curriculum for excellence:
technologies
experiences and outcomes

Smarter Scotland
Scottish Government

SQA

Education Scotland
Foghlam Alba

Technologies
Experiences and outcomes

The technologies framework provides a range of different contexts for learning, including the themes across learning; learning for sustainability, global citizenship, enterprise, that draw on important aspects of everyday life and work.

The framework develops knowledge, skills, attributes and capabilities around 13 key concepts/significant aspects of learning in the technologies.

- Awareness of technological developments (Past, Present and Future), including how they work.
- Impact, contribution, and relationship of technologies on business, the economy, politics, and the environment.
- Using digital products and services in a variety of contexts to achieve a purposeful outcome
- Searching, processing and managing information responsibly
- Cyber resilience and internet safety
- Understanding the world through computational thinking
- Understanding and analysing computing technology
- Designing, building and testing computing solutions
- Food and textile technologies
- Designing & constructing models/products
- Exploring uses of materials
- Representing ideas, concepts and products through a variety of graphic media
- Application of Engineering

Within each of the key concepts/significant aspects of learning learners will develop and demonstrates

- knowledge and understanding of the key concepts in the technologies
- curiosity, exploration and problem solving skills
- planning and organisational skills in a range of contexts
- creativity and innovation
- skills in using tools, equipment, software, graphic media and materials
- skills in collaborating, leading and interacting with others
- critical thinking through exploration and discovery within a range of learning contexts
- discussion and debate
- searching and retrieving information to inform thinking within diverse learning contexts
- making connections between specialist skills developed within learning and skills for work
- evaluating products, systems and services
- presentation and communication skills.
- awareness of sustainability

The framework includes creative, practical and work-related experiences and outcomes which develop skills for business, digital literacy, computing science, food, textiles, craft, design, engineering, graphics and applied technologies. Learning, teaching and assessment in the technologies should span a range of the 13 key significant aspects of learning, for example when planning business education in S1 to S3 it should cover Digital Literacy significant aspects of learning and Technological Developments in Society and Business significant aspects of learning (as well as Social subject significant aspects of learning).

As with literacy, numeracy and health and wellbeing, digital literacy should be placed at the heart of all learning, not only the technologies area of the curriculum. Digital literacy outcomes could be met in any/all curriculum areas and so all practitioners can contribute to and reinforce them.

Digital Literacy

Organiser	Early	First	Second	Third	Fourth
Using digital products and services in a variety of contexts to achieve a purposeful outcome	I can explore digital technologies and use what I learn to solve problems and share ideas and thoughts. **TCH 0-01a**	I can explore and experiment with digital technologies and can use what I learn to support and enhance my learning in different contexts. **TCH 1-01a**	I can extend and enhance my knowledge of digital technologies to collect, analyse ideas, relevant information and organise these in an appropriate way. **TCH 2-01a**	I can explore and use the features of a range of digital technologies, integrated software and online resources to determine the most appropriate to solve problems. **TCH 3-01a**	I can select and use digital technologies to access, select relevant information and solve real world problems. **TCH 4-01a**
Searching, processing and managing information responsibly	I can use digital technologies to explore how to search and find information. **TCH 0-02a**	Using digital technologies responsibly I can access, retrieve and use information to support, enrich or extend learning in different contexts. **TCH 1-02a**	I can use digital technologies to search, access and retrieve information and am aware that not all of this information will be credible. **TCH 02-02a**	Having used digital technologies to search, access and retrieve information I can justify my selection in terms of validity, reliability and have an awareness of plagiarism. **TCH 3-02a**	I can use digital technologies to process and manage information responsibly and can reference sources accordingly. **TCH 4-02a**
Cyber resilience and internet safety	I can explore, play and communicate using digital technologies safely and securely. **TCH 0-03a**	I can extend my knowledge of how to use digital technology to communicate with others and I am aware of ways to keep safe and secure. **TCH 1-03a**	I can explore online communities demonstrating an understanding of responsible digital behaviour and I'm aware of how to keep myself safe and secure. **TCH 2-03a**	I can keep myself safe and secure in online environments and I am aware of the importance and consequences of doing this for myself and others. **TCH 3-03a**	I can explore the impact of cyber-crime for business and industry and the consequences this can have on me. **TCH 4-03a**

Technological Developments in Society and Business

Organiser	Early	First	Second	Third	Fourth
Awareness of technological developments (Past, Present and Future), including how they work.	I enjoy playing with and exploring technologies to discover what they can do and how they can help us. **TCH 0-05a**	I can explore the latest technologies and consider the ways in which they have developed. **TCH 1-05a**	I can investigate how product design and development have been influenced by changing lifestyles. **TCH 2-05a**	I understand how scientific and technological developments have contributed to changes in everyday products. **TCH 3-05a**	I can analyse products taking into consideration sustainability, scientific and technological developments. **TCH 4-05a**
Impact, contribution, and relationship of technologies on business, the economy, politics, and the environment.	To help care for the environment, I reduce, re-use and recycle the resources I use. **TCH 0-06a** I understand how local shops and services use technologies to provide us with what we need and want in our daily lives. **TCH 0-07a**	I can take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment. **TCH 1-06a** I understand how technologies help provide for our needs and wants, and how they can affect the environment in which we live. **TCH 1-07a**	I can analyse how lifestyles can impact on the environment and Earth's resources and can make suggestions about how to live in a more sustainable way. **TCH 2-06a** I can make suggestions as to how individuals and organisations may use technologies to support sustainability and reduce the impact on our environment. **TCH 2-07a**	I can evaluate the implications for individuals and societies of the ethical issues arising from technological developments. **TCH 3-06a** I can identify the costs and benefits of using technologies to reduce the impact of our activities on the environment and business. **TCH 3-07a** I can explore the impact, contribution and use of various software applications and emerging hardware in business. **TCH 3-08a**	I can examine a range of materials, processes or designs in my local community to consider their environmental, social and economic impact. **TCH 4-06a** I can present conclusions about the impact of technologies on the economy, politics and the environment. **TCH 4-07a** I can select and use appropriate hardware and software which supports evolving business activities. **TCH 4-08a**