LAGI
SEE MONSTER
art & energy challenge
for students ages 12 to 18

Design Guidelines Document

https://youth.landartgenerator.org

PARTNERS

LAND ART GENERATOR
RENEWABLE ENERGY CAN BE BEAUTIFUL

SEE MONSTER

NEWSUBSTANCE

COMMISSIONED BY

UNBOXED
CREATIVITY IN THE UK

WHAT IS THE LAGI SEE MONSTER ART & ENERGY CHALLENGE?

Total time from start to finish
1–13 sessions /
2–12 hours

The **LAGI SEE MONSTER Art & Energy Challenge** is a chance for students to apply their classroom learning to a real-life challenge!

Students age 12 to 18 are invited to imagine an iconic work of public art for the Weston-super-Mare seaside that functions as a source of renewable energy.

We provide a Toolkit that guides you through the design process step by step.

We want big, bold ideas
Don't feel too constrained (nothing is being constructed), but you should abide by the laws of physics (no levitating solar panels), and your renewable energy design should be based on technologies that have been tested (no perpetual motion machines, please!).

If your idea meets the design guidelines, it may be selected to be part of an exhibition on the Land Art Generator Initiative website.

What we're looking for
We want to see an energy-generating artwork that:

- uses proven clean energy technology to generate electricity
- will bring new visitors to the Weston-super-Mare seafront, providing new experiences —and photo opportunities—throughout the seasons
- communicates a message or an important story to visitors
- is timeless, beautiful, and in harmony with nature.

About us
The project is a partnership between the Land Art Generator Initiative (LAGI) and NEWSUBSTANCE (creator of **SEE MONSTER**, part of UNBOXED UK), with support from EVERFI.

FOR TEACHERS

What is involved?
Taking part in the Challenge is easy!

1. Run through this Design Guidelines Document with students (allow 10–15 minutes).

2. Use some or all of the curriculum-linked activities in the LAGI Toolkit

3. Email your students' work to lagi@landartgenerator.org

How long does the Challenge take?
Younger students will need a minimum of 2 hours to create their design. Older students following design-related courses may use the Challenge as the basis for a more substantial project, which could take 12 hours or more.

Is this an individual or team project?
Students can work on their own or in small groups.

What resources are available to help?
The LAGI Toolkit provides activities and inspiration to spark students' imagination and leads them through the design process step by step.

The Toolkit includes links to other free downloadable resources, including slide decks, location plans, and photos of the design site.

Everything you need can be found at https://youth.landartgenerator.org

There you will also find:

- Field Guide to Renewable Energy Technologies
- Art+Energy Flash Cards
- Location Plan and Site Boundary
- Photos of the Design Site

FOR TEACHERS Continued

What are the benefits for me and my students?
Taking part in the Challenge offers many benefits:

- An opportunity to apply classroom learning to solve a real-world problem through creativity
- A chance to gain an insight into careers
- Develops problem solving and communication skills
- Gives students a unique perspective on the climate crisis
- A chance to gain a certificate and see their work showcased online at https://landartgenerator.org and potentially on public display in summer 2022

How does this Challenge link to the curriculum?
The challenge links to Design and Technology / Science and Technology / Technologies. It also draws on students' science and geography learning and their artistic and creative writing skills.. See page 15 for full curriculum links.

Students will learn about renewable energy technologies and apply their knowledge and skills in maths, science, art and design, and creative writing.

Teachers might want to collaborate with colleagues from other departments, as the LAGI design process links to art, design, engineering, architecture, landscape architecture, creative writing/storytelling, sociology, cultural studies, physics, and the science of energy.

What is a Land Art Generator?
A Land Art Generator artwork is a "regenerative artwork." It is a creative and active part of the solution to climate change. It incorporates technology as a medium for creative expression to generously contribute sustainable resources such as clean electricity or drinking water to meet existing needs. A Land Art Generator artwork may also assist in the regeneration of its surrounding landscape to increase groundcover and biodiversity. Any work of art that is conceived as sustainable infrastructure or as a means of environmental remediation or regeneration.

TOOLS THAT YOU WILL NEED TO DESIGN WITH

Pencil

Paper

Sculpting/modelling materials (such as pipe cleaners, clay, construction paper, lollypop sticks, etc.)

