

# Making Waves

Inventing for a  
better ocean

KS1 Teacher Guide

DOGGER BANK  
WIND FARM



South Tyneside Council

Little  
Inventors



# Will your imagination change the world?

## Take part in the Making Waves: Inventing for a better ocean challenge!

The ocean covers more than 70% of our planet, and is essential to all life on Earth. But human factors like overpopulation, travel, noise and industrialisation have taken their toll on life beneath the waves.

We need to build a better future for our oceans with science, invention, and innovation at the heart of it all. The more we understand our oceans, the better we can learn to look after them and bring them back to health.

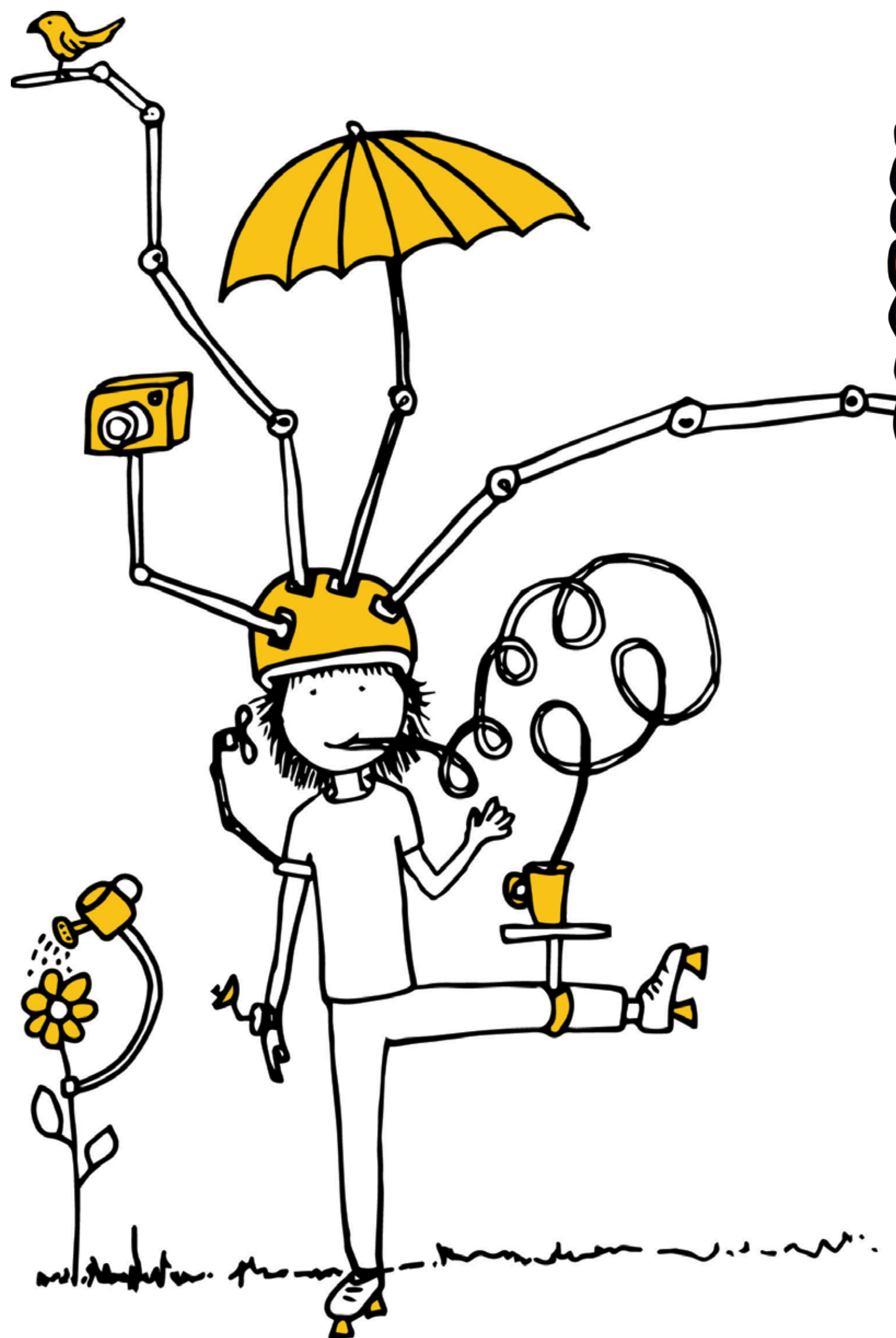
That's why we've partnered with Dogger Bank Wind Farm and South Tyneside Council to bring you our latest invention challenge:

Making Waves! Inventing for a better ocean.

