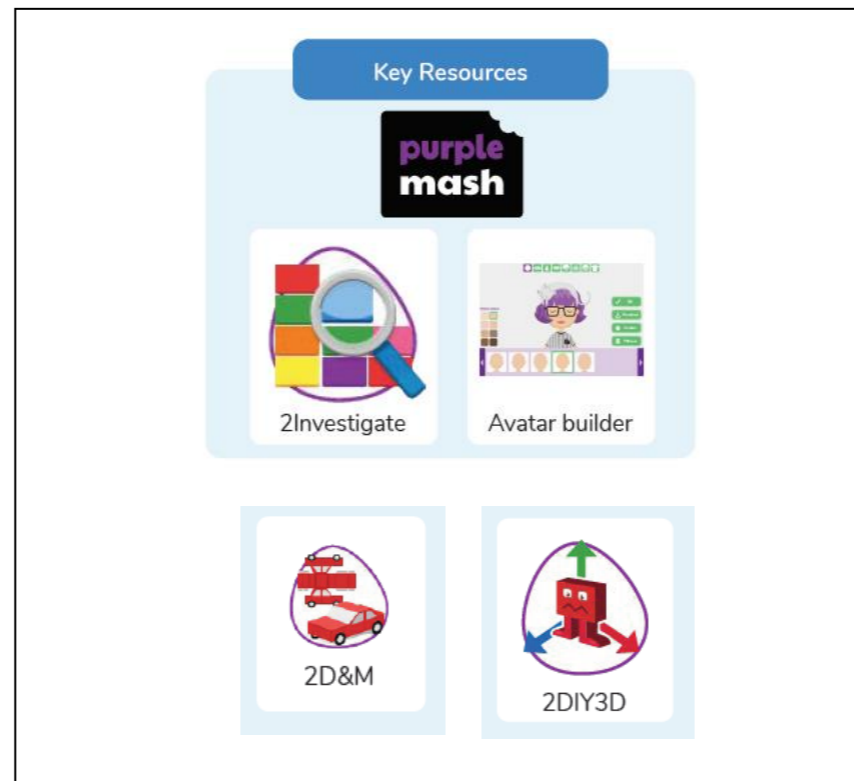


COMPUTING – YEAR 5/6 KNOWLEDGE ORGANISER

What I should already know:

- Design and write programs to achieve specific goals, including solving problems.
- Use logical reasoning.
- Understand computer networks.
- Collect and present data appropriately.
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.



What I will learn by the end of the units:

- To learn how to search for information in a database.
- To contribute to a class database.
- To create a database around a chosen topic.

- To plan a game.
- To design and create the game environment.
- To design and create the game quest.
- To finish and share the game.
- To self and peer evaluate.

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

What I will know by the end of the Key Stage:

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.



COMPUTING – YEAR 5/6 KNOWLEDGE ORGANISER

Key Vocabulary

- Avatar** An icon or figure representing a person in a video game, Internet forum, etc.
- Chart** A diagram that represents data. Charts include graphs and other diagrams such as pie charts or flowcharts.
- Collaborative** Produced by, or involving, two or more parties working together.
- Data** A collection of information, especially facts or numbers, obtained by observation, questions or measurement.
- Database** A set of data that can be held in a computer in a format that can be searched and sorted for information.
- Field** A heading in a database record against which information is entered.
- Group** Putting similar pieces of information together in a database so it is easy to read, understand and interpret.
- Database Report** A way of producing a written paragraph that incorporates the data from the fields and records of the database.
- Sort** Organising data by a rule such as alphabetical or numerical.
- Search** A way of finding information.
- Arrange** Sorting information in order against a search request.
- Record** A collection of data about one item entered into a database.
- Statistics** The study and manipulation of data, including ways to gather, review, analyse, and draw conclusions from data.
- Evaluation** To critically examine a program.
- Feedback** In this case, share information with the creator about how the game could be improved.
- Image** In this case, a picture displayed on the computer screen.
- Instructions** Detailed information about how something should be done or operated.
- Promotion** The publicising of a product, in this case a game, so as to increase sales or public awareness.
- Quest** To find or do something.
- Scene** The place where an incident in real life or fiction occurs or occurred.
- Screenshot** An image of the data displayed on the screen of a computer or mobile device.
- Texture** High frequency detail or colour information on a computer-generated graphic.
- Theme** In this case, the subject of the game
- 2D** Something that has only two dimensions; height and width.
- 3D** Something that has three dimensions; height, width and depth.
- Net** What a 3D shape would look like if it was unfolded and opened out flat.
- Design Brief** A document for a design project, defining the core details, including the goal and strategy.
- Pattern Fill** A tool where you can add a customised repeating pattern to the surface of the net.
- Points** The points on a 3D net which create the corners of the 3D shape.
- Template** Something that serves as a model for others to copy and edit.

Key Questions

What is a database?

A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers.

Why is the collaborative feature important?

Making a database collaborative allows lots of people to enter information into the database at the same time. This is a lot quicker than one person entering the data by themselves.

In what ways can I sort information in a database?

A database can hold lots of information so it is essential that information can be effectively investigated. In 2Investigate, data can be searched and sorted in a variety of ways. It can also be presented pictorially.

What is the 2DIY3D tool on Purple Mash?

2DIY 3D allows users to create a playing area, such as a maze, in 2D and then turn it into a 3D computer game. The aim is to avoid the 'baddies' and collect 'treasure'.

What makes a good computer game?

A good game designer gives the player continuous challenges in a visually stimulating environment, each of which leads to another challenge, to keep the game challenging and fun.

Why is it important to continually evaluate your game?

Evaluating your game as you make it allows you to think about ways in which it can be improved. Evaluation may also involve the views of other people who play your game.

What are the different view of an object available in 2Design and Make?

Net, Points and 3D.

How can the objects designed in 2Design and Make be turned into 3D objects? You can print the net and then cut and fold this into shape or you can convert the file into a format recognised by 3D printers.

How is CAD software used in industry? Give some examples.

It is used to design 3D objects in a 2D environment.

Some examples are; Architectural plans for buildings; designing layouts for interiors; designing objects such as packaging and designing mechanical components; designing shoes and clothing.