Mystery Wreck Teaching Pack
Content outline and Guide to curriculum links

Identifying the Mystery Wreck is a cross-curricular resource. While primarily developed with Key Stage 3 pupils in mind, it can be easily adapted to suit both younger and older age groups.

Pupils can work through the pack independently in the classroom, as part of a homework assignment or in an after-school context.

The "Mystery Wreck" is a wooden shipwreck lying in a licensed dredging area in the Eastern Solent. Diving work undertaken by MAT between 2004 and 2007 had revealed a site split into two large sections, each measuring over 20m in length and lying over 35m apart. Survey, recovered artefacts, and samples were potentially indicating a late 18th century or early 19th century date with several features appearing earlier than this, suggesting potential refitting. Although the site is not in a current active dredge area, it is within the aggregate license area 122/2 and has been provided an exclusion zone for protection. Due to the urgent need to determine the date and identity of the vessel to help determine its archaeological significance and develop sustainable long-term monitoring and management of the site, funding from the Aggregate Levy Sustainability Fund, distributed by English Heritage, was awarded for this project.

The wreck was eventually identified as the *Flower of Ugie*. It was an English barque built in 1838 in Sunderland. In 1851 it was refitted with felt and yellow metal (i.e., Muntz metal) and was carrying a cargo of coal to Cartegena in Spain when it was abandoned and sank due to the "stress of weather" in 1852, while anchored near the Horse Sand.

This resource consists of four sections that can be taught separately and independently from one another:
**Section 1**, Locating the shipwreck (pages 2-12)
Section 2, Collecting the clues (pages 13-24)
Section 3, History in action (pages 25-27)
Section 4, They mystery is solved (pages 28-29) and The Aggregate Levy Sustainability Fund (page 30-34)

In Section 1 pupils will start learning about the Mystery Wreck as well as become familiar with archaeological research methods. In Section 2 they will be given all the information needed to identify the wreck. In Section 3 they will use this information to identify the Mystery Wreck using English Heritage's online database of archaeological and historical record (Heritage Gateway). In Section 4 pupils will be given the tools to learn more about the *Flower of Ugie*; they will also be taught about the Aggregate Levy Sustainability Fund.

For teachers' convenience, a number of downloads have been created for use in classroom sessions. This includes tables and question sheets (for completion) as well as answer sheets. Links to the National curriculum appear on the side of each page and are further explained in the following table.

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	02		MATHS (Ratio)	Mathematics	Subject content	Ration, proportion and rates of change	Use scale factors, scale diagrams and maps	Locate the Mystery Wreck on the map
			SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	Relationships in an ecosystem: How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Seabed obstructions and problems to the fishing industry
			GEOGRAPHY (Maps)	Geography	Subject content	Geographical skills and fieldwork	Build on their knowledge of globes, maps and atlases and apply and develop this knowledge routinely in the classroom and in the field	Locate the Mystery Wreck on the map
			HISTORY (Local history)	History	Subject content	A local history study	N/A	Location of the Mystery Wreck in the Solent
	03		SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	Relationships in an ecosystem: How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	a. Importance of the seas for the Nation b. Types of activities in the sea
			COMPUTING (Computational thinking)	Computing	a. Purpose of study b. Subject content	N/A	a. Use computational thinking and creativity to understand and change the world b. Understand several key algorithms that reflect computational thinking	Analysis of the marine traffic possessing the Mystery Wreck site today

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	03	GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	^ […] economic activity in the primary, secondary, tertiary and quaternary sectors […] ^ Understand how human and physical processes interact to influence, and change landscapes, environments and the climate	Activities around the Mystery Wreck
	04	COMPUTING (Models)	Computing	Subject content	N/A	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems	Interpret the set of points
		GEOGRAPHY (GIS)	Geography	Subject content	Geographical skills and fieldwork	Use Geographical Information Systems (GIS) to view, analyse and interpret places and data	Tools of the trade: GIS
	05	SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	Relationships in an ecosystem How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Activities around the Mystery Wreck
		COMPUTING (Digital artefacts)	Computing	Subject content	N/A	Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	^ Interpretation of the set of points ^ Re-using and revising the data concerning Wrecks and Obstructions

