

a curriculum for excellence

building the curriculum 1

the contribution of curriculum areas



RESPONSIBLE CITIZENS



EFFECTIVE CONTRIBUTORS

SUCCESSFUL LEARNERS

CONFIDENT INDIVIDUALS

a curriculum for excellence

building the curriculum 3–18 (1)

the contribution of curriculum areas

Who is this for?
All Educators

What is this for?
Professional Reflection

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introduction



The values, purposes and principles for the curriculum 3–18 in Scotland are set out in *A Curriculum for Excellence* (Scottish Executive, 2004), available at

www.acurriculumforexcellencescotland.gov.uk. It affirms that *A Curriculum for Excellence* is for all young people in all educational settings, and that it should support them in a range of ways which help to maximise their potential. At its heart lies the aspiration that all children and young people

should be successful learners, confident individuals, responsible citizens and effective contributors (that is, that they should develop the ‘four capacities’).

should be successful learners, confident individuals, responsible citizens and effective contributors (that is, that they should develop the ‘four capacities’).

The main aim of this publication is to involve groups of teachers in professional reflection, debate and rethinking which will be an essential part of successful implementation. *A Curriculum for Excellence* challenges us to think differently about the curriculum and it permits professionals to plan and act in new ways: it poses challenges for learning and teaching, and the purposes and structures of programmes of study. This publication will prepare the ground for the new, streamlined guidance which will emerge over the coming months.

Because the curriculum is much more than the sum of individual curriculum areas, this publication is the first of a series. To support planning for the curriculum as a whole we will be producing further *Building the Curriculum* papers which will include cross-cutting themes including literacy and numeracy, and interdisciplinary studies and projects. Further publications will address important themes such as the role of the teacher and assessment and qualifications.

The role of the teacher

Teachers are the key to successful implementation of *A Curriculum for Excellence*. The quality of learning and teaching in every classroom – and the inspiration, challenge and enjoyment which can come from teachers’ enthusiasm and commitment – will be critical to achieving our aspirations for all young people. The children and young people of Scotland need teachers who themselves exemplify the four capacities, who have a sense of community with their colleagues and who share in responsibility for the success of the school and all that happens within it. Within a clear framework of national expectations, teachers will have greater scope and space for professional decisions about what and how they should teach, enabling them to plan creatively within broader parameters.



Because of this, teachers' professional development will be critical to the success of the programme and needs to be inextricably linked with the work to develop the curriculum. This implies a commitment to building on the strong start in initial teacher education and induction, supporting the development of teachers' skills and knowledge, and nurturing their enthusiasm. We will be producing material shortly on the attributes and role of teachers for excellence.

Progress and Proposals

Progress and Proposals, which was published in March 2006, outlines some of the main features of the new curriculum. It defines the scope of the curriculum as extending beyond subjects to include:

- > the ethos and life of the school as a community
- > curriculum areas and subjects
- > interdisciplinary projects and studies
- > opportunities for wider achievement.

It also proposes that expectations for learning within the curriculum areas should be gathered under these headings:

- > Expressive Arts
- > Health and Wellbeing
- > Languages
- > Mathematics
- > Religious and Moral Education
- > Science
- > Social Studies
- > Technologies.

As *Progress and Proposals* explains, these curriculum areas simply provide a device for ensuring that learning takes place across a broad range of contexts, and offer a way of grouping experiences and outcomes under recognisable headings. These experiences and outcomes may be secured within school and beyond in, for example, the workplace, college or outdoor education settings. They support the progressive development of ideas, skills and ways of thinking.

Taken together, experiences and outcomes across the curriculum areas will sum up national aspirations for every young person: the knowledge and understanding, skills, capabilities and attributes we hope they will develop.

Building the curriculum

Each of the curriculum areas makes its own unique contribution to developing the four capacities of children and young people. It does so both within its own disciplinary contexts and through connections with other areas of learning. This publication draws on classroom practice to describe some of these contributions and possible connections. It should be clear from these descriptions that the curriculum areas are not intended to be rigid structures. There will be considerable scope for innovative approaches to building the curriculum. Indeed, schools and other centres are already thinking imaginatively about how experiences and outcomes might be organised in new and creative ways, for example to plan for wider cross-connections and interdisciplinary work.

This material has three main purposes.

- It provides staff in early years settings, schools and colleges with ideas for reflection and development activity in preparation for working with the new guidance in ways which recognise the importance of progression in learning and the interdependence of different areas of learning.
- It provides the basis for the detailed work which is now being carried out to develop new, streamlined guidance on experiences and outcomes in all of the curriculum areas. This guidance will become available from December 2006 onwards and will replace current guidance such as the Curriculum 3 to 5, and 5–14 guidelines. The work is being carried out by Learning and Teaching Scotland in partnership with SEED, HMIE, SQA and local authorities. At this stage, and until the future arrangements for qualifications have been decided, the experiences and outcomes will mainly focus on levels up to curriculum level 4.
- It offers parents, employers and others who have an interest in Scottish education an indication of what and how children and young people will learn through the new curriculum.

Using this publication

Many teachers have already made some changes to their approaches to learning and teaching in the light of the aspirations of A Curriculum for Excellence. Building on that work, local authorities, headteachers, teachers and educators in all sectors can use this



publication in the next stage of continuing professional development, and so help to establish a sound base for successful implementation of the new curriculum guidance.

- > Teachers can reflect together on the proposals and respond to them, to inform the development work on experiences and outcomes.
- > They can use it to work with colleagues to make connections across the curriculum – for example, to plan a coherent approach to the development of language, numeracy, personal and social skills, or themes such as creativity. This document highlights some areas – literacy, numeracy and key aspects of health and wellbeing – which are the responsibility of all teachers.
- > They can use it to consider with colleagues how to plan for interdisciplinary activities.
- > They can consider their current learning and teaching practices and identify ways of developing them further to reflect all of the four capacities.

To help teachers to be aware of timescales, A Curriculum for Excellence milestones have been developed.

Some other current activities to support development of the curriculum

We recognise that teachers will need materials to support the new curriculum, and Glow, the digital network for schools, will have an important part to play in making these resources available. Work is also under way to ensure that assessment and qualifications and new arrangements for recognising achievement reflect and support the aims of A Curriculum for Excellence.



expressive arts



The expressive arts include experiences and outcomes in the contexts of art and design, drama, dance and music.

Through the expressive arts, children and young people can have rich opportunities to be creative and imaginative and to experience inspiration and enjoyment. They can come to understand the important roles of the arts in describing and changing

society. The arts have a growing significance in the life and prosperity of Scotland. Through their experience of the expressive arts, children and young people can appreciate the contributions of the arts in the lives of individuals and communities.

