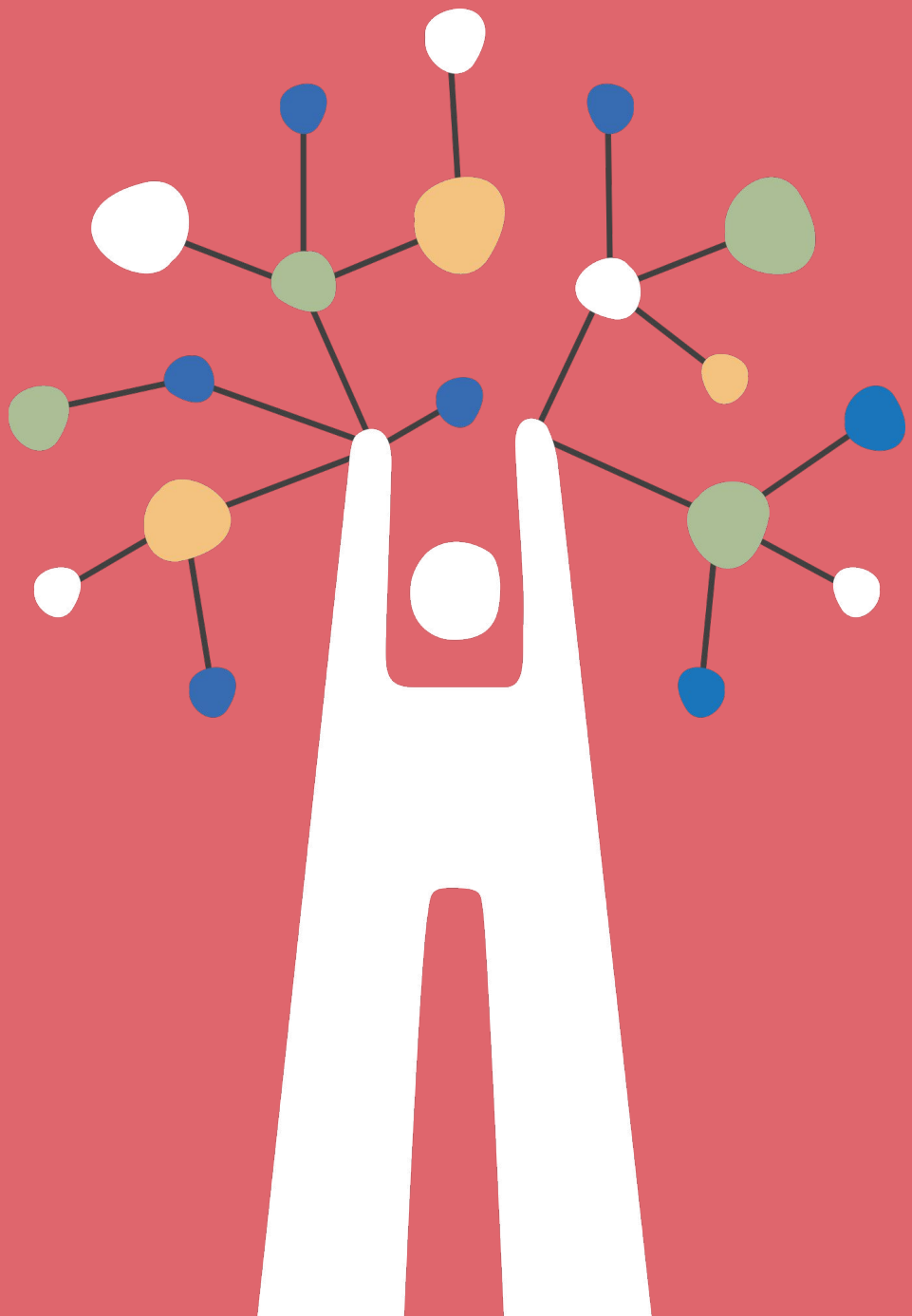

THE HERMMES CURRICULUM

This curriculum is part of the HERMMES project and it is designed to support teachers in kindergartens and schools in helping children and young people become digitally resilient, media mature adults step by step.

The steps in this curriculum are divided into two areas: **learning aims** and **teaching strategies**.

The horizonal structure of the grid has six age categories from birth to adult, following developmental stages.

The vertical structure has five main competence areas aligned with the European DigComp 2.2 framework.

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THE HERMMES CURRICULUM IN A NUTSHELL

The following four sections give you essential information on the HERMMES curriculum:

WHY?

This section explains the added value of the HERMMES approach with its focus on well-being and prevention, analogue as well as digital ways of fostering digital skills, compared to other available frameworks. It answers questions such as: does the HERMMES approach fit together well with your pedagogical goals and ideals?

WHAT?

This section provides basic information on each of the five different competence areas of the curriculum: 1. Safety and well-being; 2. Problem solving and computational thinking; 3. (Digital) Media content creation; 4. Critical information and data literacy; 5. Communication, cooperation, and empathy.

HOW?

Do you want to go beyond raisin-picking and build a coherent media and ICT curriculum for your school or kindergarten or change an existing one? Key success factors and obstacles in this process are described. Small goals, small steps and flexibility can make it fun to become a HERMMES school or kindergarten!

WHAT ELSE?

Information on other HERMMES documents and on online and offline training offers.

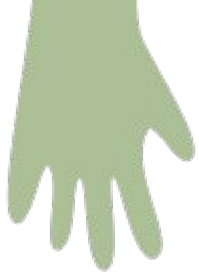
No time?

If you have very little time and wish to get an overview, you can skip the rest of this introduction and go directly to the HERMMES curriculum grid below. Once you have found a suitable activity for your practice in the grid, you may want to know more about it. On our website, many activities in the curriculum grid will be linked directly to case examples. These examples give you information to put one specific activity into practice. They contain lesson plans, pictures, sources, and materials. So even with little time, you can make great impact.

P.S.
The HERMMES case examples are a continuous work in progress and will be expanded in the coming months and years.

WHY THE HERMMES CURRICULUM?

Teachers from kindergarten to upper school are actively engaged in accompanying children and young people on their way to becoming critical and knowledgeable citizens of the future, digitally influenced societies. But they often do not find both digital risks and digital chances equally well represented in policy documents on digital education. It seems that teachers and parents take more notice of the two-faced nature of digitisation, because it forms part of their daily experience.



On the one hand, many children suffer from negative effects of their over-digitised everyday life: lack of concentration, poor reading skills and motivation, low frustration tolerance, physical impairments like obesity or myopia, socio-emotional problems. During the Covid-19 lockdowns, many of these problems got worse. Two examples: a dramatic increase in digital addictions in older children and pseudo-autism in young children as a result of digital overuse.

On the other hand, the potentials and benefits of creative, active, critically reflected, and balanced use of digital media are manifold. In schools, digital media can both be used as tools to support learning processes in many subjects, and can be seen as at least two subjects in themselves: firstly, computing science, that is, understanding basic principles of information-processing systems, such as computational thinking and coding; and secondly, mastering digital production, all the way from audio recording to 3D-printing.

The HERMMES curriculum offers a new framework which encompasses both sides. In doing so, it helps meet many of the challenges addressed in current documents on the international level (UN thematic report A/HRC/50/32, UNESCO report on technology in education) and on the European level (DigComp 2.2, European Parliament resolution on shaping digital education policy).

So, in the HERMMES curriculum, the prevention of digital risks is combined with the fostering of digital skills in a unique way, making up four aspects of added value.

WELL-BEING/PREVENTION FOCUS

More focus on digital resilience than existing frameworks: resource-oriented and setting-based prevention of digital risks, especially for younger children as well as individual and more cognitive-based prevention for older children.

DEVELOPMENTALLY APPROPRIATE – AGE VS. STAGE

One size fits all? No! What is helpful for adolescents can be harmful for toddlers in “digital education”. There is a strong focus on developmentally appropriate step-by-step action. Please note, that the grid is sorted into six age groups (0-3, 3-6, 6-9, 9-12, 12-15, 15-18 years), based on what an average child of this age would benefit from. But in reality, an “average child“ does not exist. So as a teacher or parent, the developmental status in different areas will have to be taken into account. Therefore, the age categories are only important for your orientation.

