergonomically-designed pens or pencils, gel pens or weighted pens or pencils).
- ▶ Use pencil grips.

## TEACHER INQUIRY QUESTION

How can I support students to **think, process ideas and information?**

### STRATEGIES

- ▶ Break up long instructions. For example, 'After you've unpacked your bag, you're going to sit down at your desk, watch the presentation and discuss it your neighbour...' could be broken down to, 'First, watch the video. Next, talk about it with the person next to you.'
- ▶ Provide students with clear directions about what to do next and what you expect.
- ▶ Help students consolidate their learning through repetition and by linking it to their own experience, for example, by using real-life objects such as telephones, microwaves, timers and scales to teach calculating skills, number recognition and useful life skills.
- ▶ Ask questions by prompting, pausing and repeating to help students process what you are saying.
- ▶ Encourage students, older students particularly, to use mindmaps or a story board to them sequence their ideas or retell a story.
- ▶ Give them different ways and opportunities to demonstrate their understanding.

## TEACHER INQUIRY QUESTION

How can I increase student engagement with a **numeracy**-based activity?

### STRATEGIES

- ▶ Use tangible materials such as counters, magnetic numbers, clothes pegs etc.
- ▶ Support students to learn about specific concepts such as numbers and maths by letting them physically touch and handle three dimensional shapes and objects (you might like to look into a maths programme called Numicon, developed especially for students with Down syndrome).
- ▶ Introduce everyday technology into your lessons to give students the opportunity to learn how to use the technology, as well as develop their understanding of the language and conventions associated with it, for example, txt language for mobile phones.

## TEACHER INQUIRY QUESTION

How will I support the student's particular **health or safety** needs in class?

### STRATEGIES

- ▶ Check with a student's family to find out more about the student's eating requirements (for example, do they have difficulty with chewing, swallowing – do they choke easily, how do they manage their food and drink? Do they have Coeliac disease? Do you need to monitor their food intake?). Work with the family to put in place a management plan for eating if needed.
- ▶ Talk to a student's family about the need for regular and ongoing vision and hearing checks and any vision and hearing needs.
- ▶ Plan ahead. Be aware of situations when the student may not be able to complete a physical task and provide them with alternatives, for example, shortening the distance they run in a running race.
- ▶ Watch for tiredness – put a plan in place to manage fatigue, for example, you may want to identify a quiet place in the classroom that a student can use to look at a book and take time to rest.

## TEACHER INQUIRY QUESTION

How can I support students to **manage themselves in class?**

### STRATEGIES

- ▶ Keep students on task using a range of tools as well as regular reminders about when to start or complete a task.
- ▶ Give students opportunities to practise the skills involved in self management and carrying out daily activities. For example, you may like to organise community events to teach students the language and social conventions involved in grocery shopping, travelling on the bus or going to the movies.
- ▶ Use modelling 'talking their thinking' out loud when faced with situations where self management is needed.
- ▶ Give students extra time to change clothing for swimming or physical education classes.
- ▶ Suggest parents use something visual, for example, coloured thread or a label inside a student's clothing and shoes to indicate right and left.
- ▶ Consider giving students a task to do or make it okay for all students to stand up and get water when they need it.
- ▶ Encourage young students to place their work in a tray or on a desk clearly marked with their names and photos to allow them to find their work easily.

## TEACHER INQUIRY QUESTION

How will I support the student to manage their **personal care** needs throughout the school day?

### STRATEGIES

- ▶ Establish clear routines if the student requires assistance with personal care. This might mean ensuring one-to-one help is available or providing buddy assistance opening doors.
- ▶ Consider setting up a buddy system if support is needed to get lunch, open packets and go to the canteen to buy lunch.
- ▶ Give students the opportunity to develop the personal care and social strategies they need to meet challenges, be independent and be accepted socially.
- ▶ Give students extra time to manage clothing, shoe laces etc at times such as changing for swimming or PE if they need it.
- ▶ Encourage students to be aware of temperature and how to dress appropriately for a cold or warm day.

