Cycle A marking ladders

Nursery Cycle B marking ladders

Technology		
I know		
the basic parts of a computer		
how to use the computer safely		
I Can		
explore and operate simple equipment (remote control cars/torches/CD player)		
explore touch-capable technology (iPads)		
turn the computer on		
begin to explore how to use the computer		
use age appropriate computer software		
complete a simple program on a computer		

EYFS Cycle B marking ladders

Technology		
I know		
the basic parts of a computer		
how to use the computer safely		
I Can		
explore and operate simple equipment (remote control cars/torches/CD player)		
explore touch-capable technology (iPads)		
turn the computer on		
begin to explore how to use the computer		
use age appropriate computer software		
complete a simple program on a computer		
create content such as a video recording, stories, and/or draw a picture on screen		
develop digital literacy skills by being able to access, understand and interact with a range of technologies		
use the internet with adult supervision to find and retrieve information of interest to them		

KS1 Cycle B marking ladders

Technology around us		
I know		
different types of computers used in school		
that a computer is part of information technology		
the features of information technology		
about the uses of information technology		
how rules for using information technology can help us		
how information technology benefits us		
that choices are made when using information technology		
I Can		
describe some uses of computers		
identify information technology in school		
identify information technology beyond school		
show how to use information technology safely		

Creating media- digital photography		
I know		
that some digital devices can capture images using a camera		
about how to take a photograph		
that photographs can be saved and viewed later		
to make choices when composing my photography		
to recognise features of 'good' photography		
how a photograph could be improved		
that photographs can be changed after they have been taken		
that some images are not accurate		
I Can		
capture of digital image		
take photographs in both landscape and portrait format		
view photographs on a digital device		
decide which photographs to keep		
hold the camera still to take a clear photograph		
use zoom to change the composition of a photograph		
consider lighting before taking a photograph		
use filters to edit the appearance of a photography		
improve a photograph by retaking it		

Creating media- making music		
I know		
that computers can be used to play sounds of different instruments		
that the same pattern can be represented in different ways		
I Can		
compare playing music on instruments with making music on a computer		
experiment with musical patterns on a computer		
experiment with different sounds on a computer		
use a computer to create a musical pattern		
use a computer to compose a rhythm and a melody on a given theme		
use a computer to play the same music in different ways (eg tempo)		
evaluate a musical composition created on a computer		
improve a musical composition created on a computer		

Data and information- pictograms		
I know		
a tally chart is used to collect data		
how to compare objects that have been grouped by attribute		
to suggest appropriate headings for tally charts and pictograms		
to construct (complete) a given comparison question (eg are there more ___ balls than ___ balls?)		
to use a computer program to present information in different ways		
how to explain that we can present information using a computer		
to give simple examples of why some information should not be shared		
I Can		
show i can enter data onto a computer		
recognise that people, animals and objects can be described by attributes		
use a computer to view data in different formats		
use pictograms to answer single-attribute questions		
use a computer to answer comparison questions (graphs, tables)		

Programming A- robot algorithms		
I know		
that a series of instructions is a sequence		
what happens when we change the order of instructions		
that a series of instructions can be issues before they are enacted		

that you can predict the outcome of the program		
I Can		
choose a series of words that can be enacted as a sequence		
choose a series of instructions that can be run as a program		
create a program		
trace a sequence to make a prediction		
run a program on a device		
debug a program that I have written		

Programming B- programming quizzes		
I know		
a series of instructions as a 'sequence'		
that a series of instructions can be issues before they are enacted		
to use logical reasoning to predict the outcome of a program		
I Can		
choose a series of words that can be enacted as a sequence		
explain what happens when we change the order of instructions		
choose a series of commands that can be run as a program		
trace a sequence to make a prediction		
test a prediction by running the sequence		
create and debug a program that I have written		
run a program on a device		