ANALOGUE WAYS FOR TEACHING DIGITAL COMPETENCES

There are many traditional as well as innovative analogue ways of teaching digital competences. Engaging, interactive, experience-based ways towards media maturity offer chances for sustainable and thorough learning without increasing screen time. Understanding how ICT systems work instead of using them as a black box is a central feature of these analogue practices in the HERMMES grid.

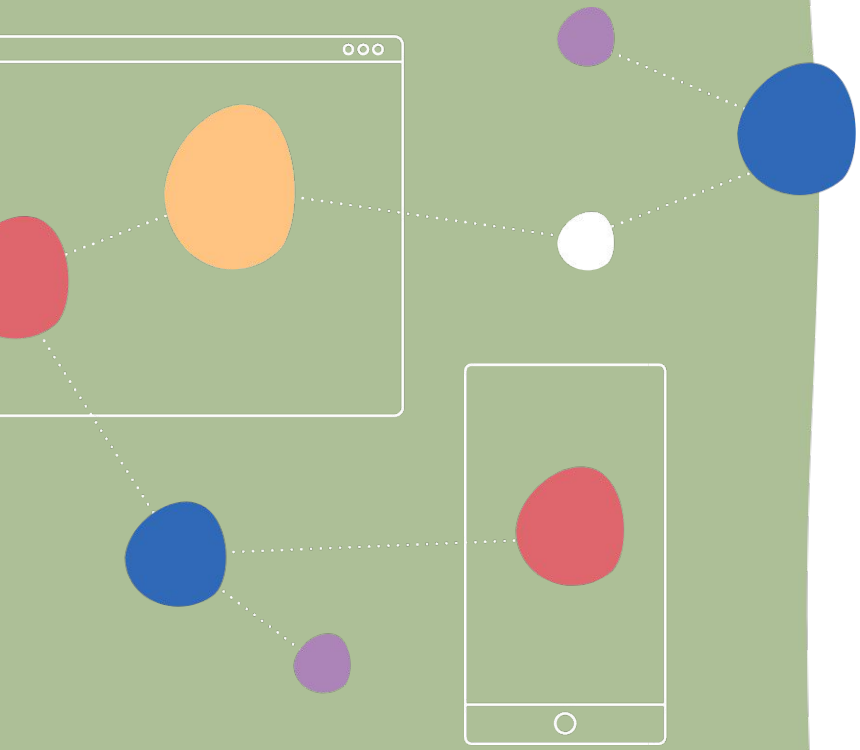
COVERS CENTRAL COMPETENCES FROM DigComp

The HERMMES curriculum grid is matched to the European DigComp 2.2 framework and goes beyond it. Following the HERMMES curriculum ensures that educational institutions meet the requirements of most national frameworks on digital education in Europe - but at the same time, postpone and reduce the use of digital devices in order to maximise the benefits and minimise the risks of their use. Still, it can be challenging to convey just how the requirements are met in alternative ways in the HERMMES approach in the communication with national representatives on digital education frameworks. Therefore, the HERMMES courses contain modules that enable participants to fully meet this challenge.

An added fifth aspect is the focus on cooperation with and counselling for parents regarding media maturity education and building a strong school community with healthy, safe, and feasible agreements and rules for digital media use in their community. These aspects are not part of to the HERMMES curriculum but covered separately in the HERMMES guidelines and the Community and culture grid.

WHAT IS IN THE HERMMES CURRICULUM GRID?

The five areas in the HERMMES curriculum correspond directly to the five competence areas in the EU DigComp 2.2, but go beyond it as described above.



SAFETY AND WELL-BEING

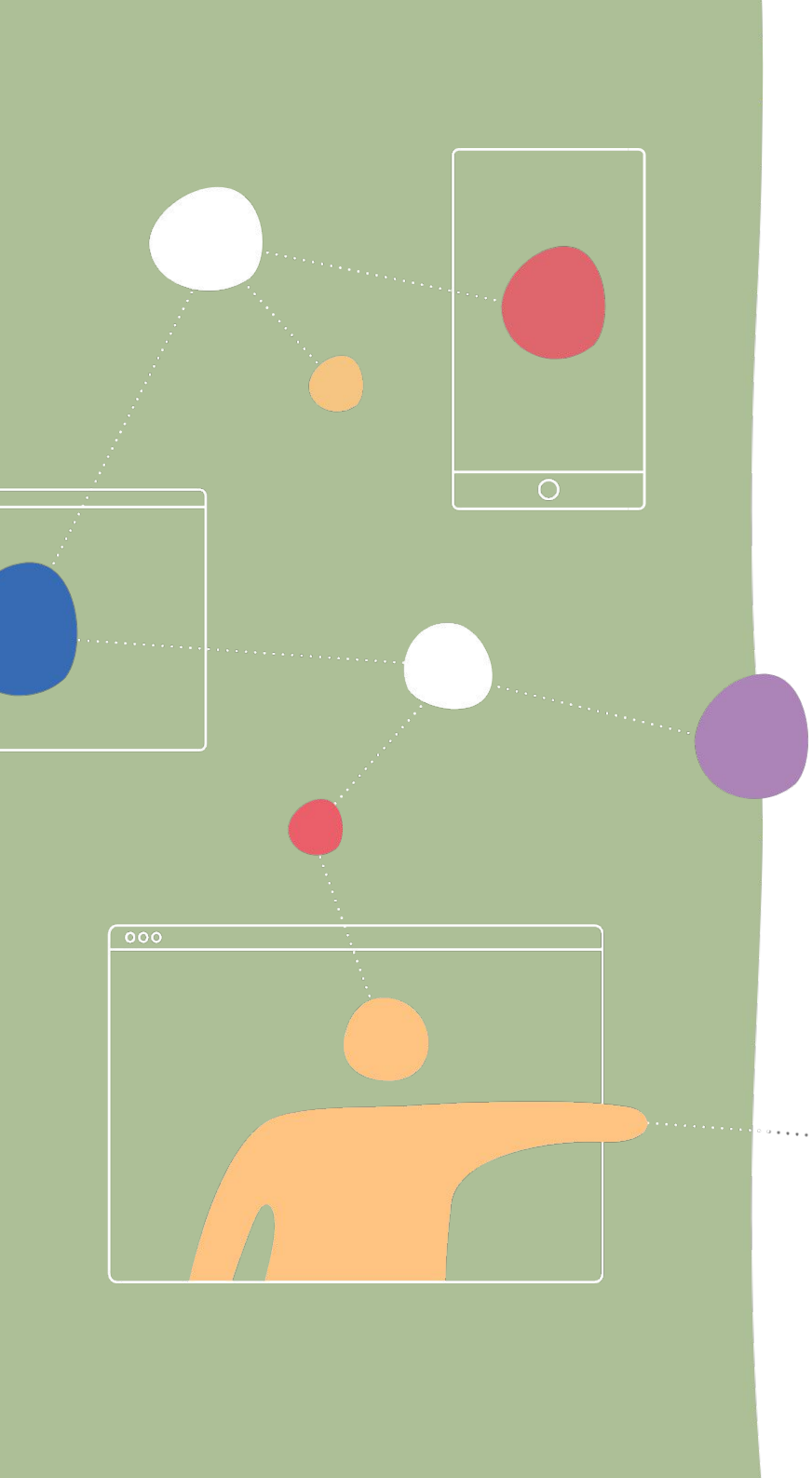
The multitude of digital risks can put teachers and parents under pressure, such as gaming addiction, social media addiction, cyberbullying, sexting, fake news, filter bubbles. Where to even start with prevention efforts? Fortunately, there are many common risk and protective factors. So a promising approach to prevention, especially for younger children, is not to tackle each risk separately. Instead, we aim to support children and young people in developing a strong, resilient personality with social support and connections, by a multitude of activities in class and at home that are traditionally not considered part of a media curriculum. In other words: real-life skills training, for example role-play in kindergarten or taking responsibility for watering plants. For older children, more specific competences for prevention and safety are also addressed in this competence area: cryptography, privacy protection, all the way to advanced topics such as AI.