## TEACHER INQUIRY QUESTION

How can I support students with **health needs to participate in physical activities?**

### STRATEGIES

- ▶ Students who find movement, coordination and balance difficult may need more time to complete physical activities or they may need verbal instructions, as well a visual, step-by-step guide to the physical activity. Working in pairs could also help.
- ▶ Provide students with Down syndrome with plenty of opportunities to practice balance, strength, coordination, climbing and running.
- ▶ Adapt what you expect the student to achieve (for example, you may suggest they swim shorter distances, attempt lesser heights for jumping or participate in gymnastics in different ways).



## TEACHER INQUIRY QUESTION

How can I help students prepare for **changing schools or leaving school?**

### STRATEGIES

- ▶ Plan well ahead for students changing schools or moving on to secondary school.
- ▶ Talk to the learning support coordinator at the student's new high school to find out about the learning environments they will work in.
- ▶ Prepare students by giving them an opportunity to spend time in their new school, meet their teachers, other students and visit the classrooms they will be spending time in.
- ▶ Consider assigning a buddy to a young person making the transition to high school to make the change easier.
- ▶ Ask the student what their concerns are, and their ideas of the best ways to support them during transition.
- ▶ Consider making a photo book of the student's new high school, new learning environments and new teachers to help the student recall and become familiar with the information.
- ▶ Talk to the learning support coordinator at the student's new high school to clarify any personal care and social support the student may need in their new school.
- ▶ Directly teach the skills the student will need in their new setting. Discuss these skills with the student as part of the transition plan. Talk about who will teach them their new skills, when and where. Explain how the student will practice and learn these new skills.

# Student examples

Here are two practical examples of how you might put some of the ideas outlined in this resource into practice. One focuses on a primary school student with Down syndrome, the other looks at a student with Down syndrome in the secondary context.

## Primary school

**Tom** is a six-year-old boy who attends his local school with his brother and sister. He enjoys looking at picture books and listening to simple stories. He is beginning to use equipment in representative and imaginative play and loves time spent playing with toys such as farm animals and teddy bears. He particularly loves music and moving to music.

His understanding of spoken language is developing and is enhanced when supported by sign. He is able to express himself in two to three keyword phrases, which he usually signs.

However, Tom speaks quickly, runs words together and can be difficult to understand. He also needs time to process information and to formulate his responses or actions.

Tom experiences ongoing ear infections and has reduced hearing. A heart condition causes him to fatigue easily and he still uses pull-up nappies at school because he is not fully toilet trained. He loves the company of his peers and usually responds appropriately to adults.

Tom responds well to routine and brief, well scaffolded learning activities. He is usually happy and cooperative at school.

## Tom the student

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- ▶ Develop goals that focus on including Tom in all class activities.
- ▶ Develop adapted goals for Tom, so he works on similar activities to his peers, but at his level.
- ▶ Encourage Tom to interact with his peers and adults and support him to use language.
- ▶ Take into account how fatigue might influence his activity over the course of the day.
- ▶ Have high expectations and if Tom becomes non-compliant, try a 'when-then' reward strategy.
- ▶ Avoid confrontations, Tom will respond more positively to praise and encouragement.
- ▶ Encourage Tom to use his peers as models in all learning and aspects of school life.

## Tom's learning environment

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- ▶ Allow Tom time to follow directions and give instructions in one or two simple steps.
- ▶ Provide carefully structured activities to support fail-free learning.
- ▶ Be prepared to make allowances for the time it takes Tom to process information and respond.
- ▶ Include a wide range of materials and equipment in classroom resources to provide options that Tom can use.
- ▶ Use less talk and more visual and hands on learning opportunities.
- ▶ Encourage Tom to make choices between activities and to complete activities before moving on to the next. Encourage him to pack away his work or activities.