So listen up, because we're about to head out into the big blue!







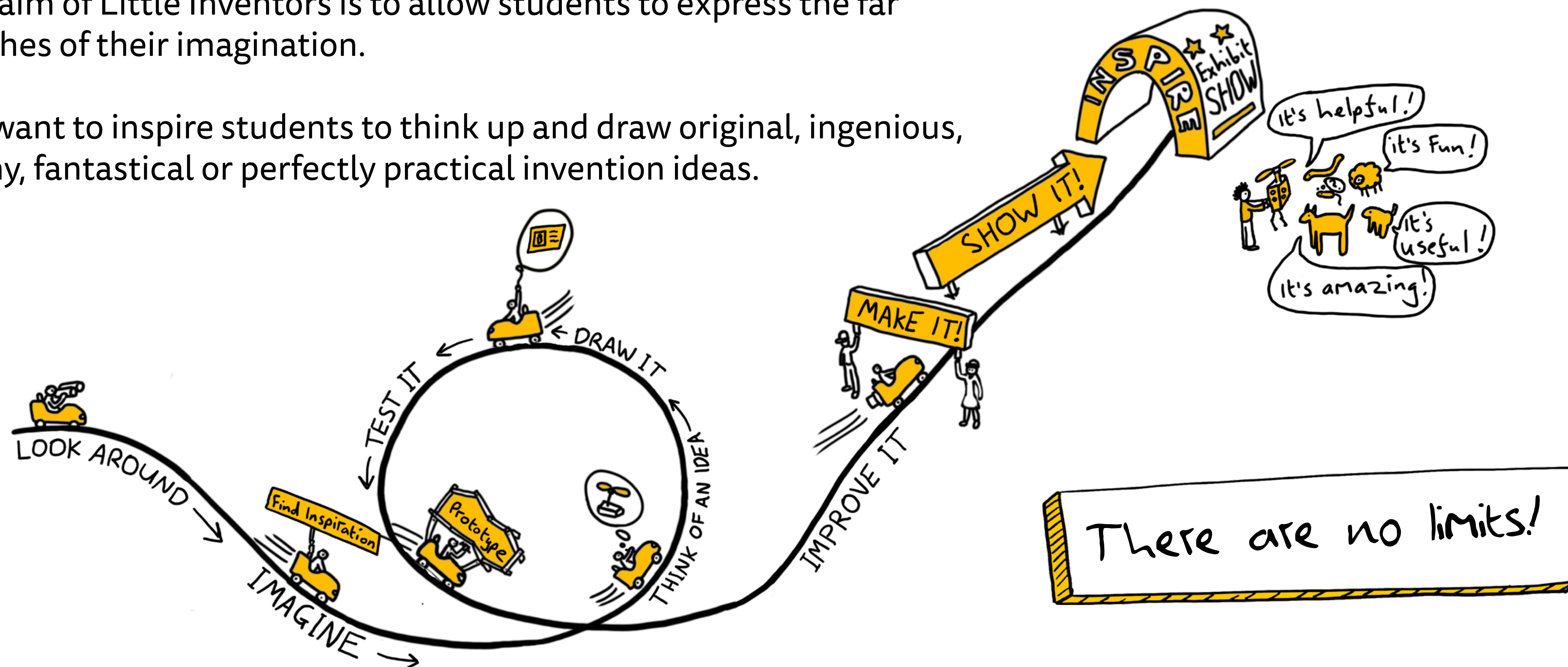
Play the challenge launch video!



# What's the aim of the project?

The aim of Little Inventors is to allow students to express the far reaches of their imagination.

We want to inspire students to think up and draw original, ingenious, funny, fantastical or perfectly practical invention ideas.