PROBLEM SOLVING AND COMPUTATIONAL THINKING

This area is divided into two sections in the grid: 1: ICT: computer science and problem solving. This subsection goes all the way from identifying basic ICT skills in everyday activities (such as folk dance, baking buns, playing board games) to understanding how computers work, with analogue projects on the binary system, coding, sorting, and search algorithms, all the way to programming computers and understanding AI in secondary school. 2. Operating and applying (digital technology). As before, this starts in early childhood with safely handling analogue tools and developing fine motor skills, and ends in upper school with 3D-printing and discussing LiFi and LAN as alternatives to WiFi.

(DIGITAL) MEDIA CONTENT CREATION

This largest competence area is subdivided on the basis of different media: writing, audio, and VIS (video, images, sculpture). Activities encompass many things from learning to read and write to advanced journalistic work, from tin can phone to digital audio (post-) production, from flip books and analogue solar photography to recording documentary videos and creating mixed-media digital portfolios.



CRITICAL INFORMATION AND DATA LITERACY

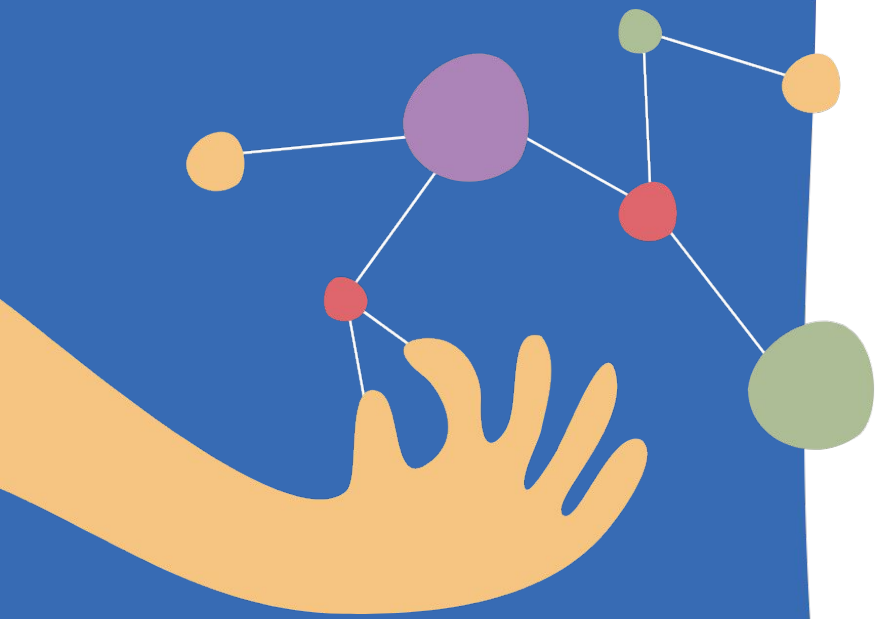
This area is subdivided into two sections: 1. searching and organising information/data that includes searching for information by asking people and reading dictionaries, all the way to advanced internet search strategies, and from organising data with edge-punched cards all the way to critical big data literacy. 2. Analysing and (self)-reflection cover activities to foster self-reflection and perspective-taking in direct interactions, pros and cons of apps for regulating personal screen/online time, reflections on influences of digitisation, and the need for regulation in many areas of human life.

COMMUNICATION, COOPERATION, AND EMPATHY

This part covers communication and cooperation skills acquired in direct in-person interaction, such as role-play, tandem and group activities at school, rules for dealing with conflicts in class, experiences with a class-wide analogue social network, and also provides an error-friendly space for practicing and discussing pre-netiquette skills, leading up to discussing aspects of online communication like hate speech and online disinhibition effect, and the influence of AI, more specifically chatbots, on our perception of ourselves as humans.

HOW TO PUT THE HERMMES CURRICULUM INTO WRITING AND PRACTICE

To support a school or kindergarten in the process of becoming a HERMMES kindergarten/school community, we summarise key success factors from the experience of institutions that have undertaken the process.



SMALL STEPS

The curriculum grid is very large. It contains more than 200 entries and can seem almost overwhelming. Follow a step-by-step approach.

BALANCE STRUCTURE AND FLEXIBILITY

If you want to do more than raisin-picking some ideas (which is also fine) and have the aim to adopt and write down an adapted version of the HERMMES curriculum for a kindergarten or school community: this needs both the flexibility to pick up impulses from the actors (being open for developing visions and goals), but also needs people and documents that structure and steer the process, keep dates, put results in written form.

RESPONSIBLE AND EMPOWERED ACTORS

“Steering” people are crucial to making the process work. A minimum is one HERMMES/media education anchor person in the institution, better are two responsible persons (teacher and parent), ideal is a delegation with representatives of all major stakeholders: primary school teacher, secondary school teacher, parent, secondary school pupil, school administrator, school leader.

PRIORITY FOR ONE OR TWO AREAS OF ACTION

Advisable first steps are to bring all colleagues together to identify existing strengths and resources (what do we do already?), then to decide what should be addressed foremost in the future (for example, two of the five competence areas as a start).

HAVE FUN TOGETHER

In a staff meeting, discover new analogue ideas for practice. Create your own secret languages or enter the analogue sorting network. Just pick one or two of the activities from the case examples system to start with. Quote from one of the HERMMES schools: “we never thought it would be this much fun to do media maturity education!”

PROVIDE RESOURCES (POWER, MONEY, TIME) FOR IMPLEMENTATION

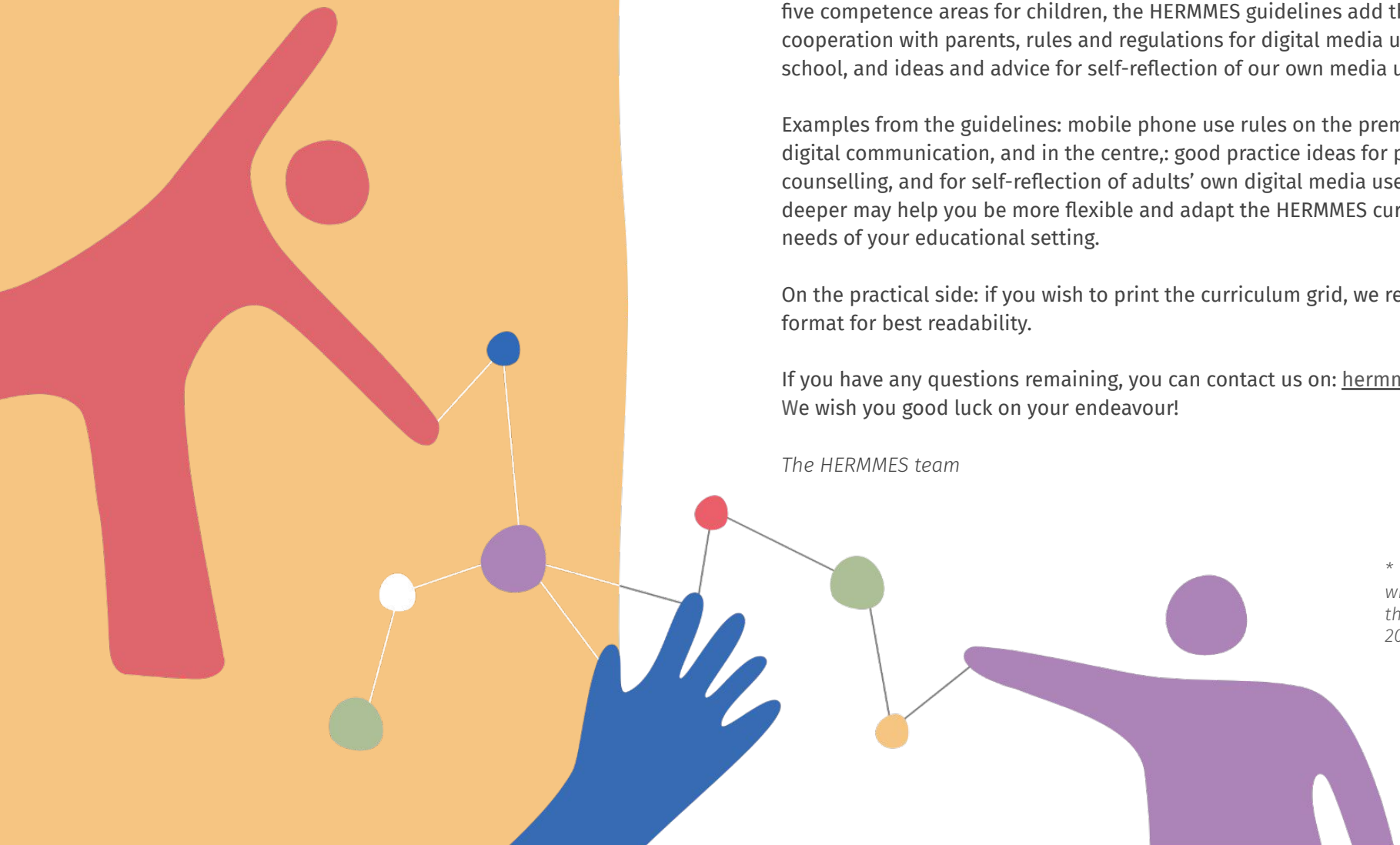
Aim for reducing teaching hours for the core team, finding money for buying material and paying for further training.