Learning through the expressive arts enables children and young people to:

- > express themselves in different ways and be creative
- > experience enjoyment (and contribute to other people's enjoyment) through creative and expressive performance and presentation
- > develop important skills specific to expressive arts and also transferable skills
- > develop an appreciation of aesthetic and cultural values, identities and ideas
- > and, for some, prepare for advanced learning and future careers by building foundations for excellence in the expressive arts.

Developing successful learners

From the earliest years, children and young people's experiences in the expressive arts can help them to express themselves, think innovatively, meet challenges positively and find imaginative solutions to problems. They can develop knowledge and skills related to the different arts, and strengthen broader skills such as the use of technologies. Successes in the arts can also fuel achievements in other areas of learning.



Developing confident individuals

The expressive arts encourage children and young people to become more self-aware and confident as they draw on their own ideas, experiences and feelings and express these through, for example, improvisation, movement, sound, line and shape. They can derive personal satisfaction and happiness from experiencing the different expressive arts and taking part in them. Successful participation encourages them to develop self-discipline, determination and commitment. For some, the expressive arts provide important opportunities to excel.

Developing responsible citizens

The expressive arts can enable young people to explore difficult ethical questions and, by providing ways of expressing responses to personal and social issues, help young people to question and develop stances and views. Children and young people can explore the importance of cultures, the arts and heritage in Scotland and other societies, and gain understanding of the cultural values and achievements of different societies. In this way they can deepen their insights and experiences of cultural identities and come to recognise the importance of the arts to the identities of nations.

Developing effective contributors

The expressive arts offer powerful opportunities for children and young people to develop their creativity, work co-operatively and communicate with others, and show initiative, dependability, leadership and enterprise. At all ages, participation in the arts – individually, in groups or communities – can greatly enhance the quality of life in families, the school and the community. Some will contribute to the prosperity and cultural life of the nation through careers in the expressive arts.

Learning and teaching in the expressive arts

Teachers have real scope to plan innovative, motivating activities for children and young people to enable all of them to participate and make progress in the expressive arts. They can capitalise particularly on the potential for the expressive arts to allow creativity and self-expression from the earliest stages to the last. Building upon what children may bring from home, and complementing out-of-school activities, teachers can plan progression at the right pace.

In developing expressive and aesthetic experiences from the early stages, the emphasis should be on enjoyment, expression and development as well as on the quality of any

product. As they grow older, young people should continue to experience, explore and experiment while further developing knowledge and specific skills to encourage their progress in the arts. These skills include presenting ideas and emotions as individuals or in groups and commenting on their own work and that of others. Through activities of this kind they can be encouraged to develop their powers of observation, personal response, critical analysis, evaluation, and communication.

The use of new technologies opens up exciting opportunities for children and young people to express themselves and acquire new skills.

Learning in the expressive arts provides opportunities to underpin and enrich learning in all other curriculum areas and more widely. Teachers can plan activities which will offer opportunities to apply and enhance skills gained in expressive arts, for example through role-play and drama. By supporting them as they prepare for and participate in performances and events at local and, for some, national level, staff can provide opportunities for children and young people to experience a real sense of achievement.

There is tremendous scope to work in partnership with the wide range of artists and musicians, co-ordinators and organisations in culture and the arts who are able to enliven and enrich young people's experiences and learning. The school's own community of parents, neighbours, staff and children will also have a wealth of skills and experience to contribute.

The proposed guidance

In addition to clear outcomes, there will be an emphasis on participation in well-planned experiences in the expressive arts at all stages.

The main lines of development in art and design, drama, dance and music will be:

- > creating
- > presenting
- > evaluating.

The guidance will include experiences and outcomes in dance (specific outcomes relating to physical education feature in health and wellbeing).



health and wellbeing



Health and wellbeing includes experiences and outcomes for personal and social development, understanding of health, physical education and physical activity, and elements of home economics. It also includes approaches and activities such as physical activity and nutrition, planned by pre-school settings, schools or colleges to promote the health and wellbeing of their learners and the wider community.

Children and young people need to experience what it feels like to develop, enjoy and live a healthy lifestyle. They also need to learn ways of dealing with the many new and challenging situations they will experience throughout their lives. A healthy lifestyle supports physical, social and emotional wellbeing, and underpins successful learning. Concerns about the health, diet and activity levels of Scotland's children and young people, social inclusion, and inequalities in health emphasise the importance of a focus on health and wellbeing throughout education, starting in the early years.

Learning through health and wellbeing enables children and young people to:

- > experience positive aspects of healthy living and activity for themselves
- > develop the knowledge and understanding, skills, abilities and attitudes necessary for their physical, emotional and social wellbeing now and in their future lives
- > make informed decisions in order to improve their physical, emotional and social wellbeing
- > apply their physical, emotional and social skills to pursue a healthy lifestyle
- > make a successful move to the next stage of education or work
- > for some, open up opportunities to perform at high levels in sport or pursue careers in health or leisure industries.

Developing successful learners

Through this area of the curriculum children and young people develop an understanding of the physical, social and emotional factors that influence their health and wellbeing. As well as acquiring a wider range of physical skills and abilities, they learn the social and emotional skills which can help them to embrace change and challenge with optimism, develop emotional resilience in dealing with competitive and challenging situations, and express themselves creatively individually and in groups. It enables them to develop their interests and preferences and to set and review personal goals for achievement in their lifestyle, learning and development.

Developing confident individuals

If children and young people are healthy and emotionally secure they will be more able to develop the capacity to live a full life. With a sense of wellbeing they will be better able to deal with the unexpected and cope with adversity. This sense of wellbeing encompasses many aspects including resilience, fitness, confidence, a sense of mastery and control, optimism and hope, and the ability to sustain satisfying personal relationships. The health and wellbeing curriculum area should provide opportunities for children and young people to develop these attributes. It should equip them with skills, such as practical food preparation, which will enable them to live as independently as they can. It should also enable them to recognise and deal with the many different pressures in life, and identify when they need support. They should learn to find appropriate sources of information and help to make informed choices and live a healthy, fulfilled life.

Developing responsible citizens

Children and young people need to learn to respect and value other people and to develop an understanding of their beliefs and feelings. This will help them to develop positive relationships, promote equality and fairness and counter discrimination. Developing young people's awareness of healthy diet, activity, positive relationships and risks to health lays important foundations for their future life, including parenting. From an early age, children and young people can develop an understanding of how their actions and decisions are affected by and affect others, recognising how important it is to behave in ways that can have a positive effect on other people and the environment.