Computer (optional)

3D modelling software (optional)

THE CHALLENGE

Can renewable energy technologies become a part of the Weston-super-Mare Beach experience?

Your challenge is to design a renewable energy artwork that provides clean electricity to the Tropicana, the site of **SEE MONSTER**.

For such a prominent location as the Weston-super-Mare Beach, your design must be more than pure utility and engineering. It must be an experience, a cultural icon, a gathering place, a space for events, or maybe a work of art that stretches out into the water like a new public pier.

Your energy-generating artwork will tell a new story about Weston-super-Mare, proud of her history and looking boldly to the future. In the imagined scenario, your design will exist on the site for generations, so it should be timeless and beautiful, providing ever-changing experiences and photo opportunities throughout the years and the seasons.

There are no limits on what kind of technology you can incorporate into your artwork and few limits on your expression.

The only restrictions to your imagination are those listed in on page 7 of this Design Guidelines document.

THE CONTEXT

In the summer of 2022, **SEE MONSTER** (see pages 10 & 11 of this document) comes to Weston-super-Mare. This massive offshore rig re-imagined as a multifaceted art exhibit is also home to **WindNest** (see pages 11 & 12 of this document), by artist and landscape architect, Trevor Lee (originally a submission to the LAGI 2010 design competition). **WindNest** generates electricity using wind power, the kind of public artwork that can be called a Land Art Generator installation.

LAGI invites you to design your own Land Art Generator artwork. Lead North Somerset to a beautiful and 100% renewable energy future by powering the Tropicana (see pages 9 & 10 of this document) with your work of art.

Think about how clean energy technology can become a part of the park itself. Will the power come from solar energy, wind energy, or a combination of both? Can solar be curved? Many colours? Printed patterns? Can wind be a kinetic artwork? Can the large tides be a source of energy? If so, how can visitors to the beach interact safely with the process of tidal energy generation?

DESIGN BRIEF

You will create sketches and written descriptions to bring your design to life (see page 15 for details of what you need to produce).

Your design will need to address all of the four items listed here.

1

Your concept for an sculptural artwork must include at least one kind of renewable energy technology.

In your written description tell us what technology you've integrated and why.

2

How will your artwork fit onto the existing design site? How will people interact with it? Show us the size of your artwork.

In your sketches, write down some of the dimensions in feet or meters. Don't design outside of the site boundary line!

3

Develop a message that you want to communicate to the people who will come to see your artwork.

Your message or concept can be absolutely anything you can imagine. Tell us about it in your written description.

4

How will your artwork relate to the natural world?