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	05	GEOGRAPHY (GIS)	Geography	Subject content	Geographical skills and fieldwork	Use Geographical Information Systems (GIS) to view, analyse and interpret places and data	Tools of the trade: GIS
	06	SCIENCE (Physics: Waves)	Science	Physics	Waves	Sound waves	Types of geophysical survey
		COMPUTING (Models)	Computing	Subject content	N/A	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems	Looking at side scan images
		DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Investigate new and emerging technologies	Tools of the trade
	07	SCIENCE (Physics: Waves)	Science	Physics	Waves	Sound waves	Types of geophysical surveys
		COMPUTING (Information technology, Models, Use of data)	Computing	a. Purpose of study b., c. Subject content	N/A	a. […] use information technology to create programs, systems and a range of content a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems c. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known user	a., c. Research the *Alex van Opstal* b. "Reading" the images and finding the *Alex van Opstal*

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	07	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Investigate new and emerging technologies	Tools of the trade
		HISTORY (1901-present)	History	Subject content	Challenges for Britain, Europe and the wider world 1901 to the present day	N/A	*Alex van Opstal*
	08	SCIENCE (Physics: Waves)	Science	Physics	Waves	Sound waves	Types of geophysical surveys
		GEOGRAPHY (GIS)	Geography	Subject content	Geographical skills and fieldwork	Use Geographical Information Systems (GIS) to view, analyse and interpret places and data	Using the Coastal Monitoring GIS to search for SS War Knight
		HISTORY (1901-present)	History	Subject content	Challenges for Britain, Europe and the wider world 1901 to the present day	N/A	SS *War Knight*
	09	MATHS (Ratio)	Mathematics	Subject content	Ration, proportion and rates of change	Use scale factors, scale diagrams and maps	*Site plan*
		COMPUTING (Information technology)	Computing	Purpose of study	N/A	[…] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […]	Learning about the diver's gear by comparing Marie Time's kit with the downloadable sheet describing it
		GEOGRAPHY (Maps)	Geography	Subject content	Geographical skills and fieldwork	Build on their knowledge of globes, maps and atlases and apply and develop this knowledge routinely in the classroom and in the field	Analyse the plan on the Mystery Wreck to look for the North arrow and scale

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	10		COMPUTING (Information technology, Use of data)	Computing	a. Purpose of study b. Subject content	N/A	a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Creation of 3D model
			DESIGN AND TECHNOLOGY (Make, Evaluate)	Design and technology	Subject content	a. Make b. Evaluate	a. Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture b. Investigate new and emerging technologies	a. Create a 3D model b. 3D modelling techniques
	11		ENGLISH (Writing)	English	Subject content	Writing	N/A	Writing a creative narrative
			MATHS (Ratio)	Mathematics	Subject content	Ration, proportion and rates of change	Use scale factors, scale diagrams and maps	Site plan
			SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	Relationships in an ecosystem: How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Species living around the Mystery Wreck

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 1	12	CITIZENSHIP (Collaboration)	Citizenship	Subject content	N/A	The roles played by public institutions and voluntary groups in society, and the ways in which citizens work together to improve their communities	A2S international project and collaboration between archaeologists from different countries
		COMPUTING (Use of data)	Computing	Subject content	N/A	Make appropriate use of data structures [for example, lists, tables or arrays]	Analysing the flags in the Marine Traffic vessels database
		GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[…] international development […]	International collaboration as part of the A2S project
		HISTORY (pre-1066, 1901-present)	History	Subject content	a. The study of an aspect or theme in British history that consolidates and extends pupils' chronological knowledge from before 1066 b. Challenges for Britain, Europe and the wider world 1901 to the present day	N/A	a. Fermanville b. SS Coquetdale b. Forgotten Wrecks of the First World War
	13	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Analyse the work of past and present professionals and others to develop and broaden their understanding	Ship construction techniques though time
	14	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Analyse the work of past and present professionals and others to develop and broaden their understanding	Ship construction techniques though time

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	14	HISTORY (1745-1901)	History	Subject content	Ideas, political power, industry and empire: Britain, 1745-1901	N/A	Shipping building techniques at the time
	15	COMPUTING (Information technology, Use of data)	Computing	a. Purpose of study b. Subject content	N/A	a. […] use information technology to create programs, systems and a range of content a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Search on HMS *Invincible*
		DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Evaluate		Analyse the work of past and present professionals and others to develop and broaden their understanding	Ship construction techniques though time
		HISTORY (1745-1901)	History	Subject content	Ideas, political power, industry and empire: Britain, 1745-1901	N/A	Shipping building techniques at the time
	16	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Analyse the work of past and present professionals and others to develop and broaden their understanding	Ship construction techniques though time

| Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	16	■	HISTORY (1745-1901)	History	Subject content	Ideas, political power, industry and empire: Britain, 1745-1901	N/A	Introduction of carronades
	17	■	ART AND DESIGN (Practice)	Art and design	Aims	N/A	Become proficient in drawing, painting, sculpture and other art, craft and design techniques and design techniques	Sketching the artefact on the Artefact Record Sheet
		■	HISTORY (1745-1901)	History	Subject content	Ideas, political power, industry and empire: Britain, 1745-1901	N/A	Objects dating to the period: cargo/ballast, artefacts
	18	■	SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	HEADER: Relationships in an ecosystem How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Sheathing and attacking organisms
		■	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	^ Analyse the work of past and present professionals and others to develop and broaden their understanding ^ Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	Ship construction techniques though time