## Tom's learning environment (continued)

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- ▶ Use a visual timetable to help Tom understand his day and what is required.
- ▶ Ensure that the school boundaries are clearly marked so that Tom knows where he is allowed to be.
- ▶ Ensure that Tom is able to locate parts of the school independently.
- ▶ Encourage him to engage with his peers at break times and not with the adults.
- ▶ Support Tom to identify and care for his own belongings.

## Teaching Tom

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- ▶ **English (writing)** – Encourage Tom to tell his story and record it independently. Praise his efforts and support him to read back his edited work. Use his stories and add sentences from his stories to cards to help him practice language and organise his ideas.
- ▶ **English (reading)** – Tom loves looking at the pictures in books and listening to stories or using the listening post. He is able to respond to simple questions about the story, but page turning can be challenging. Tom has a good memory for simple text and likes to read to himself and his peers. He is able to identify his name and words such as 'I', 'mum'.
- ▶ **English (communication)** – Consider teaching the class simple signs so everyone can communicate with Tom. Incorporate suggestions from any specialists involved such as a speech and language therapist and integrate activities into the classroom day rather than practising them in isolation.

## Teaching Tom (continued)

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- ▶ **Maths/technology/the arts** – Provide Tom with a variety of equipment to support him to learn language, colours, shapes and maths. Present ideas to him in multiple ways. Use a lot of consolidation to help him retain what he is working on.
- ▶ **Health and physical education** – Activities that include working with a partner will help Tom learn communication, participation and socialisation, while developing his gross motor skills, balance and confidence. Consider Tom's interest in dance and music when planning the class activities. Use large balls etc, which will be easier for him to manage and think about how he can be included in games without the physical demands that could tire him and reduce his willingness to take part.
- ▶ **Personal care** – Encourage Tom to go to the toilet regularly. Encourage him to be as independent as possible with his pull-ups and in flushing and washing his hands. Be aware his fine motor skill delay will make it challenging for him to manage clothing, buttons, zips etc, but remember he is now able to dress himself after swimming given time. With all functional activities, including opening food wrappers, try backward or forward chaining to scaffold the task into manageable steps.

## Secondary school

**Melody** is a Year 9 student who attends her local high school. She spends most of her time in a regular classroom learning alongside her peers with support. She also spends time in the school's learning centre for some subjects. Outside of school, Melody plays netball and loves it when she gets included in trips to the mall with her friends.

Melody communicates well verbally and is able to be understood by her peers and the adults who work with her. She requires clear boundaries and responds well to positive affirmation and acknowledgement.

Melody requires support with the organisation of the day-to-day timetable and moving from class to class. She can be flustered in busy classrooms and may

withdraw and become unresponsive when stressed. She may say she understands what is required or what is happening around her, but it is important to check that she does.

Melody experiences ongoing ear problems, which affect her hearing and concentration. However, she seldom complains and often the only sign of her discomfort is discharge from her ear. Melody is independent with self care. However, she needs some support during menstruation to self-manage.

Melody's family expect that she will get some credits towards NCEA level one and two. Melody isn't sure what she will do when she leaves school but recognises that she enjoys being outside more than inside.

## Melody the student

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- ▶ Involve Melody and her family in writing her learner profile. Discuss managing menstruation and personal boundaries, as well as learning goals and strategies for the classroom.
- ▶ Melody is a typical adolescent and is very interested in boys. She sometimes is not aware of personal space and can be over familiar. She may need ongoing discussions and reminders around appropriate interaction with her peers. It may help to involve her close peers with this as well.
- ▶ When Melody is reluctant to follow directions or complete work, a visual 'when/then' card works well (with the task the teacher requires first, followed by a brief time with a preferred activity or task).
- ▶ When Melody enrolled at high school, the Head of Learning support and specialist teacher visited Melody's last school to see the reading and writing resources used and developed similar ones.
- ▶ Melody has a teacher's aide in subject classrooms. The teacher's aide helps all the students in the classroom and rarely sits with Melody but helps describe what is happening in classes to Melody's support team.
- ▶ Include Melody's teachers and her teacher's aide in meetings. Discuss teaching and learning strategies that will support the teachers' professional practice and Melody's learning.
- ▶ Consider an application for transport support as Melody is vulnerable in the wider community and is not reliably independent in getting to school. This could be a mentor to catch the bus with her every day or a taxi.
- ▶ At times Melody may choose not to return to class when required. Develop a plan for how to manage this. She responds well to her peers and will probably choose to join them rather than at the request of an adult.
- ▶ Establish good communication with Melody's family. They are keen to be involved and need help to know what to do, for example, practising skills learned at school and using vocabulary she is learning.