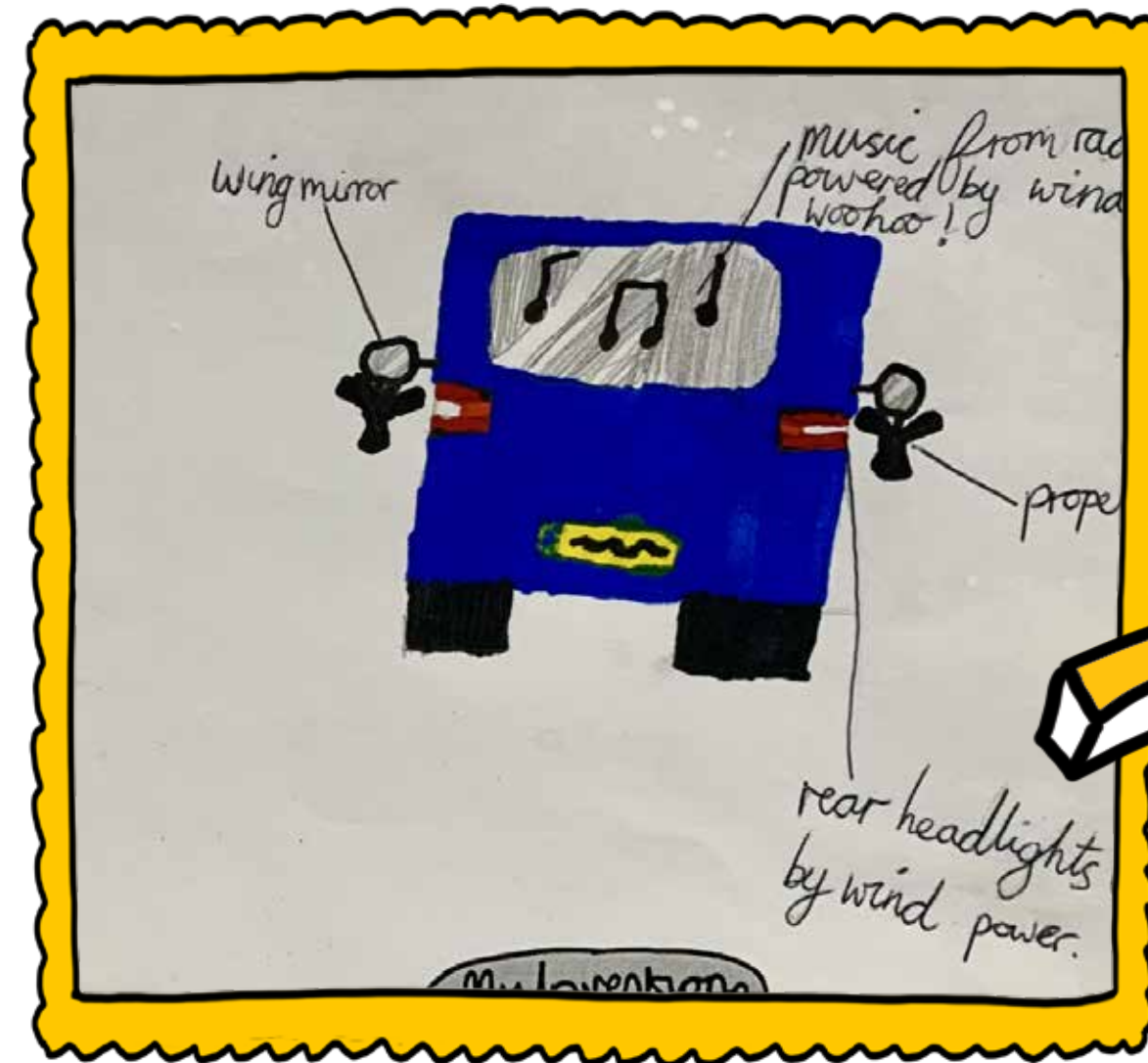




# What's in it for my students?

Students will be invited to draw and submit their own inventions to appear on the online invention gallery, where they will be reviewed by the Little Inventors team and Dogger Bank wind farm.

Their idea might be chosen as a Little Inventors Team Favourite, turned into an animation, or brought to life by one of our Magnificent Makers!