BUILD TEACHERS’ SKILLS

Visit colleagues (internal and external), attend further training courses, ask skilled parents to provide in-house training.

WHAT ELSE?

Building a HERMMES community



If you intend to make sustainable changes in your educational setting, e.g., as a member of a (digital) media delegation (be it a teacher, parent, or pupil): read the HERMMES background document. It is at the core of HERMMES and contains comprehensive background information. It supports joint action in kindergartens or schools – to make a change from fragmented (and often frustrated) lone pioneers of HERMMES ideas to building a strong community.

Also, do read the HERMMES guidelines and the Community and Culture Guide to get the full picture. While what you are reading now (the curriculum) puts a focus on activities in five competence areas for children, the HERMMES guidelines add three other areas: cooperation with parents, rules and regulations for digital media use in the kindergarten school, and ideas and advice for self-reflection of our own media use as adults.

Examples from the guidelines: mobile phone use rules on the premises, data security in digital communication, and in the centre,: good practice ideas for parent cooperation and counselling, and for self-reflection of adults' own digital media use habits. So, digging deeper may help you be more flexible and adapt the HERMMES curriculum better to the needs of your educational setting.

On the practical side: if you wish to print the curriculum grid, we recommend to chose A2 format for best readability.

If you have any questions remaining, you can contact us on: hermmes@ecswe.eu.
We wish you good luck on your endeavour!

The HERMMES team

** All additional documents will be available on the HERMMES website from 20 February 2025*

HERMMES CURRICULUM GRID

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0 – 3 years

LEARNING AIMS[1] - Children are able to...

SAFETY AND WELL-BEING

Well-being and attention

- have a secure relationship with familiar adults and can temporarily separate from parents/carers.
- pay attention to one thing at a time but can shift to a different task with support.
- move quickly from one activity to another or focus attention for a short period of time.

Safety, security, and well-being

- explore the environment and play confidently when familiar adults are close by, using them as a secure base to return to for reassurance.
- demonstrate a growing sense of self through asserting likes and dislikes, ideas, and preferences, often saying "no", "me do it", or "mine".
- take notice of other people's responses.

PROBLEM SOLVING AND COMPUTATIONAL THINKING

Computer science and problem solving

- follow familiar routines, patterns, and activities.
- begin to arrange items in their own patterns, e.g., lining up toys, and select a group of similar objects from a wider collection.
- match parts of objects that fit together.

Operating and applying (digital) technology

- use their senses to explore the world around them and its properties in many ways: looking, shaking, hitting, feeling, tasing, pulling, turning, transporting, and poking.
- notice the transformative effects of their actions on materials.
- show an interest in simple mechanical tools, such as a hand grinder.
- begin to explore and understand the way objects work.

(DIGITAL) MEDIA CONTENT CREATION

Writing

- explore and experiment with media and movement in multi-sensory exploration and expression.
- enjoy making marks on paper and other materials, such as mud and sand, and know that the marks they make are of value.

Audio production

- express themselves through physical actions and sounds.
- create sound effects and movements, e.g., creating the sound of a car or animals.

Creating video, image, sculpture

- use 2D images and 3D structures to explore materials and express ideas.

CRITICAL INFORMATION AND DATA LITERACY

Searching and organising

- be curious about new and familiar experiences in nature, play, and interactions.
- notice features of objects and creatures in the environment, and collect items from the natural world.
- be interested in and anticipate books and stories.

Analysing and self-reflection

- engage in shared attention with familiar adults and talk about their observations of the world.
- experiment with cause and effect.

COMMUNICATION, COOPERATION, AND EMPATHY

- learn new words very rapidly and enjoy using them in communicating.
- begin to use language to develop and share ideas with other children and/or adults.
- enjoy playing alongside others and begin to be interested in being with and playing with other children when they feel secure in a familiar environment.

TEACHING STRATEGIES[2]

- Developing close, respectful relationships through care, observation, and interaction.
- Accompanying the real-life everyday tasks of adults.
- Spending time on the care needs of each child, being present and focusing on them as individuals.
- Not distracting children with digital toys.

- Providing an environment where children are protected from adverse media experiences.
- Providing an environment where children can have their first experiences of autonomy and making choices.

- Giving opportunities for autonomy in everyday activities and routines, e.g., putting on clothing.
- Providing natural, open-ended materials in collections of resources that can be mixed and sorted.
- Including children having opportunities to make mistakes and solve their own problems.
- Providing toys relating to home experiences, such as play ovens and a range of 'cooking' materials.

- Providing a wide range of materials that children can explore without specific learning intentions.
- Providing sand and water, with containers, pipes, funnels, and other tools and mud kitchens in outdoor areas.
- Providing an environment that has many opportunities for exploring and experimenting with different play schemes.

- Providing a wide range of creative mark making materials and tools, e.g. brushes, sticks, water, paint.
- Providing natural, light cloths of various colours and sizes that can be used in gesture and movement.

- Singing songs and reciting rhymes with children, especially those with movement and imitable sounds.
- Imitating and demonstrating the noises that animals and everyday machines make so that children can join in.
- Telling stories or reading books including relevant and meaningful sounds.
- Using simple musical instruments in singing sessions, particularly those with a direct connection between physical action and sound.

- Providing building blocks and stacking objects for children to explore.
- Providing a wide range of creative mark making materials and tools, e.g. brushes, sticks, water, paint.
- Giving children bread dough to shape, then bake and eat.