## Melody's learning environment

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- ▶ Melody responds well to clearly stated expectations and to verbal and non verbal acknowledgement that she is 'on track'.
- ▶ Melody needs extra time in all subjects that require written work. Ask all teachers to use the same graphic organiser to help her plan her writing.
- ▶ Use concrete materials for all abstract learning.
- ▶ Present each concept in many ways using a variety of equipment to support retention.
- ▶ Set up good communication between the learning centre and Melody's subject classes, so similar strategies can be used across tasks and contexts.
- ▶ Support Melody to take in verbal instructions and information. Use visual resources. Provide plenty of opportunity to assimilate new information and to consolidate each new or emerging skill.
- ▶ Melody finds note taking challenging and views this as unimportant. Consider providing her with a prepared sheet with simple prompts and spaces for her response.
- ▶ Melody is a capable decoder of reading material, which can be misleading as her comprehension of what she reads is far less sophisticated. Provide support by regularly asking her to tell you about what she has read, keeping questions simple. She finds inference and prediction particularly confusing and will need these questions to be scaffolded carefully. Investigate read aloud apps that highlight the words as you go, so she can listen and watch text at the same time.
- ▶ All students in the class will benefit from having important instructions written on the board or as a check list as well as being spoken.
- ▶ Melody may need support in locating where she needs to be and when. Consider physical guidance initially and then a hand-held visual timetable with simple prompts to remind her of where to go. Melody can read analogue time, so a visual prompt on her timetable will help. Consider an app for her iPad that can give these visual reminders.




## Teaching Melody

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- ▶ **English** – Melody is able to participate in the class-wide reading programme with some adaptation to the resources she is reading. Melody appreciates time to read and benefits from a two-pronged reading programme, where she is encouraged to read books of her choice and also work on a guided reading programme with material that will support developing her comprehension. In writing activities, encourage Melody to use graphic organisers to record her ideas and structure her writing.
- ▶ **Science/social studies** – Melody works well with a buddy or in a small group. Think about the tasks she can do and how this can be naturally incorporated into what the group is doing. Provide her with simplified written expectations and offer drawing and other methods of presenting information (using a tablet or verbally etc). Have regular discussions with people working with Melody about the skills and concepts she needs to master.
- ▶ **Maths** – Have equipment available to Melody for all maths activities. Melody requires an adapted curriculum with basic tasks presented in a variety of ways. Functional curriculum activities including time and money will be of benefit to her.
- ▶ **Physical education** – Melody is physically active and well coordinated. She enjoys all physical activity but needs to be monitored when working on physical skills with larger, more robust peers. She benefits from pre-learning the rules and skills before working with peers. Understanding the concepts and written work expectation in health will need to be scaffolded and supported.
- ▶ **The arts** – Melody enjoys all aspects of art. However, she may become frustrated by her efforts when she compares them with her non-disabled peers. Encourage Melody's peers to be supportive. In drama, draw on her ability to pretend to be someone else to teach Melody and her peers social skills.

# Useful contacts and resources

**nzdsa.org.nz** – website of the New Zealand Down Syndrome Association.



**<http://inclusive.tki.org.nz>** –  
Ministry of Education's Inclusive  
Education Online Knowledge Centre

**seonline.tki.org.nz** – Special Education online (Te Kete Ipurangi) Ministry of Education website about special education for the education community.