Wind Mirrors by Isaac, age 9

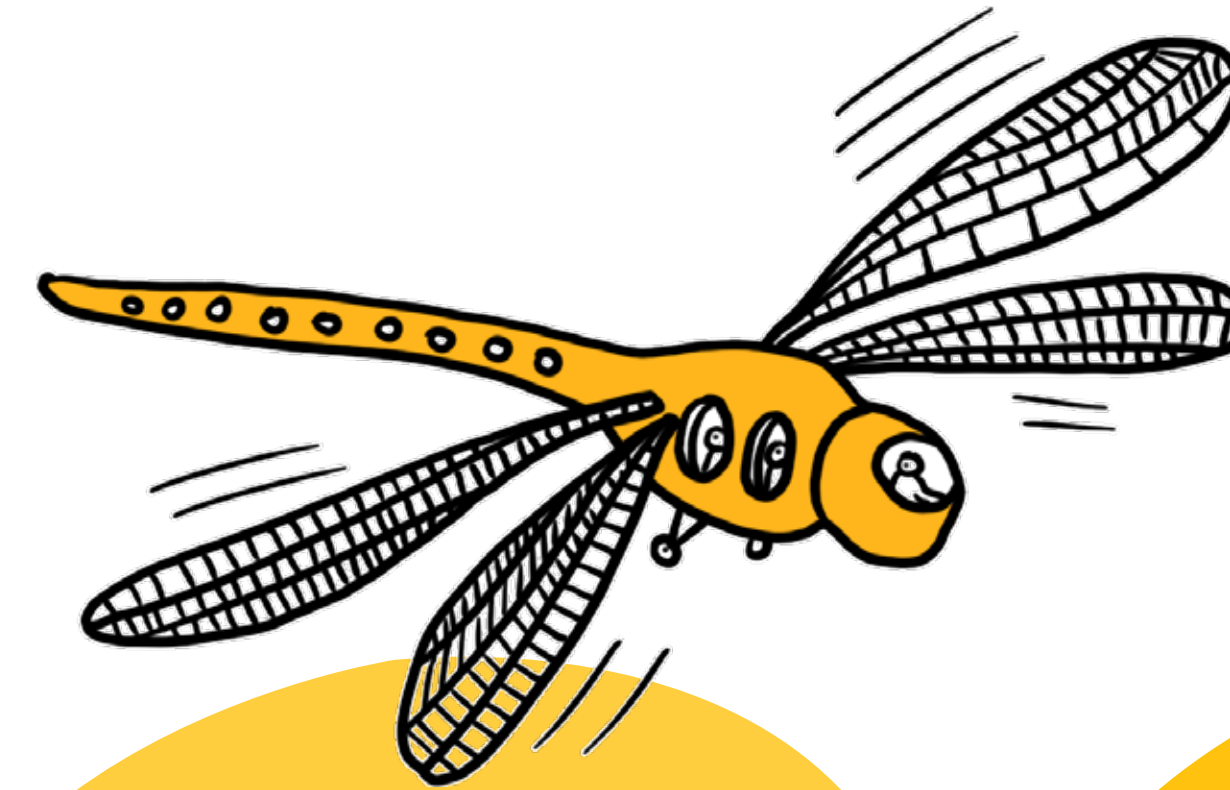


Brought to life by Ford Aerospace

In 2024 Isaac's was shortlisted for Young Innovator award at The Engineer's Collaborate to Innovate Awards!