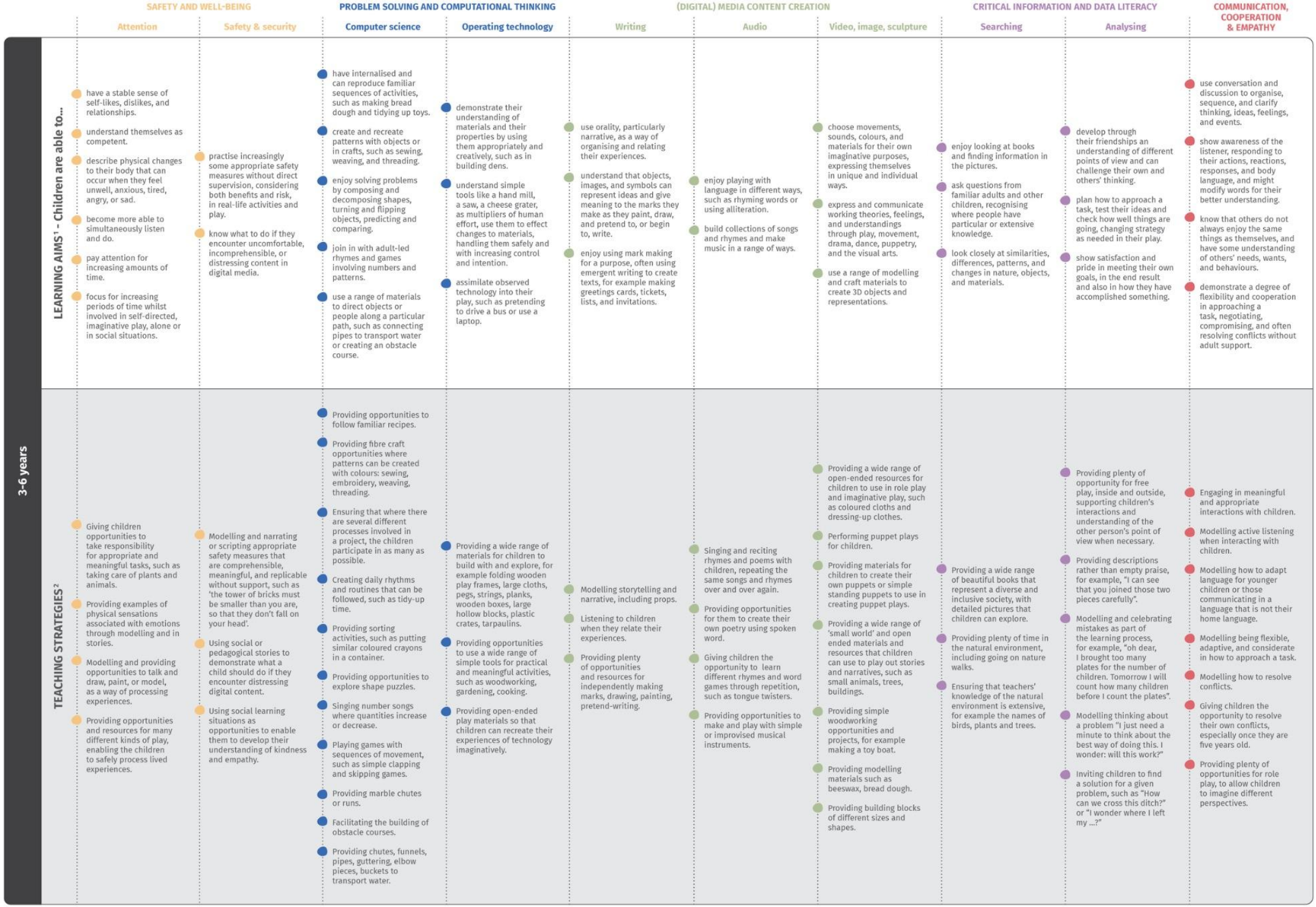
- Going on regular walks in familiar and unfamiliar places.
- Providing opportunities to explore materials and resources.
- Providing small containers for collections, for example on walks.
- Having a space where these collections can be displayed when the children choose to do so.
- Sharing carefully selected simple books and telling familiar stories.

- Paying attention to children's gestures and their attempts to draw adults' attention to their world.
- Giving space for the children's reactions and responses instead of filling the space with the adult's response.
- Providing toys that can be stacked and knocked over, toys that roll, etc.

- Engaging in meaningful interactions with children, communicating with gestures, facial expressions and spoken language.
- Singing with children and reciting poems and rhymes.
- Providing narration for new experiences.
- Scaffolding children's play without expecting behaviour that is not developmentally appropriate, for example, such as expecting young children to share.
- Providing familiar environments where children feel safe and secure.

1 - "Learning aims" are a description of a typical learning journey through the curriculum. They shape and guide teachers' planning and assessment and can help to indicate where children and young people might need additional support. They should not, however, be used to create a "tick box"'deficit model which narrows the curriculum and selection of instructional methods. These are aims that ideally are reached at the end of the age group, but variations may and will occur.

2 - "Teaching" is a broad term which covers all the ways in which adults in an educational setting support children's learning. It includes not just direct instruction, but the provision of learning opportunities of all kinds, the design of the learning environment, the facilitation of self-directed learning, the establishment of expectations, and the understanding of what children and young people know and can do.



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6-9 years

	SAFETY AND WELL-BEING		PROBLEM SOLVING AND COMPUTATIONAL THINKING		(DIGITAL) MEDIA CONTENT CREATION			CRITICAL INFORMATION AND DATA LITERACY		COMMUNICATION, COOPERATION & EMPATHY
	Attention	Safety & security	Computer science	Operating technology	Writing	Audio	Video, image, sculpture	Searching	Analysing	
LEARNING AIMS[1] - Children are able to...	demonstrate a sense of well-being and comfort in their bodies through moving freely and with confidence in the natural and human-made environment. identify and name some emotions in themselves and others, both in real life and in stories. take individual responsibility for assigned tasks. follow the teacher's direction of their attention, recognising some things that are interesting and/or relevant to them. focus on tasks that are intrinsically interesting. pay attention to images, they are able to imagine things that cannot be visually represented, such as how things smell, feel, based on a wide repertoire of previous sensory experience. recall and reconstruct their experiences, including imaginative experiences.	talk about the concepts of truth and lies in the context of stories that they have listened to or read. begin distinguishing between things that are true or likely to be true, and things that are probably not true. describe respectful behaviour, bullying, and trust, and talk about how these things might make someone feel. understand what can be kept private, what should never be kept secret, and how this is different from a surprise. be confident to approach several adults who can help them if they encounter uncomfortable, incomprehensible, or distressing content in digital media. understand the difference between creating something and copying it.	create plans or draft versions of their work to support their final product. predict, continue, and create simple sequential patterns, finding mistakes or anomalies and correcting these. solve word and picture problems by extracting the essential information and turning this into a simple mathematical calculation. follow logical, sequential instructions (algorithms), such as how to make a sandwich or origami instructions.	use a range of analogue tools safely and effectively, talking about risks and how to manage them. listen carefully to and follow instructions about how to use new tools and take part in ensuring that equipment is well cared for. give examples of how older children and adults use digital technology as a tool.	read and write with some fluency. compose their own work, taking care and presenting it in an aesthetically pleasing way. talk about why they like or dislike the writing of other authors. use simple reproduction or printing devices.	listen carefully and actively, asking questions about what they have heard, and explaining or describing it to another person. recite poetry and play language games, such as tongue twisters and auditory memory games. write and perform audio dramas, for example, radio plays and scripts. listen to music, preferably live, and can talk about how it makes them feel. enjoy singing together and have a wide range of songs. play a simple instrument, such as the recorder or tuned percussion, both individually and in a small group.	take part in drama activities and role plays, taking on small individual roles. practise and perform simple puppet plays of familiar stories. draw and paint confidently from imagination and from life, using simple techniques to represent mood, elements of perspective, size, proportion, and movement. model with a range of materials, for example, clay or beeswax. create 3D fibre crafts, such as knitting, crochet, sewing, or felting.	use books and other analogue resources, such as pictures, age-appropriate magazines or newspapers, for research, reading relevant sections. order and search for words alphabetically in a dictionary or index. ask people questions and record salient information from their answers. label and caption pictures and simple diagrams. add data in numbers, words, or pictures to tables and charts.	talk about the emotions and behaviours of characters in stories and begin to relate these to their own feelings and behaviours. outline verbally a plan for a piece of work they are about to undertake and, with prompting or supporting, can reflect on how well things are going and whether they need to adapt or change strategy. articulate a considered and empathic response to their own work and to the work of others in peer discussions and reflections.	express their ideas, thoughts, experiences, and emotions orally. begin to explore the power of oral language in different ways, for example, through tone, body language, and choice of words. understand many cultural conventions of speaking and listening, such as taking turns or responding to the speaker and can engage in dialogue that creates shared meaning. have a growing vocabulary in a second and even third language, being able to form simple sentences about very familiar objects and activities. feel part of a learning community and can work together in small groups or in a limited way as a whole class to achieve an objective. deal with conflicts by applying a taught framework with support, such as non-violent communication and restorative justice. follow the rules of group games, working together, and moving in directed ways, showing an awareness of themselves and others.
TEACHING STRATEGIES[2]	Providing a wide range of opportunities for movement, both inside the classroom and in the natural environment. Introducing children to enjoyable, screen-free leisure activities, such as playground games, skipping games, string games. Talking about the emotions and behaviours of characters in stories. Providing pupils with opportunities for responsibility in classroom tasks, including taking care of plants, recycling. Giving a wide repertoire of sensory, real-life experiences. In real life experiences, directing pupils' attention to a range of senses, if appropriate, "what does it feel/smell/sound/taste like? Giving pupils the opportunity to recall and reconstruct their experiences a day later, hereby allowing for the unconscious sorting and assimilation that happens during sleep. As a teacher, developing and modelling deep interest in the subject and content that you are teaching. Supporting pupils to develop intrinsic motivation for attention, not through the use of rewards and punishments. Begiiningn to explore how attention is sought and retained through the pupils' own creation of media, for example how more exciting sentences, well-composed pictures, and thrilling drama hold the audience's attention. Modelling using digital technology in a healthy and prosaic way, for example using a laptop or tablet for a routine administrative task.	Reading and telling stories which include tricks, disguises, and moral dilemmas about truth and lies. Discussing the motivations, behaviours, and emotions of the characters. Reading and telling stories where characters behave in a range of ways and discussing these with the pupils. Giving explicit teaching on appropriate rules for bodily privacy and on the difference between secrets and how any behaviour that makes one uncomfortable should never be kept a secret from trusted adults, and surprises, which might mean keeping a small amount of exciting, positive information secret for a short time. Reinforcing that pupils can discuss difficult, uncomfortable, or distressing experiences, including digital ones, with trusted adults. Exploring with pupils when it is appropriate to copy someone's work, such as the teacher's drawing, the beginning of a piece of shared writing, and	Providing opportunities to draft or plan work. Creating a classroom culture where drafting and improving work is valued. Providing opportunities to learn and design choreography for dances and movement activities such as clapping games. Teaching to knit and crochet, following and creating patterns in 2D and 3D, including how to look for, find, and correct mistakes in the pattern and in their own work. Providing a wide range of opportunities for practical and theoretical problem solving, modelling how to extract the essential information (abstraction), and how to break the problem down into steps (decomposition). Exploring "barefoot" or analogue approaches to communication, logic, algorithms, and systems thinking.	Providing pupils with opportunities to learn how to use a wide range of tools safely, from pens and scissors to whittling knives and bow saws. Modelling and instructing pupils on how to care for tools well. Exploring processes that use simple analogue tools, for example, from raw sheep's wool to felt.	Providing opportunities to create finished work that is presented to a high standard, for example, with a decorative frame. Providing plenty of opportunities for creative writing on a given theme and within given genres. Asking pupils to write book recommendations for their friends and for the class library. Giving the opportunity to use a Freinet printing press. Creating prints with toilet rolls or potato prints. Exploring methods of relief printing, for example, with cereal packets.	Playing listening games, such as Simon says, Telephone, Listen and draw, What's in the Box?, Stand up when I say..., Fruit salad, Tomato ketchup. Going on a listening walk, writing down all the things that they can hear. Learning poems by heart, reciting first as a class, then in small groups, then individually. Playing auditory memory games - "I went to the shop and I bought...", "I went on holiday and I packed...", "Today is my birthday and I got...". Giving pupils daily opportunities to learn a wide range of simple songs from different cultures and traditions. Giving pupils the opportunity to learn a simple musical instrument - this will require both regular lessons and practice.	Providing opportunities to practise and perform role plays and short plays, assigning individual appropriate roles to those pupils confident to take them on. Teaching pupils to make puppets and puppet stages in a range of styles, such as felt standing puppets, simple hand puppets, simple stick puppets. Providing plenty of opportunities for drawing, both freely and guided by the teacher. In guided drawing, giving explicit instruction on simple techniques. Providing plenty of opportunities for modelling with different materials. Teaching pupils some basic fibre craft techniques through completing simple projects, for example, knitting a child's ball, sewing a bag, and felting a pouch. Teaching children knitting without needles. Making cyanotype prints on paper or fabric. Making paper using scrap paper pulp and a screen.	Ensuring that pupils have access to a high quality class library with a wide range of diverse and representative books in different genres, such as information books, comics, picture books, appropriate children's magazines, newspapers. Providing opportunities for pupils to organise and find information in dictionaries, encyclopaedias, reference books, using contents pages and indexes. Asking pupils to arrange themselves in alphabetical order, by first name or last name. Arranging visits to and from artisans and craftspeople, with opportunities for pupils to ask questions. Providing opportunities for pupils to record their experiences in graphical forms, for example, simple free-form labelled diagrams of a journey or a space. Teaching pupils to create storyboards of stories they have heard or read or for stories they are going to write. Creating tables and charts of practical data, such as meal choices, class birthdays, pupils' family pets.	Including some good quality books in the class library about dealing with worries and managing emotions. Teaching pupils to use talk partners to plan their work and to give constructive feedback to each other. Ensuring that teachers have the opportunity to give feedback during pupils' independent working time. Teaching pupils how to give constructive feedback.	Providing plenty of opportunity for talk in the classroom, including methods such as think, pair, share and group discussions. Providing opportunities for drama activities and role play. Planning, designing, modelling, and scaffolding talk in the classroom. Teaching a second or further language, orally for at least the first three years before moving on to literacy. Focusing on familiar vocabulary, but also telling simple stories and singing songs. Building a class learning community, for example, by greeting each child individually at the beginning of the day. Developing your class values instead of rules together, so pupils feel invested. Having a structured meeting time with the whole class where good communication practice is taught, modelled, and learned. Having whole-class collaborative projects, such as large art projects, class gardens, class books, celebrations, festivals. Establishing a classroom culture, based on a researched framework, for dealing with conflict, using methods such as non-violent communication, restorative justice, social emotional learning programmes. Teaching collaborative group games, both physical and academic, such as maths games.