Think about where the materials came from that you would use to build your artwork. Does the artwork disturb habitat of any animals, birds, or insects? Does it provide new homes for wild creatures? Put some of these thoughts down in your written description.
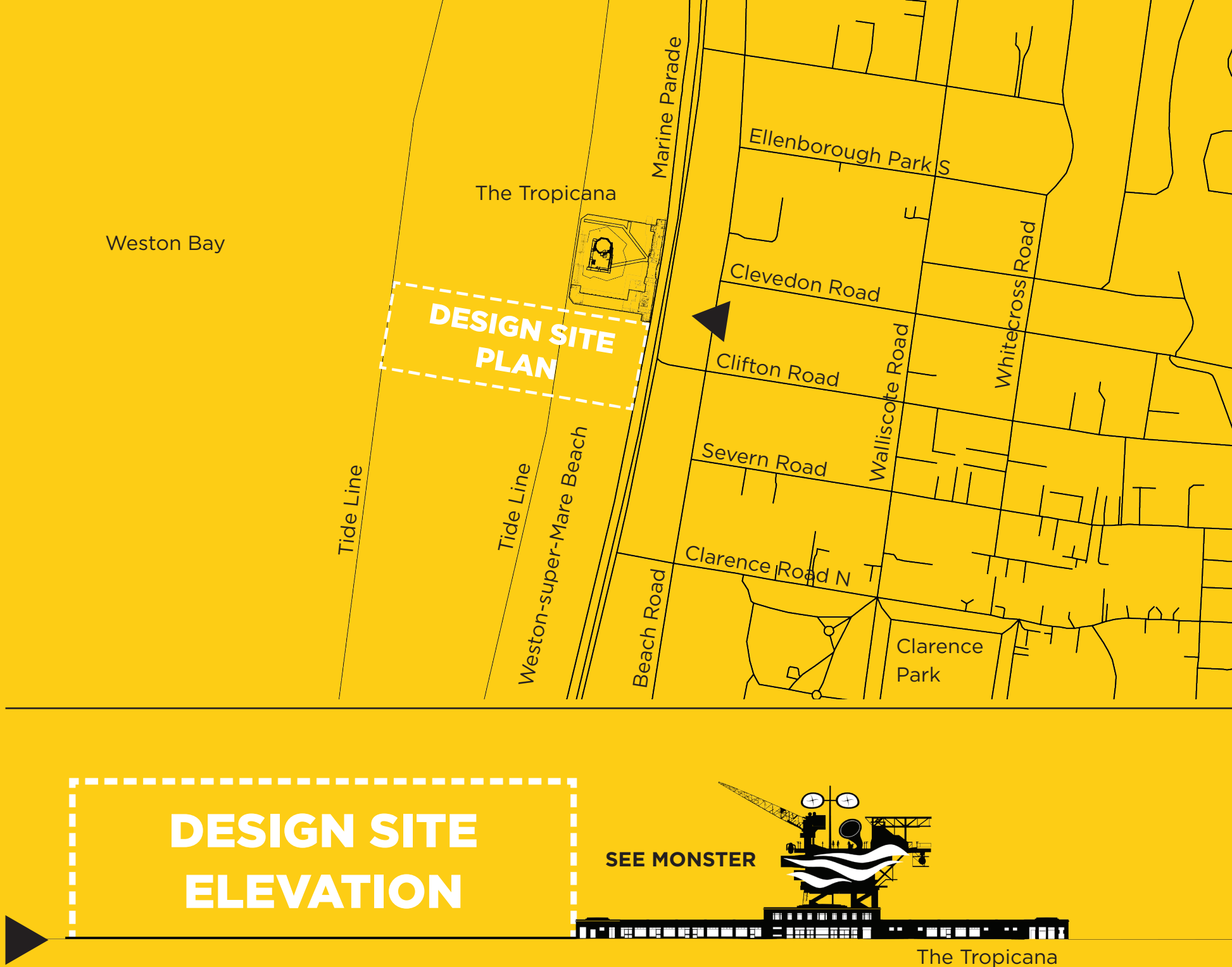
DESIGN SITE

The dashed line—the beach area and coastal waters next to the Tropicana—is your design site. Your artwork will transform this carpark into a vibrant place where people come to play, listen to live music, relax, and enjoy the natural world.

Tropicana
(home of **SEE MONSTER**)

300 m

100 m

DESIGN SITE

The three hectare (30,000 square meter) stretch of land in the white dashed line above measures 100 meters wide (along Marine Parade) and 300 meters out into the bay.