# Key Project Dates



Teacher training  
session & launch

**15th October  
2024**

Challenge  
close

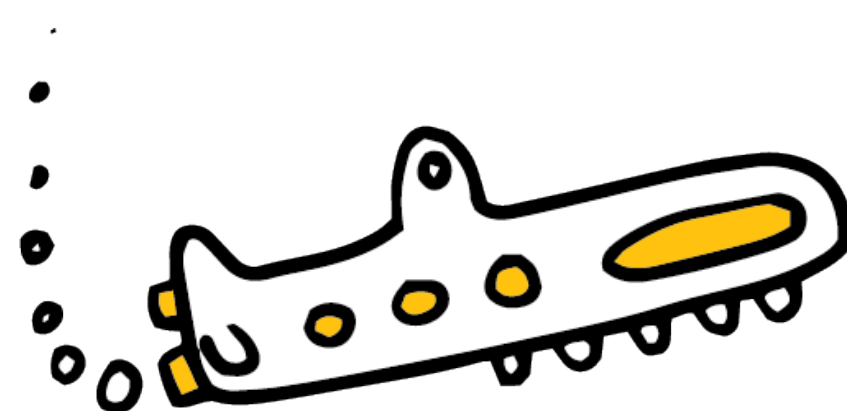
**30th April  
2025**

Winner  
selection

**May  
2025**

Bringing to life  
process

**June - July  
2025**







# Invention Challenge



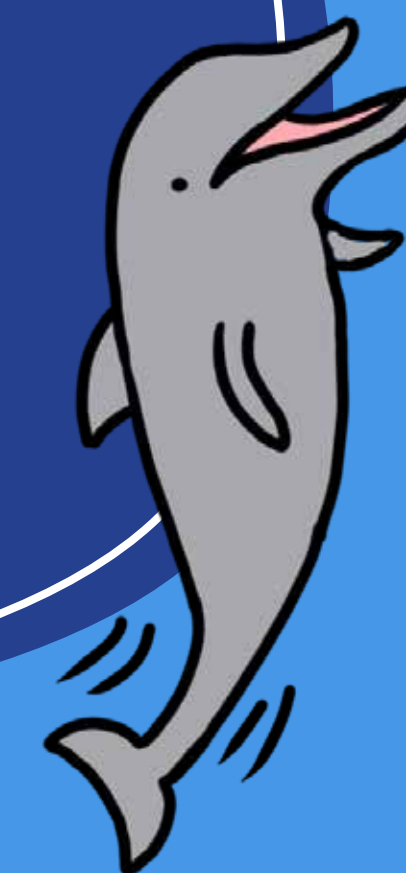
From the wacky wobbling to the magnificent manta ray, the ocean is full of surprises great and small. Inventors have been inspired by life under the waves for as long as we can remember, from cars designed like fish, armour made like shells or homes in the shape of corals.

The underwater wonderland is full of invention inspiration and now it's over to you to discover a whole world of awesome-ness and turn it into an unforgettable invention.



Can you invent something inspired by life under the sea?

How about a house that looks like a piece of coral? Or a piece of clothing that changes colour like a cuttlefish? Or something totally new and fin-tastic!



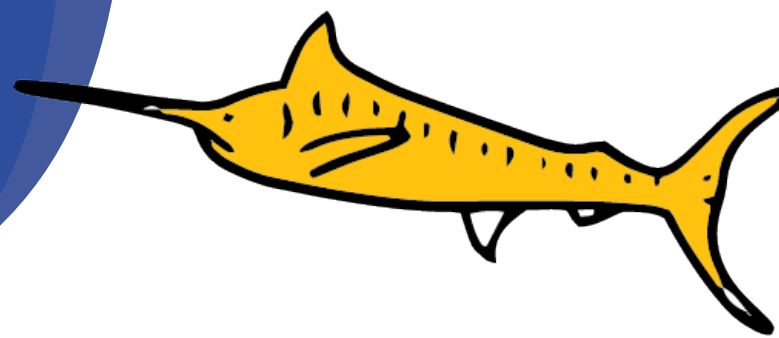


# Learning content

Students will explore ocean themed topics through a **creative lens**, delving into the **wonders of the ocean**. Using the presentations in the resource pack you will introduce them to creative thinking techniques and teach them the content they need to know to come up with their own **brilliant inventions**.

Students will get creative about how they can **invent something inspired by the ocean**. The activities will allow students to **gather information** and creative ideas to develop some unique and exciting sparks of inspiration that will guide them on to designing their final invention!

The presentations are also available as **narrated videos** which can be played directly to your students to speed things up or used for yourself to revise the content.





# Resource pack checklist



Use this Resource pack checklist to make sure you have all of the core materials to hand to deliver the challenge!

All resources are available at [southtyneside.littleinventors.org](https://southtyneside.littleinventors.org)

Your lessons and activities can be adapted to suit your specific learning environment and students' needs