Developing effective contributors

Through their learning in health and wellbeing, children and young people can have opportunities to engage positively in experiences that are fun, enjoyable, exciting and



challenging in a variety of settings including the outdoors. They can make positive contributions to the wider life and health of the school and community through involvement in activities such as running a healthy tuck shop, helping younger children through buddying, or organising dance classes for relatives and friends. Very importantly, young people should be equipped to explore different options for life beyond school and be supported so that they can make successful transitions into work, education or training.

Learning and teaching in health and wellbeing

Approaches to learning and teaching should provide challenge and opportunities for children and young people to develop their knowledge and understanding, skills and attributes.

Progression in health and wellbeing involves the development of specialist skills in, for example, physical education and the preparation of food. It is also about providing planned opportunities for young people to develop their personal, social and 'life' skills, such as taking responsibility for their own health and fitness, skills for independent living, decision making, working with other people and communication.

Creating the right climate of trust is important. Where teachers and contributing adults establish positive, open and honest relationships, children and young people feel more comfortable and secure in their ability to discuss and share views on sensitive aspects of their lives.

Learning through health and wellbeing promotes confidence, independent thinking and positive attitudes and dispositions. Because of this, it is the responsibility of every teacher to contribute to learning and development in this area.

Approaches to learning and teaching need to emphasise participation in experiences as well as achievement of outcomes. Activities should be appropriate to the needs and stage of development of each child and young person. Personalisation, critical thinking, active learning and the development of practical and performance skills and practical abilities should be features of the learning and teaching in health and wellbeing programmes.

The learning is enriched when the views of children and young people are taken into account, particularly where sensitive issues are involved (as in health education) or choices are to be made.

Acquiring skills, knowledge and understanding about health and wellbeing, however, is not enough. The aim is that young people should develop a commitment to promoting their own health and wellbeing throughout their lives.

In addition, pre-school settings and schools can help to foster health in families and communities through their work with other professionals, parents and children and young people.

The proposed guidance

This new curriculum area offers significant opportunities for new approaches to organising the curriculum. The guidance will support the planning of experiences and outcomes which relate to the whole school's approach to health promotion –physical activity and nutrition, for example. It will also cover experiences and outcomes in physical education, personal and social development, health education and aspects of home economics including practical food preparation and nutrition.

It will support the development of skills, knowledge and understanding (for example developing and improving skills and techniques in areas of physical activity, learning about nutrition and preparing healthy food); the development of positive attitudes and the capacity to make informed choices (for example making choices in diet, relationships, learning and careers); and changing behaviour (for example supporting action to adopt healthy lifestyles).

The development of the health and wellbeing curriculum provides an opportunity for working across curriculum areas. For example, successful participation in expressive arts activities can make an important contribution to a young person's sense of wellbeing, and there are clear connections between, for example, science and healthy eating and physical activity, and between learning about relationships and religious and moral education.

The guidance will take a holistic view of health and wellbeing to promote learning that is coherent, progressive and meaningful. The lines of development will cover the following contexts:

- > health – mental, social, emotional and physical
- > physical education and physical activity including sport
- > eating for health, and safe, hygienic practices
- > personal safety
- > drugs, alcohol and tobacco
- > relationships, sexual health and parenthood
- > planning choices for school and beyond.



Guidance will emphasise the need to draw on appropriate professional expertise and to provide opportunities to involve children and young people in the planning of programmes. It will offer scope for strengthening partnership working in supporting the health and wellbeing curriculum. The guidance will also stress that careful consultation with parents is essential when addressing sensitive health issues, and promoting an atmosphere of trust, respect and support.



languages



There are two aspects of the languages area of the curriculum. The first covers experiences and outcomes in the language a young person needs in order to engage fully in society and in learning – whether that is English, Gàidhlig or, for young people who need additional support, the means of communication which enables them to communicate most effectively. The second covers experiences and outcomes in additional languages.

Language is at the core of thinking. We reflect, communicate and develop our ideas through language. Literacy offers an essential passport to learning, helping young people to achieve to the full and be ready for active involvement in society and work. Literature opens up new horizons, and a love of reading can be an important starting point for lifelong learning. As we communicate increasingly through digital technologies, we need to be able to interpret and convey information in new ways and to apply discernment.

Scotland has a rich diversity of language, including Scots and the growing number of community languages such as Urdu, Punjabi and Polish. This diversity offers rich opportunities for learning. Learning other languages enables young people to make connections with different people and their cultures and to play a fuller part as global citizens.

Learning through the languages area of the curriculum enables children and young people to:

- > develop their ability to communicate their thoughts and feelings and respond to those of other people
- > develop the high level of skills in listening, talking, reading and writing which are essential for learning, work and life
- > use different media effectively for learning and communication
- > develop a secure understanding of how language works, and use language well to communicate ideas and information in English and other languages
- > exercise their intellectual curiosity by questioning and developing their understanding, and use creative and critical thinking to synthesise ideas and arguments



- > enhance their enjoyment and their understanding of their own and other cultures through literature and other forms of language
- > develop competence in different languages so that they can understand and communicate including, for some, in work settings.

Developing successful learners

When children and young people have competence in language and good literacy skills they can gain access to all areas of learning. Developing their skills in talking and writing enables them to develop and communicate their thoughts and opinions effectively. Language facilitates more complex thinking and learning processes. Through their reading of literature, children and young people can be challenged in their thinking, encouraging openness to new and alternative approaches and ideas. Applying literacy skills successfully through technologies allows children and young people to engage with and express themselves using different media. Learning other languages enables children and young people to communicate with those from other cultures and backgrounds. Successful learning of another language can give them the capabilities and confidence to pick up further languages later in life.

Developing confident individuals

Language is an important expression of identity. Effective communication helps children and young people to relate positively to others and interact successfully in different social contexts. Competence and confidence in talking, reading and writing are important to self-respect and are extended through the continued study of their own and other languages. Through their reading, children and young people are able to explore other people's experiences, emotions and relationships in the safe contexts of literature. Within this range of reading, studying Scottish literature allows children and young people to develop their own sense of one of the creative forces within Scottish culture. Being able to communicate in an additional language boosts children and young people's confidence and helps them to cope in new situations.