Weston Bay

The Tropicana

Marine Parade

Ellenborough Park S

Clevedon Road

Whitecross Road

Walliscote Road

DESIGN SITE PLAN

Clifton Road

Tide Line

Tide Line

Weston-super-Mare Beach

Severn Road

Clarence Road N

Beach Road

Clarence Park

DESIGN SITE ELEVATION

SEE MONSTER

The Tropicana

You'll be designing your renewable energy artwork for a stretch of beach and water next door to the Tropicana, the former lido constructed in 1937 that once contained a public pool and that in the summer of 2022 will be host to **SEE MONSTER**. The site stretches out into the water. The water's edge changes dramatically between low and high tide.
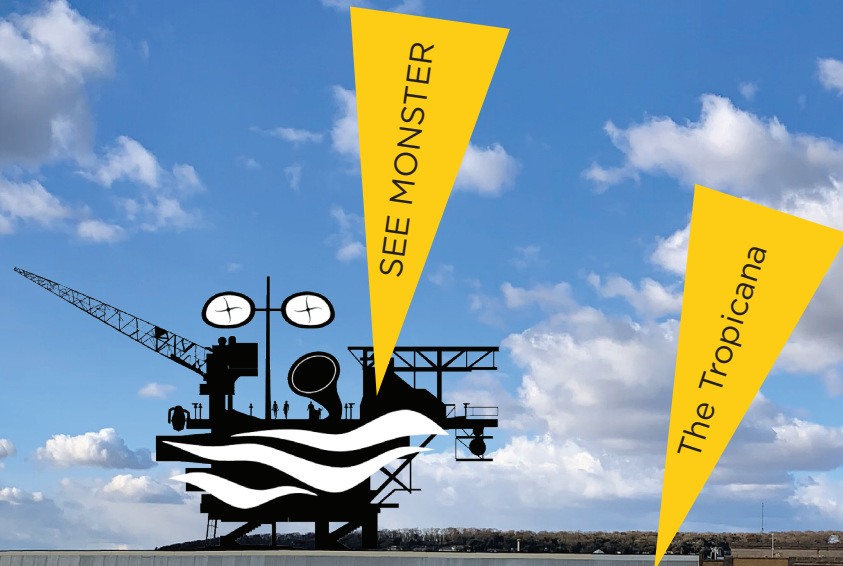
SEE MONSTER

The Tropicana

DESIGN SITE

SEE MONSTER is a retired rig from the North Sea, reimagined in Weston-super-Mare to celebrate the great British weather from this iconic seaside town. SEE MONSTER is brought to life by Leeds-based creative studio NEWSUBSTANCE and supported by North Somerset Council.

WindNest

SEE MONSTER

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WindNest

Prototype installed in Chicago in 2018

WindNest, by artist Trevor Lee, was an entry to the 2010 Land Art Generator Initiative (LAGI) design competition for Abu Dhabi. With the support of Heinz Endowments and the Hillman Foundation, the artwork was redesigned and prototyped for a site in Pittsburgh, USA. In 2022 **WindNest** opens to the public for the first time at **SEE MONSTER**!

LAGI
art + energy
TOOLKIT
for middle and high school students

LAND ART
GENERATOR
RENEWABLE ENERGY
CAN BE BEAUTIFUL

THE LAGI ART + ENERGY TOOLKIT

The LAGI Toolkit is designed to work alongside this LAGI Youth Design Guidelines document. It provides classrooms and individuals with educational activities that will instill the confidence and inspiration to imagine a land art generator design for the site on Weston Beach.

The exercises in this document have been developed in collaboration with educators and follow the steps of the Design Process.

You may choose whether to use some of the Toolkit or use all of the Toolkit as it meets the needs of your classroom or programme.

KEY

❖ Required Activities and Downloads (minimum time = 2 hours)

❖ Recommended Activities and Downloads (average time = 6 hours)

❖ Optional Activities and Downloads (maximum time = 12 hours)

WHAT TO SEND

Each team or individual will send 4 files total.
Image files can be JPG, TIF, GIF, PDF, EPS, DWG, AI, or any graphic file format really.
Try to keep each file less than 10 Mb.

1. One **diagram** image that explains how your proposal works. This can include plans, elevations, sections, sketches, and diagrams either alone or in a graphic layout.

2. One **sketch** that explains what it would be like to experience your proposal, either from a distance or within the artwork. This can be a drawing, computer rendering, or a photograph of a model you've made. Put people in your sketch!

3. One **image file** of your choice with additional diagram(s) or perspective drawing(s).

4. One **text description** (DOC, DOCX, or TXT file) of your idea and artistic concept (around 300–500 words).

Your files should have the following naming convention. Substitute the title of *your* artwork and *your* last name:

    title-of-artwork_your-last-name_001.jpg
    title-of-artwork_your-last-name_002.jpg
    title-of-artwork_your-last-name_003.jpg
    title-of-artwork_your-last-name.docx

SHARING YOUR IDEAS

There are three ways to send your files.

1. Direct email to **lagi@landartgenerator.org** with your files as attachments

2. Use wetransfer.com and make the recipient **lagi@landartgenerator.org**

3. Use the following dropbox link: **www.dropbox.com/request/ vsz4xzH9ExBtmeIPtNsz**

In an email to **lagi@landartgenerator.org** please include the following information. If you use the dropbox or wetransfer methods you can alternatively put this information into your written narrative DOC, DOXC, or TXT file.