Introduction presentation ☐

Challenge Launch Video ☐

Challenge Presentation ☐

Activated Challenge Presentation ☐

Activity Sheet: Sea Creature Superpower ☐

Activity Sheet: Animal Profile Pack ☐

Activity Booklet: Animal Profiler ☐

Challenge Cards ☐

Invention Challenge Video ☐

Invention Drawing Sheet ☐

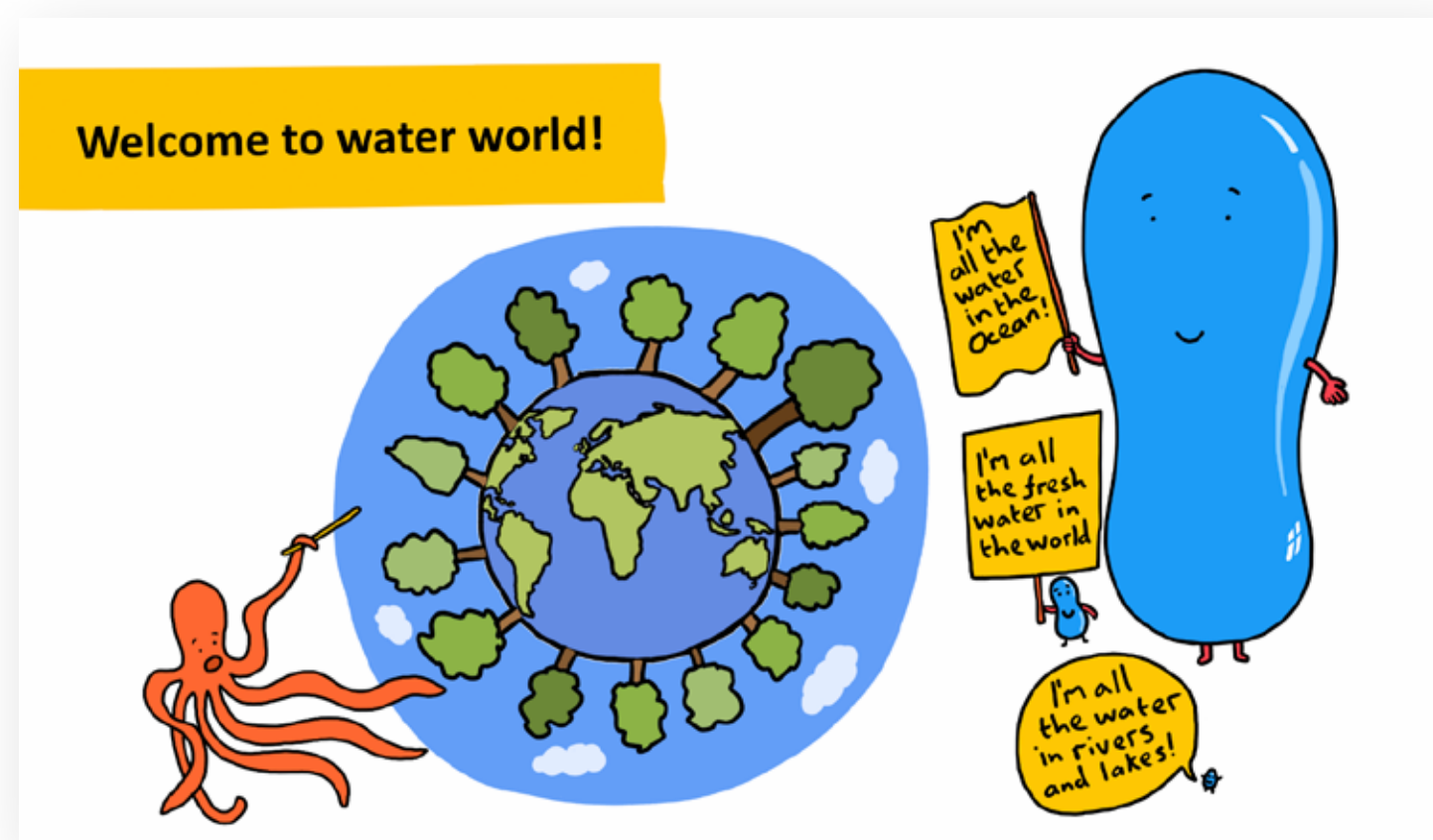


# Digital teaching resources



Introduction Presentation

25 - 30 mins



Challenge Presentation

35 - 45 mins



Activated Challenge Presentation

10 mins



# Printed resources

40 - 90 mins



**Animal profiler**

Use this worksheet and the animal profile pack to capture information about an ocean animal that needs protecting!

! Draw your animal here!

What's special about me?

What are my main dangers or challenges?

How can you help me?

I am a \_\_\_\_\_  
I live in \_\_\_\_\_  
I eat \_\_\_\_\_

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Activity sheet Animal profiler



Activity booklet Animal profile pack

**Challenge cards**  
Oceans: Making waves

Cut up the cards and pick one to get started.  
What does this make you think about? What problem do you need to solve? What invention can you come up with? You can also make up your own ocean challenge!

Invent a way to reduce noise pollution from drilling underwater

Invent a new type of house for a fish or other ocean creature

Invent a way to make boats sound quieter underwater

MAKE UP YOUR OWN CHALLENGE!

Invent a way to clean up oil spills

Invent something inspired by a coral reef

South Tyneside Council DOGGER BANK WIND FARM Little Inventors southtyneside.littleinventors.org

Challenge cards

**Sea creature superpower**

Combine the abilities of two sea animals to make a super creature! Draw it and add labels!