Developing responsible citizens

As they develop their abilities in their own language, children and young people learn to reflect and develop their ideas and stances. They can practise communicating their thoughts and feelings through talking and writing, and learn to consider the thoughts and feelings of other people. They can participate in discussions, help to resolve conflicts and learn to play a part in influencing decisions and actions. Through varied reading in their own language and, progressively, in other languages, young people can extend their perspectives on

the world, helping them to develop their views and come to difficult decisions. Learning additional languages is an important component of active international citizenship. Through their learning of additional languages, young people can develop their understanding of other cultures and be challenged to reconsider preconceptions and stereotypes.

Developing effective contributors

Through expressing their creativity individually or as part of a group, children and young people can contribute to the life of their school and community through, for example, writing and sharing their stories and poems. As they progress, they can use their skills in writing creatively in increasingly sophisticated ways, and share this work with others. Effective language and literacy skills enable young people to contribute to developing creative and enterprising ideas and communities. As they develop an awareness of audience and register, they can learn to communicate successfully in ways which are appropriate for different situations. Through their learning of other languages, young people can contribute to the wider international community and Scotland's diverse society. Being able to use additional languages can enhance the contribution which young people can make in their careers, and so to economic prosperity.

Learning and teaching in languages

From their earliest days, children are motivated to communicate their needs and feelings to other people. They enjoy playing with language and experiencing the pleasure of using language creatively. Learning and teaching in languages builds upon children's motivation to communicate. It provides the environment and structure to enable them to use progressively more complex language with increasing competence and independence, in their own and in other languages.

Children and young people should experience an environment which is rich in language. From the early years, they can extend their skills in listening and talking and develop early reading and writing skills through appropriate play-based contexts. They need to spend time with stories, literature and texts which will enrich their learning, develop their language skills and enable them to find enjoyment.

Scotland has a rich diversity of languages and dialects and teachers should value and build upon the languages that children bring to school. The languages and literature of Scotland provide a valuable source for learning about culture, identity and language.



Competence and confidence in literacy, including competence in grammar, spelling and the spoken word, is essential for progress in all areas of the curriculum. Because of this, all teachers have responsibility for promoting language and literacy development. Every teacher in each area of the curriculum needs to find opportunities to encourage children and young people to explain their thinking, debate their ideas and read and write at a level which will help them to develop their language skills further.

For the same reason, it is important that there is early identification of, and support for, all children's learning needs.

With an increased emphasis upon literacy for all children and young people, teachers will need to plan to revisit and consolidate literacy skills throughout schooling and across the curriculum.

When they begin to learn another language, children and young people need to make connections with the skills and knowledge they have already developed in their own language. To help this, teachers can make use of the diversity of languages which children and young people may bring to school, making connections and comparisons between different aspects of language.

As children and young people develop their competence across language skills, they need to become more aware of how they are learning and how a language works. This awareness will help them to develop skills in their own language and provide an appropriate grounding for learning different languages later.

The proposed guidance

The guidance will cover experiences and outcomes in both the language the child or young person needs in order to engage fully in society and in learning (English, Gàidhlig or, for young people who need additional support, the form of language which enables them to communicate most effectively) and additional modern and classical languages. The guidance will encourage schools to support children in maintaining their own first language.

There will be a strong emphasis on the development of literacy. The literacy outcomes will be specifically identified.

The expectations of experiences and outcomes at the revised levels will take into account the good progress being made in developing children's literacy and will raise expectations where appropriate.

The guidance will emphasise the contributions which teachers in all areas of the curriculum should make to the development of language and literacy.

There will be emphasis on the implications and appropriate use of technologies and digital texts.

The guidance will retain reading and writing as lines of development, and will group listening and talking together. The main lines of development for English language and Gàidhlig and for modern languages will therefore be:

- > reading
- > writing
- > listening and talking.

The lines of development will include knowledge about language, including competence in spelling and grammar.

Classical languages will cover translating/interpreting texts and knowledge about language.

The guidance on learning other languages will take account of developments to define language competence across Europe.

Very strong connections between learning in languages and learning in other areas of the curriculum are essential – each supporting the other. There will be close links, for example, between the expressive arts and creative writing, and modern languages and social studies. Interdisciplinary projects are likely to involve both research and a strong element of presentation and will provide valuable opportunities to extend language skills.



mathematics



Mathematics includes specific aspects of numeracy which will be developed both in mathematics and through activities in other areas of the curriculum.

Putting mathematical knowledge and understanding to constructive use has been one of the decisive factors in shaping societies. Engineering, science, technology and business rely upon mathematics and continue to find new applications for mathematics. Cultural development and artistic endeavour

are influenced by mathematics. Each of us uses mathematical skills and concepts in everyday life. To face the challenges of the 21st century, each young person needs to have confidence in using mathematical skills, and Scotland needs both specialist mathematicians and a highly numerate population.

Learning through mathematics enables children and young people to:

- > develop essential numeracy skills, including arithmetical skills, which allow them to participate fully in society
- > develop a secure understanding of the concepts, principles and processes of mathematics and apply these in different contexts, including the world of work
- > have an understanding of the application of mathematics, its impact on our society past and present, and its potential for the future
- > establish firm foundations for further specialist learning, including for those who will be the mathematicians of the future.

Developing successful learners

Establishing good numeracy skills is necessary for successful learning across the curriculum and developing these skills needs to be of high priority for all children, young people and their teachers. Mathematics can offer particular opportunities for motivation. Children and young people can experience real satisfaction and enjoyment through, for example, fascination with patterns and successes in solving problems and puzzles. At the appropriate stage of their development, engaging with more abstract mathematical concepts encourages children and young people to develop important new kinds of thinking.

Developing confident individuals

Competence in using arithmetical and mathematical processes plays an important part in giving children and young people confidence to play a full and effective part in society. Successful independent living depends upon an ability to deal, for example, with measurements and schedules and manage money. Mathematics has an important part to play in developing financial awareness and capability.

Developing responsible citizens

Applying mathematics in other curriculum areas helps children and young people to develop their knowledge and understanding of, for example, issues of sustainability. Mathematics can make an important contribution to helping children and young people to make informed decisions. As they develop their understanding they can interpret numerical information appropriately and use it to draw conclusions, assess risk and make reasoned evaluations.

Developing effective contributors

Mathematics offers a host of different contexts to apply skills and understanding creatively and logically to solve problems. Working on suitably challenging problems individually and in groups helps to develop resilience and gives opportunities to communicate solutions. The future prosperity of Scotland within a competitive global economy will depend upon high levels of numeracy across the population and significant numbers of our young people with the mathematical competence to operate in specialist contexts such as research and development environments.

Learning and teaching in mathematics

The aspirations of A Curriculum for Excellence have significant implications for learning and teaching in mathematics.