**udlcenter.org** – a website about an American curriculum development approach called Universal Design for Learning.



## For more information

For information about services and support available to children with special education needs, visit **[www.education.govt.nz](http://www.education.govt.nz)** [search word special education].

For more specialist classroom, teaching and curriculum resources, visit the Te Kete Ipurangi website **[www.tki.org.nz](http://www.tki.org.nz)**

Replacement copies may be ordered from Ministry of Education Customer Services, online at [www.thechair.minedu.govt.nz](http://www.thechair.minedu.govt.nz) by email: [orders@thechair.minedu.govt.nz](mailto:orders@thechair.minedu.govt.nz) or freephone 0800 660 662, freefax 0800 660 663 Please quote item number 16124

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# How Down syndrome can influence learning

Download and keep as a handy reference

## CHALLENGES

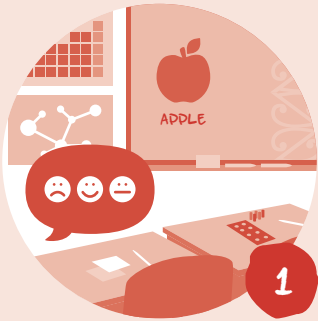
Will vary from student to student

- ▶ Learning new skills at the same pace as their peers.
- ▶ Maintaining concentration and understanding complex spoken instructions.
- ▶ Communicating using spoken language.
- ▶ Processing information and understanding complex verbal instructions.
- ▶ Developing functional use of literacy and numeracy.
- ▶ Acquiring new physical skills.

## STRENGTHS

Will vary from student to student

- ▶ Strong empathy with others.
- ▶ Good short-term memory.
- ▶ Social understanding and non-verbal communication.
- ▶ Visual learning skills.



### Present curriculum content in different ways

- ▶ Use plenty of visual, concrete and practical materials.
- ▶ Provide repetition and opportunities to rehearse and practice new skills and learning.
- ▶ Use strategies such as prompting, cueing or giving forced alternatives to develop students' knowledge of social language, for example, by asking, 'Was your friend happy or sad when you did that?'
- ▶ Consider teaching new words by pairing the spoken word with a picture and/or sign of the word.
- ▶ Use visual supports to scaffold language skills.
- ▶ Write key words on the whiteboard that students can refer to.
- ▶ Consider games or drama and role-play to practice speech, language and vocabulary.
- ▶ For numbers and maths, let students physically touch and handle three dimensional shapes and objects (investigate Numicon, developed especially for students with Down syndrome).
- ▶ Provide plenty of opportunities to practice balance, strength, co-ordination, climbing and running.



## 2 Adjust the classroom environment

- ▶ Reduce background noise and movement that can cause distraction.
- ▶ Use visual organisers or planners that identify what is happening when and what will be achieved throughout the day or class.
- ▶ Watch for tiredness – put a plan in place to manage fatigue, such as quiet spaces in the classroom.



## 3 Use technology and equipment

- ▶ Encourage the use of graphic organisers and tools such as mind maps.
- ▶ Use a digital timer set to vibrate at particular intervals to remind students to complete a task, or transition to another activity.
- ▶ Enable students to use speech sound and language software.



### Stimulate interest and motivation

- ▶ Support concentration, attention and organisation
  - ▶ Use lots of praise and motivational strategies.
  - ▶ Break down complex tasks and instructions into smaller chunks, one instruction at a time, using pictures, words and short phrases.
  - ▶ Allocate additional time to complete tasks.
- ▶ Help consolidate learning through repetition and linking to life experience.
  - ▶ Scaffold tasks for students who do not do this for themselves for example, beginning, middle and end framework.
  - ▶ Provide a range of options for students to understand and express what they know. Students may prefer to use body language, signing, digital tools and visual aids such as a photoboard, digital presentation, visual schedules or a poster to communicate.
  - ▶ Encourage students to make handy reference aids that feature common subject facts that they can refer back to throughout the school day.