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	19	🟥	SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	HEADER: Relationships in an ecosystem How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Sheathing and attacking organisms
		🟦	COMPUTING (Information technology, Use of data)	Computing	a. Purpose of study b. Subject content	N/A	a. [...] use information technology to create programs, systems and a range of content a. [...] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology [...] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Research on "Galvanic corrosion", "jute", and "bast fibre"
		🟦	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	^ Analyse the work of past and present professionals and others to develop and broaden their understanding ^ Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	Ship construction techniques though time

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	20	■ SCIENCE (Biology: Interaction and interdependencies)	Science	Biology	Interaction and interdependencies	HEADER: Relationships in an ecosystem How organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Sheathing and attacking organisms
Section 2	20	■ DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	^ Analyse the work of past and present professionals and others to develop and broaden their understanding ^ Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	Ship construction techniques though time
	21	■ MATHS (Solve problems)	Mathematics	Working Mathematically	Solve problems	Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems	*Terminus post quem*
		■ COMPUTING (Information technology, Use of data)	Computing	a. Purpose of study b. Subject content	N/A	a. […] use information technology to create programs, systems and a range of content a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Research on "Blackfriars ship I"

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	21	(gold)	HISTORY (Comparisons)	History	Aims	N/A	Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses	Dating
	22	(red)	SCIENCE (Chemistry: Atoms, elements and compounds; Physics: Waves)	Science	a. Chemistry b. Physics	a. Atoms, elements and compounds b. Waves	a. Differences between atoms, elements and compounds; Chemical symbols and formulae for elements and compounds b. Light waves	a. Definition of composition and microstructure b. EPMA and spectrometer
		(blue)	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Investigate new and emerging technologies	EPMA
	23	(yellow)	MATHS (Statistics)	Mathematics	Subject content	Statistics	Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data	Production rates for Muntz metal sheathing through time
		(red)	SCIENCE (Chemistry: Atoms, elements and compounds)	Science	Chemistry	Atoms, elements and compounds	Differences between atoms, elements and compounds; Chemical symbols and formulae for elements and compounds	Difference between proper Muntz Metal and Muntz-type metals in composition

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	23	DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	^ Analyse the work of past and present professionals and others to develop and broaden their understanding ^ Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	Ship construction techniques though time
		HISTORY (Comparisons, 1745-1901)	History	a. Aims b. Subject content	a. N/A b. Ideas, political power, industry and empire: Britain, 1745-1901	a. Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses b. N/A	a. Dating b. George Frederick Muntz and his invention
	24	MATHS (Solve problems)	Mathematics	Working Mathematically	Solve problems	Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems	*Terminus post quem*
		DESIGN AND TECHNOLOGY (Evaluate)	Design and technology	Subject content	Evaluate	Analyse the work of past and present professionals and others to develop and broaden their understanding	Ship construction techniques though time

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 2	24	HISTORY (Comparisons, Interconnection)	History	a. Aims b. Subject content	a. N/A b. At least one study of a significant society or issue in world history and its interconnections with other world developments […]	a. Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses b. N/A	a. Dating b. Comparison with other, foreign metal structures
Section 3	25	COMPUTING (Information technology, Use of data)	Computing	a. Purpose of study b. Subject content	N/A	a. […] use information technology to create programs, systems and a range of content a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	a. Research on "Historic England" b. Using Heritage Gateway
		HISTORY (Methods, Local history)	History	a. Aims b. Subject content	a. N/A b. A local history study	a. Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed b. N/A	Identifying the Mystery Wreck

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 3	26	COMPUTING (Computational thinking, Information technology, Use of data)	Computing	a., c. Subject content b. Aims	N/A	a. Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching] b. […] evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems c. Make appropriate use of data structures [for example, lists, tables or arrays]	Investigating the identity of the Mystery Wreck using Heritage Gateway
		GEOGRAPHY (Maps)	Geography	Subject content	Geographical skills and fieldwork	Build on their knowledge of globes, maps and atlases and apply and develop this knowledge routinely in the classroom and in the field	Excluding wrecks based on their location
		HISTORY (Methods, Local history)	History	a. Aims b. Subject content	a. N/A b. A local history study	a. Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed b. N/A	Identifying the Mystery Wreck