From early in life, numbers, patterns and shapes intrigue children and often form part of their play. As they develop, they learn to count, measure and calculate, and apply these skills to analyse and solve problems in different contexts. Children and young people can be highly motivated by rewarding and successful experiences in mathematics. Features of high quality learning and teaching in mathematics include:

- > understanding of the purposes of the mathematical processes they are learning
- > learning in depth to ensure development of understanding of the concepts



- > development of secure skills in applying processes
- > making imaginative, effective use of technologies, resources, and teaching approaches
- > the placing of the ideas and applications in relevant contexts
- > problem solving as an integral part of all learning and teaching.

All teachers have responsibility for promoting the development of numeracy. With an increased emphasis upon numeracy for all young people, teachers will need to plan to revisit and consolidate numeracy skills throughout schooling.

The proposed guidance

The guidance will place a strong emphasis on active approaches to learning and the development of understanding in mathematics, including arithmetic, as well as skill in applying processes. In the early stages, there will be guidance on opportunities to explore mathematics through purposeful play.

There will be a strong emphasis on numeracy. Expectations in numeracy will be defined and outcomes will be specifically identified.

To emphasise that problem solving is fundamental to good learning and teaching in all aspects of mathematics and its applications, problem solving will be addressed within all lines of development rather than appearing as a separate element.

Expectations set for the revised levels will take into account the very good progress children are making in the early years, establish a more even gradient for progression and raise expectations where appropriate.

The contexts for learning will be updated. In particular, approaches to information handling will be revised in the light of the latest technologies, and their application in the world of work explored. The guidance will allow for updating as further technologies emerge.

Learning about the development of mathematics and its connections with other areas of learning will be included.



The main lines of development in mathematics will be:

Information handling:

exploring, understanding and developing secure skills in using

- > data and analysis
- > ideas of chance and uncertainty

Number, money and measurement:

exploring, understanding and developing secure skills in using

- > basic arithmetical and other number processes, including estimation
- > measurement
- > patterns and relationships
- > equations and expressions

Shape, position and movement:

exploring, understanding and developing secure skills in using

- > properties of 2D shapes and 3D objects
- > symmetry, angle and transformations.

Learning in mathematics should provide a base of knowledge, skills (such as problem solving) and understanding which will support learning in other areas of the curriculum. There are challenges in planning for coherent and progressive development of numeracy and mathematical concepts across the curriculum but it is very important that these connections are made. In that way young people can come to understand how learning in other areas has been influenced by, and uses, mathematical thinking and processes. This, in turn, can reinforce skills and understanding in mathematics.



religious and moral education



Religious and moral education includes learning about Christianity and other world religions, and supports the development of beliefs and values. It also includes aspects of philosophical enquiry. Children who attend denominational schools will experience religious and moral education through the perspective of the school's faith community. This is considered in the section on religious education in denominational schools.

Scotland is now a nation which reflects a wide range of beliefs, values and traditions. Religious and moral education enables children and young people to explore the world's major religions and approaches to living which are independent of religious belief, and to be challenged by these different beliefs and values. It supports children and young people in developing responsible attitudes to other people, their values and their capacity for moral judgement. The study of Christianity, which has shaped the history and traditions of Scotland and continues to exert

an influence on national life, is an essential feature of religious and moral education for all children and young people.

Learning through religious and moral education enables children and young people to:

- > develop a knowledge and understanding of Christianity and other world religions and recognise religion as an important expression of human experience
- > explore moral values such as wisdom, justice, compassion and integrity
- > investigate and understand the responses which religions can offer to questions about the nature and meaning of life
- > develop the skills of reflection, discernment, critical thinking, and deciding how to act when making moral decisions
- > develop their beliefs, attitudes, moral values and practices through personal search, discovery and critical evaluation, and make a positive difference to the world by putting their beliefs and values into action.

Developing successful learners

Religious and moral education offers insights into human beliefs, values and behaviour. It considers challenging questions and responses, and encourages young people to learn about different kinds of thinking and how faith and reason can help people to find meaning in life. There are important connections between themes in religious and moral education and, for example, in history, science and the arts. These connections can reinforce and enrich learning.

Developing confident individuals

Religious and moral education makes an important contribution to the personal and social development of children and young people. The development of secure values and beliefs plays an important part in children and young people's emotional and spiritual wellbeing. They learn to be secure in expressing their beliefs and values. Through the ethos of the school, children and young people can feel the security of being valued as individuals: learning in religious and moral education can reinforce this message. Their study of Christianity gives children and young people an understanding of one of the key influences in shaping Scottish society.

Developing responsible citizens

Through religious and moral education children and young people can be encouraged to develop an understanding and respect for people of faiths and beliefs other than their own and for those who adopt a stance for living which is independent of religious belief. By considering moral and ethical questions in a secure environment, children and young people can develop their own ability to make moral and ethical judgements about right and wrong. They can learn to act with concern for others and for the world we live in.

Developing effective contributors

One of the most important outcomes of learning through religious and moral education is that children and young people put their values and beliefs into action in positive ways which benefit others in the local, national and global communities.

Learning and teaching in religious and moral education

Teachers will recognise that religious and moral education is wider than the experiences planned by teachers in schools, and schools should support the promotion of links with the home, the faith community to which a child may belong, and the local community more



broadly. It is important for children and young people to know that they are valued and respected whatever their belief or faith background may be, and learning and teaching in religious and moral education can help to underline this.

Staff can build learning activities upon celebrations and family events. In planning learning and teaching in religious and moral education, teachers will be able to take account of the religious and cultural diversity within their own local communities, whilst recognising the unique role of Christianity within the story of Scotland. They can also take account of the developmental stage of the children and young people and their capacity to engage with complex ideas.

Time for reflection and discussion in depth is very important for effective learning and teaching in religious and moral education. Through prioritisation within the religious and moral education curriculum, teachers should be able to plan for this.

Teachers will be able to model and promote an ethos of inclusion and respect within the classroom. Learning and teaching approaches should enable children and young people increasingly to understand and sensitively probe the basis for beliefs. Children and young people should experience participation in service to others and meet people who show their faith in action.

There is considerable scope for connections between themes and learning in religious and moral education and other areas of the curriculum. For example, there will be important synergies between many aspects of health and wellbeing and religious and moral education. An understanding of the influences of religion in Scotland is important in understanding the history of Scotland and features of its culture and institutions today.

The proposed guidance

As part of the curriculum for religious and moral education, children and young people will be given opportunities to consider philosophical concepts and approaches, again taking account of their stage of development.

The revised guidance will reflect the thinking behind many recent developments within religious and moral education.