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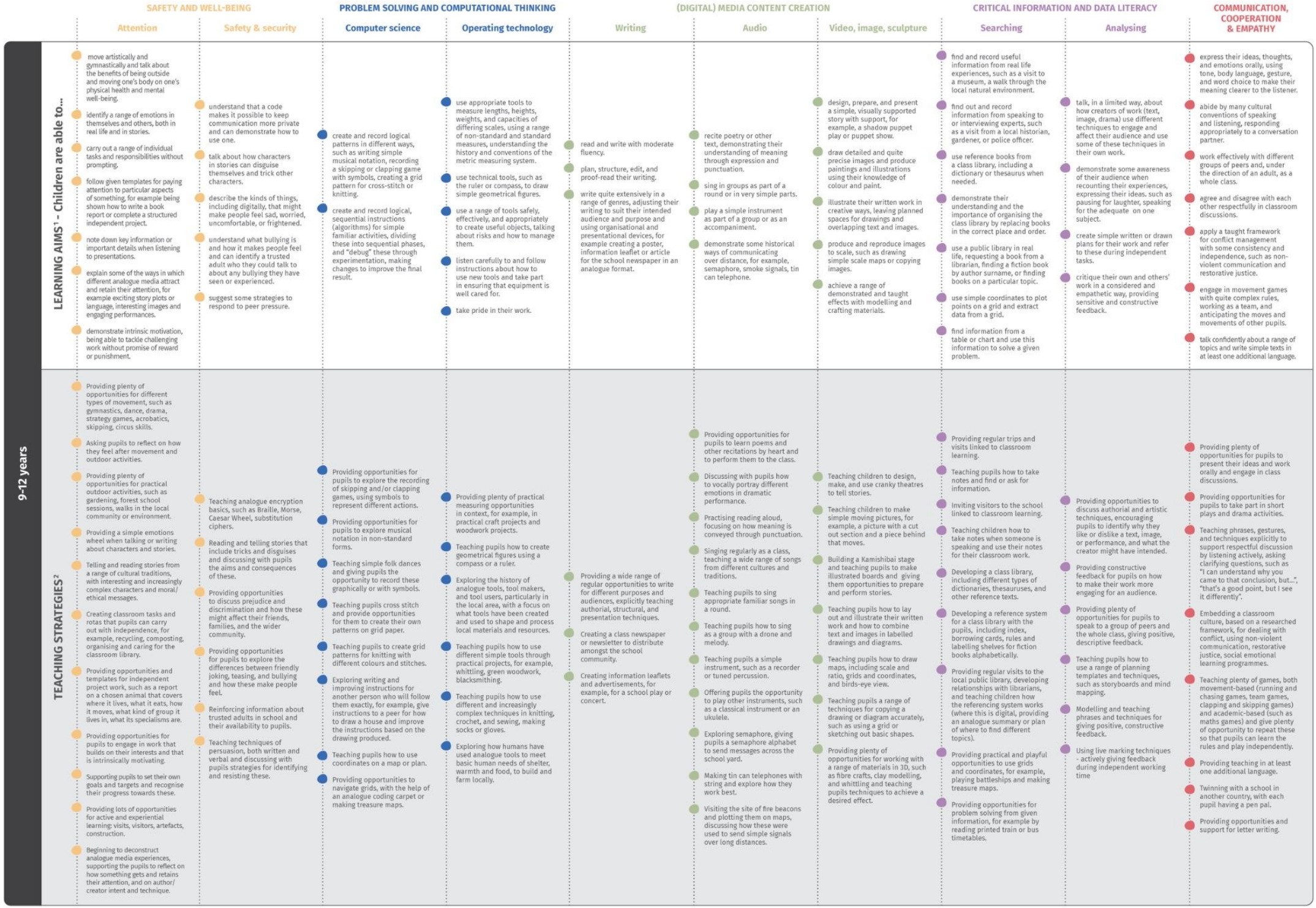