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 3	27	[blue]	COMPUTING (Computational thinking, Information technology, Use of data)	Computing	a., c. Subject content b. Aims	N/A	a. Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching] b. […] evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems c. Make appropriate use of data structures [for example, lists, tables or arrays]	Investigating the identity of the Mystery Wreck using Heritage Gateway
		[gold]	HISTORY (Methods, Local history)	History	a. Aims b. Subject content	a. N/A b. A local history study	a. Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed b. N/A	Identifying the Mystery Wreck
Section 4	28	[blue]	COMPUTING (Computational thinking, Information technology)	Computing	a. Subject content b. Aims	N/A	a. Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching] b. […] evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	Using the Llyod's Registers online archive

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 4	28		HISTORY (Methods, Local history)	History	a. Aims b. Subject content	a. N/A b. A local history study	a. Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed b. N/A	Researching the Mystery Wreck
Section 4	29		COMPUTING (Use of data, Digital artefacts)	Computing	Subject content	N/A	a. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users b. Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	Research on the *Flower of Ugie* in the newspapers
			HISTORY (Methods, Local history)	History	a. Aims b. Subject content	a. N/A b. A local history study	a. Understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed b. N/A	Researching the *Flower of Ugie*

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 4	30	▪	CITIZENSHIP (Laws)	Citizenship	Purpose of study	N/A	[...] how laws are made and upheld	Aggregate Ley and ALSF
		▪	COMPUTING (Use of data, Digital artefacts)	Computing	Subject content	N/A	a. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users b. Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	Research on the ALSF annual reports
		▪	GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[...] use of natural resources [...]	Aggregates
	31	▪	ENGLISH (Spoken language)	English	Subject content	Spoken language	N/A	Presentation on the research on the advantages and disadvantages of extracting aggregate from land quarries and marine sites
		▪	ART AND DESIGN (Practice)	Art and design		N/A	Produce creative work, exploring their ideas and recording their experiences	Produce a poster
		▪	CITIZENSHIP (Critical thinking)	Citizenship	a. Purpose of study b. Subject content		a. Equip pupils with the skills and knowledge to explore [...] social issues critically a. Weight evidence, debate and make reasoned arguments b. Apply their knowledge and understanding whilst developing skills to research and interrogate evidence, debate and evaluate viewpoint, present reasoned arguments and take informed action	Research on the advantages and disadvantages of extracting aggregate from land quarries and marine sites

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
Section 4	31	COMPUTING (Information technology, Use of data, Digital artefacts)	Computing	a. Purpose of study b., c. Subject content	N/A	a. […] use information technology to create programs, systems and a range of content a. […] become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology […] b. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users c. Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	Research on the advantages and disadvantages of extracting aggregate from land quarries and marine sites
Section 4	31	GEOGRAPHY (Physical geography)	Geography	Subject content	Human and physical geography	Physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts	Glaciations and sea level changes
		GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[…] use of natural resources […]	Aggregates

Section	Page	Link	Subject	Section	Sub-section	Description	Connection to the booklet
	32	CITIZENSHIP (Critical thinking, Collaboration)	Citizenship	a. Purpose of study b. Subject content		a. Equip pupils with the skills and knowledge to explore […] social issues critically b. The roles played by public institutions and voluntary groups in society, and the ways in which citizens work together to improve their communities	a. Recycling b. Working together for sustainability
		COMPUTING (Use of data)	Computing	Subject content	N/A	Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Using the BMAPA site to find out more about aggregates
		GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[…] use of natural resources […]	Aggregates
	33	CITIZENSHIP (Laws)	Citizenship	Purpose of study	N/A	[…] how laws are made and upheld	Exclusion Zones

Section	Page	Link		Subject	Section	Sub-section	Description	Connection to the booklet
Section 4	33	■	COMPUTING (Use of data)	Computing	Subject content	N/A	Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	Research on exclusion zones
		■	GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[…] use of natural resources […]	Aggregates
	34	■	CITIZENSHIP (Critical thinking)	Citizenship	a. Purpose of study b. Subject content		a. Weight evidence, debate and make reasoned arguments b. Apply their knowledge and understanding whilst developing skills to research and interrogate evidence, debate and evaluate viewpoint, present reasoned arguments and take informed action	Aspects of the environment that might be affected by dredging marine aggregate from the seabed
		■	GEOGRAPHY (Human geography)	Geography	Subject content	Human and physical geography	[…] use of natural resources […]	Aggregates