- Student names (list all participants)
- Age of oldest participant on the team (all participants must be under 19)
- Name and full address of school or other organisation
- City
- Country (if not in the UK)
- Name of teacher or mentor
- Phone number of teacher or mentor
- Email address of teacher or mentor
- Title of your artwork
- Technology used in your design

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SUPPORT

Please contact us with questions or to schedule a classroom visit! We can do this virtually through a video conference, or possibly even in person!

Elizabeth Monoian & Robert Ferry
LAGI Founding Directors

email   lagi@landartgenerator.org
phone   +1 412-996-4906
web   https://youth.landartgenerator.org
web   https://landartgenerator.org

CURRICULUM LINKS

The Challenge links most closely to the Design and Technology curriculum.

It will also be suitable for older students studying related vocational courses.

ENGLAND

Design and Technology, Key Stage 3
A practical activity teaching pupils the knowledge, understanding and skills needed to engage in an iterative process of designing and making (leisure and culture)

Design

- use research and exploration to identify and understand user needs

- develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations

- use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses

- develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

Evaluate

- analyse the work of past and present professionals and others to develop and broaden their understanding

- investigate new and emerging technologies

- test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups

- understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists

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Design and Technology, Key Stage 4

GCSE Subject Content Aims and Objectives

- demonstrate their understanding that all design and technological activity takes place within contexts that influence the outcomes of design practice

- develop realistic design proposals as a result of the exploration of design opportunities and users' needs, wants and values

- use imagination, experimentation and combine ideas when designing

- develop the skills to critique and refine their own ideas whilst designing and making

- communicate their design ideas and decisions using different media and techniques, as appropriate for different audiences at key points in their designing

- be ambitious and open to explore and take design risks in order to stretch the development of design proposals, avoiding clichéd or stereotypical responses

- use key design and technology terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics

Design and Technology, Key Stage 5

GCE Subject Content Aims and Objectives

- be open to taking design risks, showing innovation and enterprise whilst considering their role as responsible designers and citizens

- develop intellectual curiosity about the design and manufacture of products and systems, and their impact on daily life and the wider world

- work collaboratively to develop and refine their ideas, responding to feedback from users, peers and expert practitioners

- gain an insight into the creative, engineering and/or manufacturing industries

- develop the capacity to think creatively, innovatively and critically through focused research and the exploration of design opportunities arising from the needs, wants and values of users and clients

- develop knowledge and experience of real world contexts for design and technological activity

- be able to make informed design decisions through an in-depth understanding of the management and development of taking a design through to a prototype/product

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- be able to create and analyse a design concept and use a range of skills and knowledge from other subject areas, including mathematics and science, to inform decisions in design and the application or development of technology

- have a critical understanding of the wider influences on design and technology, including cultural, economic, environmental, historical and social factors

- develop the ability to draw on and apply a range of skills and knowledge from other subject areas, including the use of mathematics and science for analysis and informing decisions in design

NORTHERN IRELAND

**Science and Technology:
Technology and Design, Key Stage 3**

Developing pupils' Knowledge, Understanding and Skills

- Design – identifying problems; investigating, generating, developing, modelling and evaluating design proposals; giving consideration to form, function and safety; Communication – use of free-hand sketching

and formal drawing techniques and ICT tools (including 3D modelling);

(Objective 2) Developing pupils as Contributors to Society

- Explore technical inventions and designs that have met a social need cost-effectively

(Objective 3) Developing pupils as Contributors to the Economy and the Environment

- Investigate how the skills developed through Technology and Design will be useful to a wide range of careers. Employability Pursue design solutions using environmental friendly materials and energy sources. Identify product needs and pursue sustainable harmonious design solutions in a local outdoor/indoor context.