LKS2 Cycle B marking ladders

Computer systems and networks- the internet		
I know		
how networks connect to other networks		
how information can be shared via the world wide web		
that the world wide web is part of the internet		
that the global interconnection of networks is the internet		
the need for security on the internet		
how to access the world wide web		
the types of content/media that can be added, created, and shared on the world wide web		
how the content of the world wide web is created, owned, and shared by people		
that the internet enables us to view the world wide web		
that the world wide web comprises of websites and web pages		
the current limitations of world wide web media		
how to evaluate the reliability of content and the consequences of unreliable content		
the benefits of the world wide web		
I Can		

Creating media- audio production		
I know		
that sound can be recorded		
that an input device is needed to record sound		
that output devices are needed to play audio		
that recorded audio can be stored on a computer		
that audio can be edited		
that sound can be represented visually as a waveform		
that audio can be layered so that multiple sounds can be played at the same time		
to consider the results of editing choices made		
I Can		
record sound using a computer		
play recorded audio		
import audio into a project		
delete a section of audio		
change the volume of tracks in a project		

Creating media- photo editing		
I know		
that digital images can be manipulated		
that digital images can be changed for different purposes		
the most appropriate tool for a particular purpose		
the impact of changes made on the quality of the image		
I Can		
use an application to change the whole of a digital image		
use an application to change part of a digital image		
use an application to add to the composition of a digital image		
change the composition of a digital image by rotating and flipping		
change the composition of a digital image by cropping		
adjust colours of a digital image		
apply filters to a digital image		
apply effects to a digital image		
select part of a digital image		
use clone, copy, and paste to change the composition of a digital image		
use cloning to retouch a digital image		
add text to a digital image		

Data and information- data logging		
I know		
to suggest questions that can be answered using a table of data		
data that can be logged over time		
that sensors are input devices		
that a sensor can be used as an input device for data collection		
that a data logger captures 'data points' from sensors over time		
I Can		
use a digital device to collect data automatically		
choose how often to automatically collect data samples		
use a set of logged data to find information		
use a computer program to sort data by one attribute		
export information in different formats		

Programming A- sequence in music		
I know		
what 'repeat' means		
everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves		
that we can use a loop command in a program to repeat instructions		
how to identify patterns in a sequence		
how to identify a loop within a program		
that in programming there are indefinite loops and count-controlled loops		
that an indefinite loop will run until the program is stopped		
that you can program a loop to stop after a specific number of times		
patterns in a sequence, eg 'step 3 times' means the same as 'step, step, step'		
when to use a loop and when not to		
the importance of instruction order in a loop		
that not all tools enable more than one process to be run at once		
I Can		
list an everyday task as a set of instructions including repetition		
use an indefinite loop to produce a given outcome		
use a count-controlled loop to produce a given outcome		
plan a program that includes appropriate loops to produce a given outcome		
recognise tools that enable more than one process to be run at the same time (concurrency)		
create two or more sequences that run at the same time		

Programming B- repetition in games		
I know		
what 'repeat' means		
everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves		
we can use a loop command in a program to repeat instructions		
how to identify patterns in a sequence		
how to identify a loop within a program		
that in programming there are indefinite loops and count-controlled loops		
that an indefinite loop will run until the program is stopped		
that you can program a loop to stop after a specific number of times		
patterns in a sequence, eg 'step 3 times' means the same as 'step, step, step'		
to justify when to use a loop and when not to		
the importance of instruction order in a loop		
to recognise that not all tools enable more than one process to be run at once		
I Can		
list an everyday task as a set of instructions including repetition		
use an indefinite loop to produce a given outcome		
use a count-controlled loop to produce a given outcome		

plan a program that includes appropriate loops to produce a given outcome		
recognise tools that enable more than one process to be run at the same time (concurrency)		
create two or more sequences that run at the same time		