It will offer flexibility to schools to take account of the religious and cultural diversity within their own local communities when planning for religious and moral education.



It will be prioritised to open up room for more learning in depth and less fragmentation than is sometimes the case at present. In particular, there will be advice on appropriate starting points for the introduction of themes and concepts in other world religions. The aim of this is to encourage deeper learning across relatively fewer themes than at present.

Experiences and outcomes for religious and moral education will be grouped under:

- > Christianity
- > Other World Religions.

Personal search – establishing personal views, stances and beliefs – will permeate throughout both. The process of personal search will recognise that not all children will adopt a religious standpoint, although many will.



religious education in denominational schools

In many parts of Scotland, local authority schools are either denominational or non-denominational. The great majority of denominational schools are Roman Catholic schools while a small number of schools serve other faith communities. The curriculum for religious and moral education in a denominational school will reflect its particular faith perspective. It will address the aspects which are outlined in the description of expectations for religious and moral education.

Religious education in Roman Catholic schools

Religious education in Roman Catholic schools* takes place within the context of the Catholic faith community. Religious education in Catholic schools is designed to nurture faith and assist children and young people to be able to make an informed response to God in faith. Children and young people in Catholic schools will be at different places in the spectrum of faith development. While most young people will be of the Catholic tradition, some will be of other denominations and faiths, or have different stances for living. Religious education should support all children and young people, irrespective of religious affiliation, in their personal search for truth and meaning in life, and so it is central to their educational development. For those who demonstrate active faith participation, however, it also contributes to the development of their personal response to God in faith.

The religious education curriculum offers a valuable contribution to the whole school approach to the development of faith, attitudes and values. Learning through religious education enables children and young people to:

- > develop their knowledge and understanding of significant aspects of Catholic Christian faith and an understanding of other Christian traditions and world religions
- > investigate and understand the responses which faith offers to questions about truth and the meaning of life
- > highlight and foster the values, attitudes and practices which are compatible with a positive response to the invitation to faith

* The position of religious education in denominational schools is set out in statute. In Catholic schools, the Catholic Education Commission has responsibility for the faith content of the curriculum, on behalf of the Bishops' Conference of Scotland. The Scottish Executive Education Department is working in partnership with the Catholic Education Commission in the development of guidance for Catholic schools in keeping with the values, purposes and principles of A Curriculum for Excellence. In Catholic schools the term religious education is used in preference to religious and moral education.

- > develop the skills of reflection, discernment, critical thinking, and deciding how to act in accordance with an informed conscience when making moral decisions
- > develop their beliefs, attitudes, moral values and practices through personal search, discovery and critical evaluation, and make a positive difference to the world by putting their beliefs and values into action.

Developing successful learners

Religious education in a Catholic school challenges children and young people to develop an understanding of life from a Catholic perspective. It considers challenging questions and responses, and encourages young people to learn how faith and reason can help people to find meaning in life. Learning in religious education is fundamentally interlinked with learning throughout the curriculum, the ethos of the school, and the wider community of faith.

Developing confident individuals

Through the ethos of the Catholic school, children and young people can develop a sense of their uniqueness and value as part of God's creation and as a member of a faith community. They learn to explain Catholic beliefs, and to be secure in expressing their beliefs and values. Their study of Christianity gives young people an understanding of one of the key influences in shaping Scottish society.

Developing responsible citizens

Through religious education young people can be encouraged to develop an understanding and respect for people of faiths and beliefs other than their own and for those who adopt a stance for living which is independent of religious belief. By considering moral and ethical questions in a secure environment, children and young people can develop an informed conscience to enable them to make moral and ethical judgements about right and wrong. They can learn to act with concern for others and for the world we live in.

Developing effective contributors

One of the most important outcomes of learning through religious education is that children and young people put their values and beliefs into action in positive ways which benefit others in the local, national and global communities.



Learning and teaching in religious education

Teachers will recognise that religious education is wider than the experiences planned by teachers in schools, and schools should support the promotion of links with the home, the faith community and the local community more broadly. It is important for children to know that they are valued and respected whatever their belief may be, and learning and teaching in religious education should help to underline this.

One important aspect of learning in religious education is learning through experience. Teachers should plan to enable children and young people to experience the life of faith through acts of prayer, worship and celebration. Young people should experience participation in service to others and meet people who show their faith in action. In ways appropriate to their stage, they should have opportunities to put their own ideas for living their faith into practice.

Teachers should use varied learning and teaching approaches to meet the broad and challenging aims of religious education. They should include opportunities for in-depth discussion of ideas, experiences and moral challenges, for critical and creative thinking, for reflection, meditation and worship, and for making personal responses which show understanding and relevance of their faith. They should learn actively, for example through reading and listening, through discussion, through talking and writing about ideas and beliefs, through role play and expression in art, poetry and music.

Learning in religious education should show its relevance to the lives of young people in modern society. Young people should consider moral challenges in the light of Catholic belief. Teachers should encourage them to probe the basis for different beliefs within an ethos of inclusion and respect.

Learning in religious education should link with learning across the curriculum and the ethos and life of the school. For example, there will be important links between religious education and many aspects of health and wellbeing and the school's links with its community.

The proposed guidance

The revised guidance is being developed in partnership with the Catholic Education Commission. It will enable schools to take account of the diversity of faith within their own local communities, whilst reflecting the ethos of Catholic schools.

It will be prioritised to open up room for more learning in depth and less fragmentation than is sometimes the case at present. In particular, there will be advice on appropriate starting points for the introduction of themes and concepts in other world religions. The aim of this is to encourage deeper learning.

Children and young people will be given opportunities to consider philosophical concepts and approaches, again taking appropriate account of the stage of development of the children and young people.

Experiences and outcomes for religious education will be grouped under:

- > Christianity
- > Other World Religions.

Personal search – establishing personal views, stances and beliefs – will permeate throughout both. The process of personal search will recognise that not all children will adopt a religious standpoint, although many will.



science



Science includes experiences and outcomes in biological, chemical, physical and environmental contexts.

The most important goal for science education is to stimulate, nurture and sustain the curiosity, wonder and questioning of children and young people.

Young children have a natural sense of wonder and curiosity and are active and eager learners

endeavouring to make sense of the world. They develop ideas through play, investigation, first-hand experience and discussion. As they grow older children ask searching questions based on their everyday observations and experiences of living things, the environment and the materials, objects and devices they interact with. Children and young people are fascinated by new discoveries and technologies and become increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and of the environment.