Technology and Design, Key Stage 4, CCEA GCSE Specification

Unit 1: Technology and Design Core Content

   1.1 Design and communication

   1.2 Materials and their general physical, aesthetic and structural characteristics

Unit 2: Optional Areas of Study - Option C: Product Design, Design and innovation

   2.36 Design process

2.37 Roles of the client, user, designer and maker

2.38 Product analysis, ideas generation and development

2.39 Communication techniques

2.41 Form and function

Technology and Design, Key Stage 5, CCEA GCE Specification

Design and Materials

1.8 Design and communication

1.9 Design and manufacture

Optional area of study: Option C – Product Design

1.24 Designing

1.26 Design and communication

1.30 Influences on product design

SCOTLAND

Technologies, 3rd and 4th level

Technological Developments in Society and Business

- Awareness of technological developments (Past, Present and Future), including how they work. TCH 3-05a / TCH 4-05a

Craft, Design, Engineering and Graphics

- Design and construct models/product - TCH 3-09a / TCH 4-09a

- Exploring uses of materials TCH 3-10a / TCH 4-10a

- Representing ideas, concepts and products through a variety of graphic media TCH 3-11a / TCH 4-11a

- Application of Engineering TCH 3-12a / TCH 4-12a

SQA, Design and Technology

WALES

Science and Technology, Statements of What Matters, Progression Steps 4 and 5

- Being curious and searching for answers is essential to understanding and predicting phenomena.

- Design thinking and engineering offer technical and creative ways to meet society's needs and wants.

ABOUT LAND ART GENERATOR INITIATIVE (LAGI)

The Land Art Generator Initiative (LAGI) helps design renewable energy infrastructures that are also beautiful places for people.

With a mission to advance a just and equitable energy transition in response to the climate crisis, the Land Art Generator initiative (LAGI) helps design public places that share land use with distributed renewable energy generation. Works of art in civic space distribute clean energy and provide other sustainable services to buildings and the utility grid while beautifying the built environment.

Land Art Generator educational programming is a great example of STEM to STEAM and project-based learning. Through the process of designing their own land art generator, middle school and high school students show applied understanding of concepts like energy conversion efficiency, capacity factor, and become familiar with using kilowatt-hours. At the same time they are applying knowledge of form, shape, colour, and touching on aspects of urban planning and whole systems design. These are exactly the kind of skills that researchers tell us will be important for jobs in the twenty-first century.

The Land Art Generator organisation provides context-specific and culturally-relevant design solutions for distributed clean energy that reflect the needs of local communities. We do this through design competitions, direct commissions, calls for proposals, Solar Mural artworks, and participatory co-design projects for people of all ages. International open-call competitions for Dubai & Abu Dhabi (2010), New York City (2012), Copenhagen (2014), Santa Monica (2016), Melbourne (2018), Abu Dhabi (2019), and Fly Ranch (2020) have resulted in over 1,400 designs from creative teams across more than eighty countries.

https://landartgenerator.org

ABOUT
SEE MONSTER

SEE MONSTER is a retired rig from the North Sea, reimagined in Weston-super-Mare to celebrate the great British weather from this iconic seaside town.

SEE MONSTER is brought to life by Leeds-based creative studio NEWSUBSTANCE and supported by North Somerset Council.

Voyaging from the far reaches of the North Sea, **SEE MONSTER** will endure blustery winds and roaring waves as it encircles the UK coast in search for a new home. After a lifetime weathering the stormy seas, the retired rig will be reborn at shore in the former 1930s lido, the Tropicana. Audiences from far and wide will flock to the beach to welcome **SEE MONSTER**, the wild beast that has never been seen before…

By the Summer of 2022, having been transformed along its journey, the weather-beaten Monster will come alive in Weston-super-Mare, as a colossal manifestation of all it has witnessed along its journey around the turbulent coast.

The reawakened entity will be a joyous celebration of the great British weather and British eccentricity, presenting a new life for what the **Monster** could become. As a pioneer towards a greener future, **SEE MONSTER** will explore the concept of inherited structures, be those physical, social, or environmental. What do we do with the structures we inherit? And what actions can they inspire?

As a creation of new from old, the regeneration of the rig, transformed from its former life, will champion the role of re-use and creativity within our future.

SEE MONSTER is part of UNBOXED: Creativity in the UK. A once-in-a-lifetime celebration of creativity, taking place across England, Northern Ireland, Scotland, Wales and online from March to October 2022. **https://seemonster.co.uk**