

YEAR 9 FOOD & NUTRITION:

SPRING TERM TOPICS

Students prepare a range of international dishes which reflect a different country or culture, whilst developing more complex practical skills. Students will learn about:

- Using sensory charts to evaluate dishes
- Time plan sequence for practical lessons
- Identifying and analysing nutritional values of dishes
- Type of vegetarian diets and reasons for choice
- Versatility and structure of eggs
- Costing recipes
- Methods of cooking & heat transference

YEAR 9 PRODUCT DESIGN:

SPRING TERM TOPICS

Product Design – Colour Changing Mood Lights: Students will design and make a 'high tech' colour changing mood light, which is powered by a USB cable.

Students learn:

- A range of plastic manufacturing processes including laser cutting/engraving
- Construction of an electronic circuit
- Standard wood construction techniques
- Standard dimensions
- Computer Aided Design & Manufacture
- Environmental issues including the 6R's & plastic pollution
- Research on high tech companies

YEAR 9 TEXTILES:

SPRING TERM TOPIC 1: Pencil case:

- Students research repeat patterns and produce their own repeat pattern printed fabric
- They use the fabric to construct a pencil case which includes skills such as inserting a zip
- Finally, they will find out about Smart and Modern materials

SPRING TERM TOPICS 2: Core Design Skills

- Students learn about fashion design and illustration as well as the use of Smart and Modern materials through a mix of theory and hands-on-practical lessons

YEAR 9 COMPUTING: SPRING TERM TOPICS

Computing -Term 2

Students develop a business identity, house style etc and learn how to make effective use of a variety of standard business software apps such as word processing and spreadsheets - skills they will learn are:

- Give examples of how computer models are used in the real world
- Format a simple spreadsheet model
- Use simple formulae and functions
- Name cells in a spreadsheet model
- Use a simple spreadsheet model to explore different “what if” scenarios
- Create a basic pie chart to display results
- Format, construct and manipulate a simple spreadsheet model using formulae
- Use conditional functions in calculations
- Use conditional formatting
- Use a spreadsheet model to predict and test the outcomes for different scenarios

Computing -Term 3: Understanding AI

- Understand the origin and uses of AI
- Understand how rules are used in AI decision making
- Understand what ethics is
- Consider some simple ethical hypothetical problems
- Understand how intelligence can be measured in humans and computers
- Know what the Turing test is and how it works
- Investigate the rules needed to solve problems including:
 - Navigation of a maze or road
- Understand the difference between facts and rules
- Describe uses of machine learning
- Use training data to create rules that solve problems of categorising data
- Understand and discuss ethical issues as they relate to AI
- Understand how jobs can be affected by AI and automation
- Understand issues that make facial recognition difficult
- Understand how images are stored as binary data
- Describe a technique for detecting patterns in a grid of pixels
- Review program code and adapt it to detect given shapes

3D Printing:

- Students will learn how to use Tinkercad, a free and open-source 3D computer graphics software used for 3D printing, coding and electronics. Students will be learning how to:
- Create patterns by using the “Repeat” block and “Count with” block
- Create patterns using variables/objects and math blocks
- Create at least one linear, gridded, or radial pattern
- Create an animated GIF for each pattern
- Create shapes for each pattern so that they can be used in the 3D editor