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12-15 years

	SAFETY AND WELL-BEING		PROBLEM SOLVING AND COMPUTATIONAL THINKING		(DIGITAL) MEDIA CONTENT CREATION			CRITICAL INFORMATION AND DATA LITERACY		COMMUNICATION, COOPERATION & EMPATHY
	Attention	Safety & security	Computer science	Operating technology	Writing	Audio	Video, image, sculpture	Searching	Analysing	
LEARNING AIMS[1] - Children are able to...	relax and have fun with groups of peers and take part in a number of social activities. eat and sleep well for the most part and engage in some form of regular movement and exercise that they enjoy. begin to express their sense of identity, for example, through preferences in clothing, music, activities. name at least one trusted adult at school who they could talk to or go to for support. demonstrate curiosity when presented with a question and are motivated to search for answers. describe a number of mechanisms through which their attention is gained or directed by both analogue and digital media, including gamification and reward schedules. know some of the signs of internet and gaming addiction and can reflect on their own choice and use of analogue and digital media. know that their attention is bought by advertisers in different ways, in magazines and newspapers, advertising hoardings, on television and radio. know the school's regulations around phone and computer use and can explain the reasons for these.	log on to a desktop computer with an individual password. know how to keep their password confidential and secure and how to adjust their privacy and security settings in a browser. talk about how they and other people might behave in online spaces including, for example, anonymity and disinhibition, impersonation, cyber-bullying. describe some behaviours that are illegal and how to report these, including the distribution of certain images of the human body and other unethical behaviours. identify that some advice found online might be harmful.	have an understanding of the history of computing and social networks. demonstrate their understanding of computational and technological thinking in both analogue and simple digital contexts, including tinkering, debugging, logic, algorithms, systems thinking, and problem finding and solving. understand digitalisation, including bits and bytes and image compression and the binary system. describe the journey of data through the internet. build, programme, and use simple robots.	use a word processing programme, typing with all ten fingers. use technical tools, such as a ruler or compass, to create accurate geometrical figures. describe and use within simple practical projects the principles of levers, pulleys, and gears. describe the qualities of materials that make them suitable for a specific use within a project. build circuits and illustrate diagrammatically the nature of electrical current within them. describe and illustrate the nature of sound as vibration and how sound can be amplified through analogue and digital technology, for example a megaphone or a loudspeaker.	create both analogue and digital texts for an audience and/or purpose, using different stylistic registers, such as text aimed at younger children, persuasive writing, creative writing, advertisements, invitations. produce written projects in analogue and digital formats, such as reports, short essays. organise space on paper or within a word processing programme, arranging text and images.	write, prepare, perform, and record simple audio documentaries, dramas, or podcasts, first on tape and then with digital devices. write, prepare, record, and edit an audio track for a video or drama production.	use colour and shading in sophisticated ways, for example in chiaroscuro drawings. use a range of printing methods, such as linocut, etching, engraving, and can produce paper and handmade books. describe, explain, and demonstrate how a camera obscura functions and are beginning to understand the basics of photography, such as composition, shutter speed, aperture, and focusing. create effective flip books and/or magic lantern/zoetrope animations and can use basic techniques to edit short videos. create 3D artefacts using a range of techniques, such as woodwork, copper beating, basket making, macrame, modelling.	use analogue archives for research purposes, in local museum archives, libraries, local church records. demonstrate their understanding of using the internet for research, including how to find information quickly and effectively, how search engines work, refining search phrases using AND, "", using menus, breadcrumb-trails, site maps. define "copyright" and describe ways in which these laws apply to commercial and their own online content. collect, record, understand, and represent data in a wide range of ways, for example, tables, graphs, charts, diagrams, pictograms, and spreadsheets.	talk about how to judge the validity of information. describe how media content can be designed to influence thoughts and beliefs, how something is or can become fake news, how algorithms affect the information that we are presented with online, and the "echo chamber" effect. aware of how digital images can be manipulated or created. reflect on their qualities and actions and demonstrate that they can use their reflections to effect a change in their behaviour, for example, by self-assessment of classroom work leading to improvement. discuss the actions that adults take to limit their time online and improve their safety and can explain why these things have been put in place, for example, parent filters, phones charged downstairs overnight, family phone-safe for mealtimes. demonstrate that they are able to monitor time spent online and can describe some strategies that they use to limit it. describe some of the pressures that might influence them to spend excessive amounts of time online, including peer pressure, FOMO (Fear Of Missing Out).	present their original work orally individually or as part of a group. take part in structured discussions and debates, following agreed conventions and rules. apply a taught framework for conflict management and disagreements reflectively, including non-violent communication and restorative justice. describe some rules of netiquette, explain what hate speech is, and recognise and/or challenge examples. give some examples of the advantages and disadvantages of digital rating systems, such as likes, retweets, crowdturfing, and how they might use and/or be affected by these. engage in games, sports, and other activities with complex rules and codes of conduct. have a good level of fluency and literacy in an additional language and can communicate with a pen pal through a long form digital media, such as email.
TEACHING STRATEGIES[2]	Ensuring that the school provides opportunities for extra-curricular, social activities, such as sports, music, and drama, plus festivals and celebrations. Ensuring that the school has a highly effective anti-bullying policy, including cyber-bullying, and a social and emotional learning curriculum. Providing plenty of opportunities for movement, not just in formal games and exercise, but also by gardening, nature walks, field trips. Considering regulations on school uniforms or dress codes and reflect on these with pupils. Ensuring that pupils are aware of a number of adults within the school, including teaching assistants, counsellors, pastoral care workers, etc., and how to approach them for support. Introducing teaching and learning activities with provocative questions and discussions to engage pupils' attention, such as "what would you do if...?", "I believe that...", "do you agree that I'm right?". Introducing pupils to the science of attention, for example, the power of variable reward schedules. Exploring some of the signs and symptoms of internet gaming disorder with pupils, asking them to reflect on when the use of devices becomes problematic. Deconstructing and "pedagogising" media experiences, using media experiences as a teaching tool, including advertisements, exploring the techniques used to gain and maintain attention. Using structures such as the school council to explore and discuss the school's regulations on mobile phones and other devices.	Teaching pupils how to log on to a desktop computer with individual usernames and passwords. Teaching them how to keep these details secure instead of sharing them with everyone. Teaching pupils how to select a browser, discussing how search engine rankings can be influenced. Teaching pupils how to adjust their privacy and security settings within a browser and why this is important. Using "barefoot" approaches to explore the impact of anonymity, for example, asking pupils to reflect on how differently they behave when anonymity is guaranteed, such as the difference between raising a hand to ask a question and an anonymous "question box". Exploring how people can pretend to be someone that they are not online, this can be done through "barefoot" approaches. Tasking pupils to create convincing advice leaflets that give poor or incorrect advice for non-serious problems or activities, such as writing bad recipes, going to hospital for a grazed knee, mending a broken chair.	Providing opportunities for pupils to explore "barefoot", "unplugged", or mechanical approaches to computational thinking, such as the Turing tumble, the Rube Goldberg machines, mechanical half adders. Teaching pupils to use logical operators such as NOT, AND, OR, IF...THEN to create a sequence of instructions, this can be done with pencil and paper before moving to screens. Teaching pupils to use a simple coding programme, for example, Scratch. Creating a "live computer", where pupils work as a class, performing different functions, such as using logical operators, packets, to process information resulting in text or a drawing on the black/white board. Tasking pupils to build and programme robots that can perform a simple movement.	Teaching pupils to use a word processing programme and having them use it to produce work within a range of subjects. Providing pupils with a high quality "touch typing" programme and plenty of opportunity to practise their emerging skills. Using this as an opportunity to discuss gamification - how this can be used to make a repetitive process seem fun. Providing opportunities to build simple machines using levers, pulleys, and gears, for example, within a Rube Goldberg machine. Teaching pupils basic concepts of electricity and providing opportunities for them to make practical objects using simple circuits, such as a doorbell, pressure sensitive alarm, or light-up greetings card. Providing opportunities to explore amplifying sound in different ways, by making simple megaphones and speakers.	Providing plenty of opportunities to write across the curriculum, for example, writing up science experiments, writing articles and reports for a school or class newspaper, writing persuasive emails, writing creative poetry or prose, designing a poster for a school event. Tasking pupils to write alternative texts on the same topic for different target groups. Exploring different digital platforms for organising text in different ways, for example, Padlet. Providing plenty of opportunities to explore layout, both on paper and digitally, to explore the placement of images, labels, and diagrams; how to make text readable or noticeable.	Tasking pupils to create their own audio productions on a given topic, exploring how to communicate meaning through dialogue, make a production engaging and effective, create sound effects. Providing opportunities to create audio tracks for other projects, such as a class or school play.	Teaching pupils a range of drawing, shading, and painting techniques and providing plenty of varied opportunities to practise. Teaching different printing techniques and task pupils with practical projects on which to use them, for example, producing greetings cards, invitations, t-shirts. Exploring producing and binding handmade paper using traditional techniques, such as stitching and leather work. Exploring camera obscura techniques with pupils, creating pinhole cameras or projecting an image across a room. Ensuring that pupils understand the mechanisms behind the images projected. Teaching different animation methods from simple flip books to more complex zoetropes. Exploring with pupils how to plan, for example by using a storyboard, draft, refine timings. Providing pupils with plenty of opportunities to engage in and develop skills in 3D crafts, preferably taught by skilled and experienced crafts people.	Taking pupils on field trips and visits to different information archives, such as birth, marriage, and death records, local historical archives. Teaching pupils to use a number of internet search engines, discussing the pros and cons of each. Exploring how to refine searches using a range of techniques. Exploring with pupils how copyright and data laws apply to commercial content and how these laws are being broken, for example, illegal streaming, pirate sites, peer-to-peer sharing. Exploring with pupils how their own content, uploaded to social media, websites and/or apps, might be used without permission. Providing plenty of opportunities to interpret and record data in a wide range of ways, allowing pupils to select an appropriate method.	Prompting discussions of the validity of retrieved information, by posing questions such as "I don't believe that that is true", "can you prove that...", "who do you think wrote this, and why?". Tasking pupils to critique, for example, Wikipedia entries. Providing plenty of opportunities for pupils to create their own content designed to influence the reader and discuss how successful this has been. Tasking pupils to be "fake news detectives", explore the differences between deliberate misinformation and mistakes, how to find trusted sources of information, and how to check validity. Exploring the impact of algorithms and how people can create a digital echo chamber. Providing opportunities for pupils to create and manipulate digital images and explore how to identify if an image has been manipulated. Reflecting on ideals of beauty and how these are presented in the media and advertising. Providing opportunities to discuss photoshopping of images and comparing original images to published ones. Providing plenty of opportunities for guided self-assessment and reflection and supporting pupils to create action points for further study. Introducing student-led conferences where pupils share a portfolio of their work with parents and teachers together, reflecting on their strengths and areas for development. Providing opportunities for pupils to discuss how parents should keep their teens safe and healthy, including creating a "pupil-parent charter". Tasking pupils to reflect on the time they spend online or using digital tools/media and to list strategies that they can use to limit use.	Tasking pupils to create individual and group presentations of their work across the curriculum. Teaching pupils structured formats for discussion, such as formal debates, Sapere (Philosophy for Children structure). Embedding a classroom culture, based on a researched framework, for dealing with conflict, using non-violent communication, restorative justice, social emotional learning programmes. Tasking pupils to create netiquette guides for online and offline interactions, such as not checking your phone when in a face-to-face conversation, reading first then asking, grammar, spelling and punctuation in short text messages, use of x and emojis, trolling. Exploring how digital rating systems work and can be manipulated. Exploring the advantages and disadvantages of "viral" posts. Providing plenty of opportunities for pupils to engage in games, sports, and activities of all kinds, for example trying new activities like rock climbing or golf, and non-sport games, like dungeons and dragons. Providing sufficient teaching for pupils to develop an additional language to a good level. Creating links with another school where pupils can have pen pals (on paper or digitally) who they write to in an additional language. Organising a school exchange visit, where pupils visit and host their pen pal.