Learning through the sciences enables children and young people to:

- > investigate their environment by observing, exploring, investigating and recording
- > demonstrate a secure understanding of the big ideas and concepts of science
- > make sense of evidence collected and presented in a scientific manner
- > recognise the impact science makes on their lives, on the lives of others, on the environment and on culture
- > express opinions and make decisions on social, moral, ethical, economic and environmental issues informed by their knowledge and understanding of science
- > and, for some, establish the foundation for more advanced learning and future careers in the sciences and technologies.

Developing successful learners

Through science, children and young people develop their interest in, and understanding of, the living, material and physical world. They increase their understanding of scientific ideas and approaches. They become aware of the pace and significance of developments in the sciences and can evaluate the impact of these. Through first-hand observation, practical activities, open-ended challenges and investigations, and discussion and debate, children and young people can develop a range of skills in critical thinking as well as literacy, communication and numeracy.

Developing confident individuals

Science is an important part of our heritage and its applications are part of our everyday lives at work, at leisure or in the home. In order to develop as confident individuals, children and young people need to learn about current science in relevant, real-life contexts and acquire the confidence to use scientific terms and ideas. They can learn to express and justify their views on science-based issues of importance to society.

Developing responsible citizens

Children and young people should come to appreciate that science is a dynamic, creative, human process which contributes greatly to the development of human culture, both nationally and globally. They can recognise that the rate of development in science and technology and their impact have enormous implications for the wellbeing of our society. The values that guide scientific endeavour – respect for living things and the environment; respect for evidence and the opinions of others; honesty in collecting and presenting data; an openness to new ideas – are the basis of responsible citizenship.

Developing effective contributors

Science offers opportunities for children and young people to engage in a wide range of collaborative investigative tasks, both within and beyond the classroom, where they learn to design and use experiments, interpret data, make deductions and draw conclusions based on evidence. Through these experiences and activities they can develop important skills to become enterprising and creative adults in a world where the skills and knowledge of science are needed across all sectors of the economy.



Learning and teaching in science

Effective learning and teaching approaches will extend experiential learning from the early years into early primary school and beyond. As children embark on their learning of science, their teachers can take advantage of opportunities for study in the local environment and the needs and interests of the young people they teach.

As young people progress, learning and teaching approaches should promote classroom talk, group discussion and debate – including about the benefits and risks associated with the applications of scientific knowledge. Learners need to have the opportunity to become actively involved in their learning, to engage in studies beyond the classroom and to deepen their knowledge and their understanding of the big ideas of science. Through involvement in a wide range of open-ended experiences, challenges and investigations they can develop critical thinking skills and appreciate the key role of the scientific process in generating new knowledge.

Young people should experience challenging activities throughout their learning of science and recognise and enjoy the progress they make. Learning in the sciences can be greatly enriched and extended through innovative teaching which uses the power of digital technologies. Science offers particular scope for developing partnerships which capitalise on expertise from research and industry.

The proposed guidance

The revised curriculum will be based on the big ideas of contemporary science and the scientific concepts that underpin these.

Experiences and outcomes will be grouped in the following way:

Our living world: including

- > the diversity of living things
- > the uniqueness of being human
- > the importance of cells

Our material world: including

- > uses and properties of materials
- > sustainability

- > the chemistry of life processes
- > the applications of chemistry in society

Our physical world: including

- > harnessing and using energy sources
- > motion and travel on land and sea and in air and space
- > the development of communication systems.

Teachers will be able to draw from these experiences and outcomes to develop relevant teaching contexts and activities, both within and beyond science, to a depth appropriate for the stage, class or group being taught. It is anticipated that teachers will integrate aspects of the living, material and physical world as appropriate. To enhance learning, the guidance will promote links with other curriculum areas, including the technologies, social subjects, expressive arts, health and wellbeing, and religious and moral education.



social studies



Social studies includes experiences and outcomes in historical, geographical, social, political, economic and business contexts.

It is important for children and young people to understand the place where they live and the heritage of their family and community. Through social studies, children and young people develop their understanding of the world by learning about their own people and what has shaped them, other people and their values, in different times, places and circumstances, and how their environment has been shaped. They learn about human achievements and to make sense of changes in society, conflicts and environmental issues. With greater understanding comes the opportunity to influence events by exercising informed and responsible citizenship.

Learning through social studies enables children and young people to:

- > broaden their understanding of the world by learning about human activities and achievements in the past and present, political, social and environmental issues, and the values underpinning their own society and other societies
- > develop the capacity for critical thinking, through accessing, analysing and using information
- > form their own beliefs and view of the world and develop their understanding of different values, beliefs and cultures
- > establish firm foundations for lifelong learning and, for some, for further specialised study and careers.

Developing successful learners

Learning through social studies extends children and young people's horizons and knowledge of time and place, and challenges them to look at the world in new ways. They learn to access and use information from different kinds of sources, and think critically about evidence and arguments in order to arrive at their own conclusions. They learn to justify these in discussion and debate. Learning in social studies also contributes strongly to the development of their skills in literacy and numeracy.

Developing confident individuals

Whatever children and young people's own cultural background may be, learning through social studies should enable them to understand more about their sense of identity. In learning about their environment and about their community and country's past and present they can develop an understanding of the political and social changes which have shaped Scotland. They should be supported in establishing their own values, and should achieve the confidence to communicate their own stances on social, political, historical and environmental issues.

Developing responsible citizens

Through social studies children and young people gradually build up a framework of historical, geographical, social, economic and political knowledge and understanding. Through learning about the values, beliefs and cultures of societies at other times and in other places they can become more willing to question intolerance and prejudice, and develop respect for other people. Exploring ethical dilemmas facing individuals and societies is an important feature of their learning. One of the most important outcomes of learning in social studies is a commitment to participate responsibly in political, economic, social and cultural life.

Developing effective contributors

As their knowledge and understanding broadens through investigative, creative and critical thinking – individually and in groups – children and young people can develop attributes which will be important for their life and work. They learn about and apply concepts that stimulate enterprise and influence business, and gain an understanding of Scotland's contribution to a sustainable global economy. They can be challenged to consider how they can contribute to the wellbeing of society through, for example, aid initiatives, environmental projects, volunteering or in other ways as active participants in civic society.



Learning and teaching in the social studies

From the youngest age, children want to explore and understand the world – first of all the world immediately around them, and later, how other people live, and the stories of past generations. Learning through social studies can harness the curiosity of young children about their surroundings and the people they know. As they mature, children and young people's experiences can be broadened using Scottish, British, European and wider contexts for learning, yet maintaining a focus on historical, social, geographic, economic and political changes which have shaped Scotland.

