

St Bede's Catholic Voluntary Academy

KS3 Age Related Expectations

Department: Computing

Year Group: 9

Working Towards	Working At	Working Beyond
Term 1 – Computer Science – - Define the terms “Artificial Intelligence” and “Machine Learning”. - Define what “AI safety” is. - Describe what Machine Learning is. - Identify multiple AI software's and platforms.	Term 1 – Computer Science – - Describe how “Machine learning” (AI) is used in our modern society today. - Describe how Machine Learning works in relation to data including personal data. - Describe potential positive future impacts and challenges it may pose. - Describe multiple best practices to use Machine Learning based platforms efficiently and safely. - Describe how to spot false images and information generated by Machine Learning.	Term 1 – Computer Science – - Explain how the rule of law including GDPR applies to machine learning and machine learning generated online content. - Explain how to use and apply effective “prompt engineering” practices. - Explain how “machine learning” is impacting the national labour markets and economy.



Term 2 - Digital Citizenship – • Define multiple the key terms linked to Cyber Security. • Identify multiple examples of Cyber threats. • Identify multiple best practices in Cyber Security. Term 3 – Computer Science - • Define what “Data Science” is. • Understand some basic Microsoft Excel practices. (Eg; SUM Function). • Identify examples of Data Science been used in our modern society today.	Term 2 - Digital Citizenship – • Describe what Cyber Security is and how and why it is practiced in our modern society today. • Describe multiple types of Cyber-attacks and their impacts on various stakeholders. • Describe and apply multiple best practices in personal and corporate Cyber Security. Term 3 – Computer Science – • Describe what “Data Science” is and why it is important in our modern society. • Describe what a “data set” is and how it works. • Describe how to use data sets in Microsoft Excel and apply best practices.	Term 2 - Digital Citizenship • Explain how individuals and organisations can protect themselves through planning. • Evaluate the most effective responses to Cyber-attacks using case studies. Term 3 – Computer Science – • Explain what other platforms including “Microsoft Power BI” can be used to perform Data Science tasks. • Explain what the benefits of Data Science are to wider society.
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Term 4 – Computer Science – • Describe what a loop is and apply it using Python code. • Describe what a list is and apply it using Python code. • Describe what string manipulation is and apply it using Python code. • Describe what a sequence is and apply it using Python code. Term 5 – Information Technology • Identify different graphic file formats. • Describe the differences between different graphic file types. • Identify different graphics editing platforms and describe what they are used for.	Term 4 – Computer Science – • Describe how Python coding can interact with computing hardware. • Describe and apply the coding process required to programme physical hardware with Python. (Eg: Raspberry Pi) • To successfully program a set routine in Python for a physical piece of hardware. Term 5 – Information Technology • Describe what use each graphics file type is best suited to. • Describe how to use multiple graphics creation and editing platforms. • Describe what each graphics editing platform is best suited to. • Successfully create a custom set of graphics file/s for a set scenario brief.	Term 4 – Computer Science – • Explain how to debug Python coding errors within detected within a hardware's relative programming. • Design a Python based programme to be applied to hardware for a real-world scenario. Term 5 – Information Technology • Explain how different graphics formats are used in industry. • Evaluate the use of graphics editing software's in set scenarios.
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Term 6 – Information Technology • Identify different audio file formats. • Describe the differences between different audio file types. • Identify different audio editing platforms and describe what they are used for.	Term 6 – Information Technology • Describe what use each audio file type is best suited to. • Describe how to use multiple audio editing platforms. • Describe what each audio editing platform is best suited to. • Successfully create a custom audio file/s for a set scenario brief.	Term 6 – Information Technology • Explain how different audio formats are used in industry. • Evaluate the use of audio editing software's in set scenarios.
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