UKS2 Cycle B marking ladders

Computer systems and networks- communication and collaboration		
I know		
that data is transferred across networks using agreed protocols (methods)		
that connections between computers allow access to shared stored files		
that data is transferred in packets		
computers connected to the internet allow people in different places to work together		
the opportunities that technology offers for communication and collaboration		
which types of media can be shared through the internet		
that communicating and collaboration using the internet can be public or private		
I Can		
outline methods of communicating and collaborating using the internet		
choose methods of internet communication and collaboration for given purposes		
evaluate different methods of online communication and collaboration		
decide what you should and should not share online		

Creating media- webpage creation		
I know		
the relationship between html and visual display		
that web pages can contain different media types		
that web pages are written by people		
that a website is a set of hyperlinked web pages		
components of a web page layout		
to consider the ownership and use of images (copyright)		
the need to preview pages (different screens / devices)		
the need for a navigation path		
the implications of linking to content owned by other		
I Can		
review an existing website (navigation bars, header)		
create a new blank web page		
add text to a web page		
set the style of text on a web page		
change the appearance of text		
embed media in a web page		
add web pages to a website		
preview a web page (different screen sizes)		

insert hyperlinks between pages		
insert hyperlinks to another site		

Creating media- 3D modelling		
I know		
that 3d models can be created on a computer		
that a 3d environment can be viewed from different perspectives		
that digital tools can be used to manipulate 3d objects		
how placeholders can create holes in 3d objects		
that artefacts can be broken down into a collection of 3d objects		
I Can		
position 3d shapes relative to one another		
use digital tools to modify 3d objects		
combine objects to create a 3d digital artefact		
use digital tools to accurately size 3d objects		
construct a 3d model which reflects a real world object		

Data and information- introduction to spreadsheets		
I know		
how to identify questions that can be answered using spreadsheet data		
what an item of data is in a spreadsheet		
to outline that there are different software tools to work with data		
to explain how the data type determines how a spreadsheet can process the data		
to explain that formulas can be used to produce calculated data		
to recognise cells can be linked		
to explain why data should be organised in a spreadsheet		
to recognise that a cell's value automatically updates when the value in a linked cell is changed		
to evaluate results in comparison to the question asked		
I Can		
calculate data using a formula for each operation		
use functions to create new data		
use existing cells within a formula		
choose suitable ways to present spreadsheet data		

Programming A- variables in games		
I know		
a 'variable' as something that is changeable		
examples of information that is variable, for example, a football score during a match		
that a variable can be used in a program, eg 'score'		
a program variable as a placeholder in memory for a single value		
that a variable has a name and a value		
that the value of a variable can be used by a program		
that the value of a variable can be updated		
that variables can hold numbers (integers) or letters (strings)		
the way that a variable is changed		
that a variable can be set as a constant (fixed value)		
the importance of setting up a variable at the start of a program (initialisation)		
that there is only one value for a variable at any one time		
that if you change the value of a variable, you cannot access the previous value (cannot undo)		
that if you read a variable, the value remains		
that the name of a variable is meaningless to the computer		
that the name of a variable needs to be unique		
I Can		
identify a variable in an existing program		
experiment with the value of an existing variable		
choose a name that identifies the role of a variable to make it easier for humans to understand it		
decide where in a program to set a variable		
update a variable with a user input		
use an event in a program to update a variable		
use a variable in a conditional statement to control the flow of a program		
use the same variable in more than one location in a program		

Programming B- sensing movement		
I know		
a 'variable' as something that is changeable		
examples of information that is variable, for example, a football score during a match		
that a variable can be used in a program, eg 'score'		
a program variable as a placeholder in memory for a single value		
that a variable has a name and a value		
that the value of a variable can be used by a program		
that the value of a variable can be updated		
that variables can hold numbers (integers) or letters (strings)		
the way that a variable is changed		
that a variable can be set as a constant (fixed value)		

the importance of setting up a variable at the start of a program (initialisation)		
that there is only one value for a variable at any one time		
that if you change the value of a variable, you cannot access the previous value (cannot undo)		
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