It is important that learning in social studies allows sufficient flexibility for schools to reflect issues of importance to the local community. It should capitalise on opportunities for first-hand enquiry within the immediate environment and beyond. As children and young people progress in social studies, the contexts for their learning can widen to provide a breadth of knowledge and experience which allows comparison and contrast.

Learning and teaching at the upper levels of the curriculum framework should encourage young people to reach personal conclusions on issues in the different aspects of social studies, for example human and ethical issues in the past; land use and ecological dilemmas; and political, economic and social issues. Time needs to be available to allow worthwhile discussion and debate.

Learning in social studies is enriched and reinforced through linkages within the social studies and with other areas of the curriculum. Drama, literature, art and music can all enrich learning in social studies and there is scope for strong links with learning in languages, science and religious and moral education, for example.

Social studies offers rich opportunities for developing partnerships between schools and colleges and with employers, particularly in the areas of business and enterprise.

The proposed guidance

The curriculum will be based on important ideas underpinning social studies. These include identity, change and continuity, diversity, economic, social and environmental issues, needs and resources, decision making and participation as active citizens.

The framework will describe outcomes which will contribute to the development of secure values and beliefs.



Experiences and outcomes will be grouped in the following way:

People in the past: including

- > people in societies
- > people and events in the past

People in place: including

- > people and landscapes
- > people and communities

People and society: including

- > society and the economy
- > decision making in a democracy.

Pre-school centres and schools will be able to select contexts for learning and combine the experiences and outcomes to meet the needs of their own communities in the best way. An important focus in developing understanding across the social studies will be on key periods and turning points in Scotland's past and present, and on key elements of Scotland's geography, although Scotland's place in the United Kingdom, Europe and the world will be fully reflected.

Taken together, the experiences and outcomes should form a basis for progression in a wider range of specialised study in school and college including, in addition to history, geography and modern studies, economics, classical studies, finance and business management.



technologies



This curriculum area includes creative, practical and work-related experiences and outcomes in craft, design, engineering, graphics, food, textile, and information technologies.

To participate fully in modern life, children and young people need to be skilled and knowledgeable users of technologies and be ready to embrace further developments in the future. The technologies consider how knowledge can be

applied for practical purposes. They provide exciting opportunities to develop children and young people's creativity and the enterprising attitudes which Scotland needs, not least to compete in a global economy. Technologies are developing at an unprecedented rate. Such dramatic change brings risks as well as benefits, and children and young people need to be able to assess the impact of technologies so that they can take action in an informed way.

Learning through technologies enables children and young people to:

- > develop an understanding of technologies and their impact on society – in the past, present and future
- > apply knowledge, understanding and practical skills to design and create products, processes and solutions that meet needs in play, work and daily life
- > gain the confidence and skills to embrace and use technologies now and in the future
- > evaluate technological processes and products critically and constructively, taking account of cultural, ethical, environmental and economic factors
- > experience work-related learning and, for some, establish the foundation for more advanced learning and careers in the technologies.

Developing successful learners

Children and young people need to become skilled users of a wide range of technologies, and learning in the technologies equips them with these skills. Technological activities can

contribute strongly to the development of problem-solving skills. They promote creative thinking and encourage children and young people to make connections across different kinds of learning and so become innovative, critical designers.

Developing confident individuals

Learning through the technologies can equip children and young people with important practical skills for daily life and for work, and the confidence that they will be able to continue to learn to use new technologies in the future. They enjoy building models and preparing food, for example, and working with different materials. They can experience a sense of achievement when their products and solutions work well, and they can develop their capacity to deal with change, risk and uncertainty.

Developing responsible citizens

As children and young people come to understand the roles of technologies in changing and influencing societies they can increasingly engage with questions relating to the environment, sustainable development and ethics. They can develop their sense of personal responsibility. Importantly, they can become informed consumers who have an appreciation of the merits and impacts of products and services and who are capable of making reasoned and ethical choices.

Developing effective contributors

The technologies allow children and young people to think creatively about how to solve practical problems. There is particular scope to learn how to work effectively in teams. The technologies promote enterprising behaviour and ways of learning that prepare young people for their future lives and careers. Young people may become computer scientists, chefs, food technologists, joiners, plumbers, engineers or designers. On the other hand they may apply their technological capability in other less specialist areas. All need to embark into work as skilled, thoughtful, adaptable and resourceful people able to identify and solve problems.

Learning and teaching in the technologies

From their earliest years children use their natural curiosity and imagination to solve problems they encounter in their play. They very quickly develop skills in using tools and processes, for example to make and modify things and prepare food. With little input from adults they can often become adept at using computers and digital media. They respond



enthusiastically to new technologies and learn very quickly how to use them. Teachers can capitalise on this natural enthusiasm in their planning of learning and teaching in technologies.

The technologies value and promote the development of practical skills as the core of children and young people's experiences. Much of the learning is therefore hands-on and active. This practical focus is attractive to children and young people, and can be used as a springboard for the development of important attitudes, skills and knowledge.

As young people's technological capability improves, teachers can offer scope for them to become more independent in designing solutions to real-life needs and challenges. They learn how people use creative thinking to help to address the needs and wants of society. They begin to think critically and evaluate processes and products, becoming more practised at considering whether design solutions – their own and those of others – work, and if they are appropriate for the purpose. Importantly, they need opportunities for research and discussion about the impact of technologies on society and the environment.

The technologies provide fruitful territory for teachers to design challenging and motivating interdisciplinary work and projects, potentially with all other areas of the curriculum.

Colleges are important contributors in this area of the curriculum. They can provide valuable opportunities to enable young people to develop their knowledge and practical skills in a work-related context, potentially leading to more specialised training and employment.

The proposed guidance

The guidance in the technologies curriculum area will include experiences and outcomes in craft, design, engineering, graphics, food, textile, and information technologies. It will cover outcomes in the current technical education curriculum, and aspects of home economics and computing.

Within each of the technologies, the main lines of development will be:

Investigating and designing: including

- > learning about technologies and their effects on society
- > investigating resources and materials
- > developing design skills and knowledge

Producing: including

- > using technologies effectively, including developing practical skills in using tools, equipment, materials and processes
- > planning and organising

Evaluating: including

- > evaluating and improving products and solutions
- > evaluating the impact of products, systems and processes.

Experiences and outcomes will be expressed to promote innovative, creative learning approaches with a strong emphasis on practical activities and where appropriate vocationally relevant learning.

They will also be designed to ensure the development of knowledge and understanding, skills, and informed attitudes.





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