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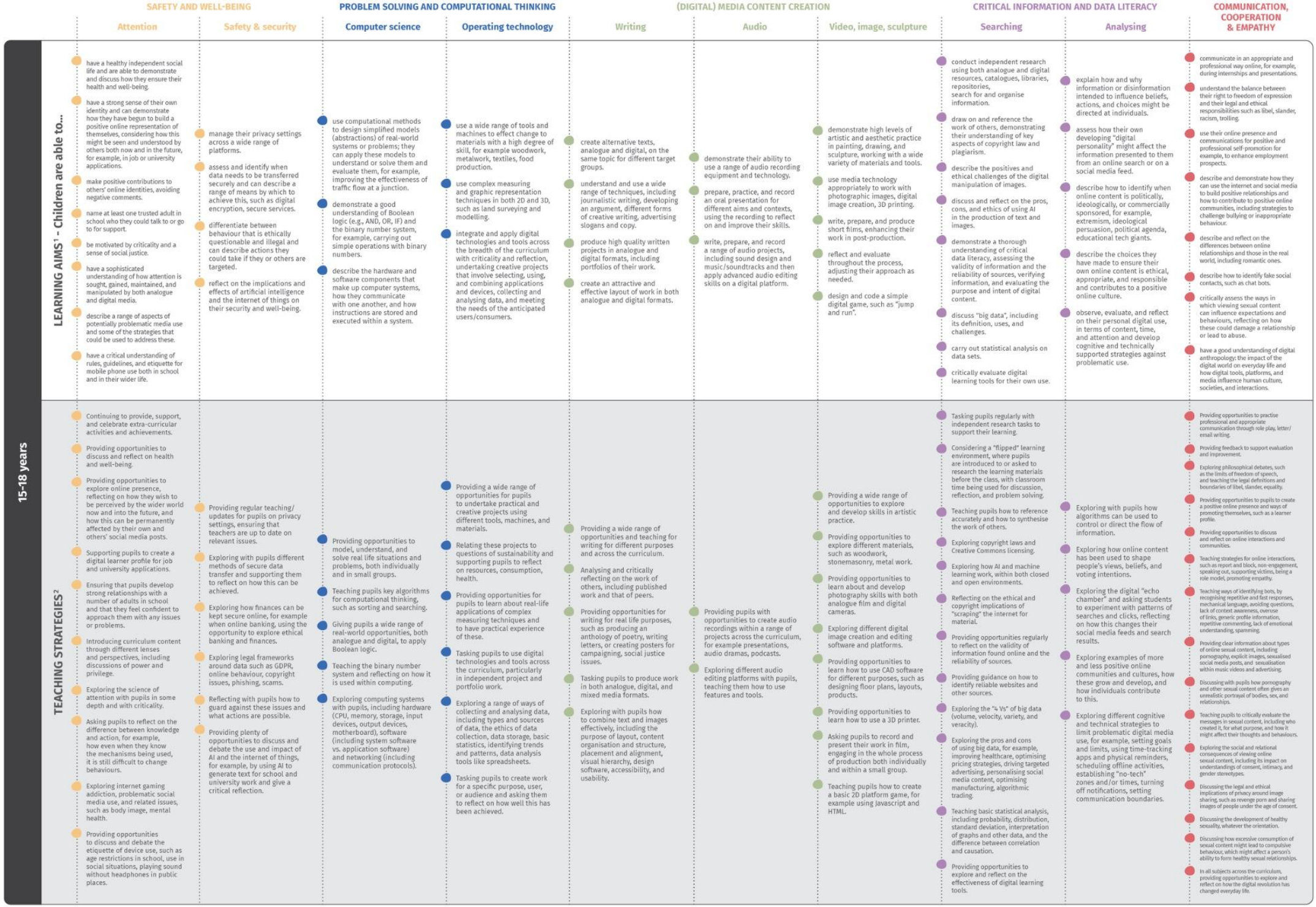

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