What sea creature superpower would you like to have?

What would you do with it?

Imagining what it's like to be a fish helps give me ideas!

I heard it has three legs and can fly!

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Activity sheet Sea creature superpower

**My Making Waves Invention**

Draw your invention here! Use a black pen, add colours and labels!

Invention name \_\_\_\_\_

First name \_\_\_\_\_

Age \_\_\_\_\_

School \_\_\_\_\_

Town/city and country \_\_\_\_\_

**Tell us more!**  
(Who it is for, what it does, how it works!)

MY INVENTION

Upload your idea at southtyneside.littleinventors.org to get feedback. Who knows, it could be made real!

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Invention drawing sheet

The Challenge cards and Activity booklet can be shared between multiple students

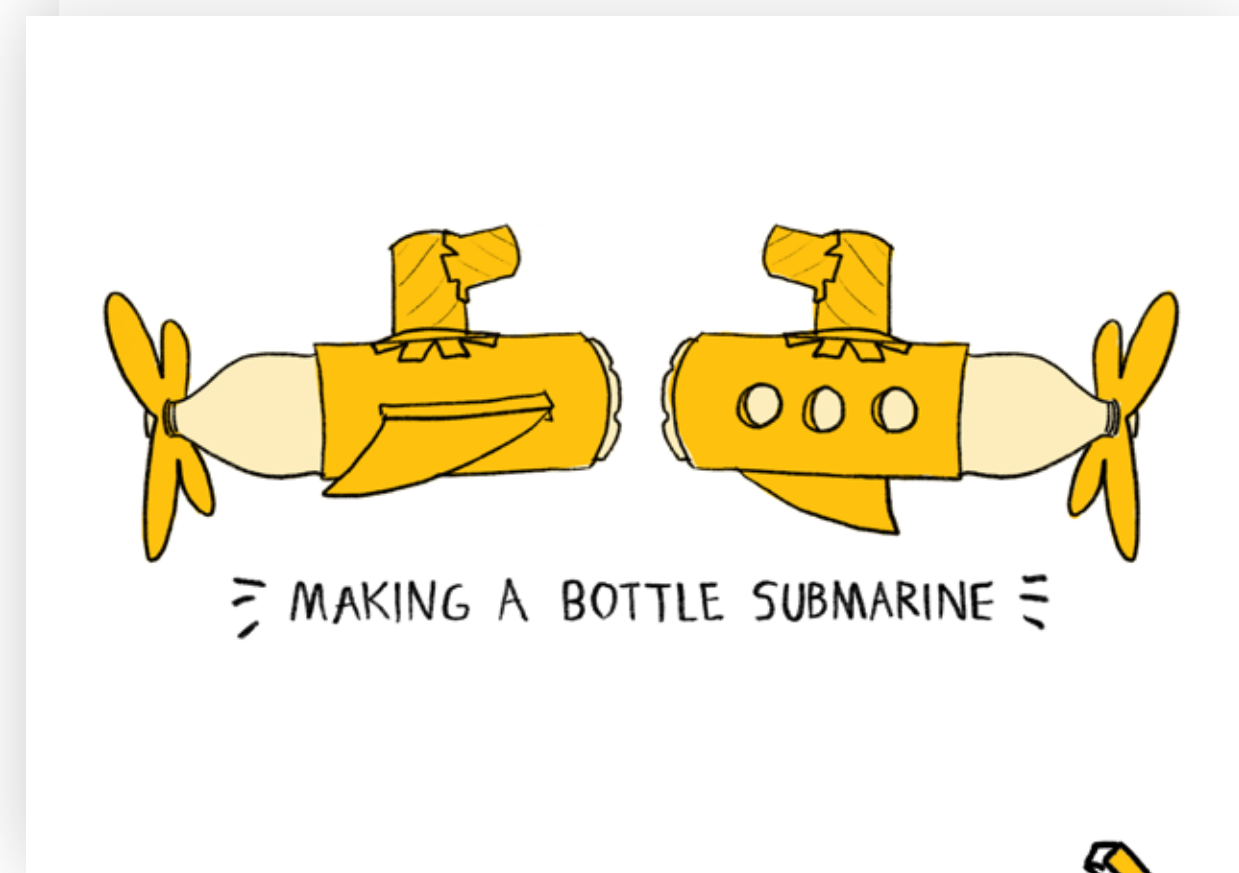


# Go further!

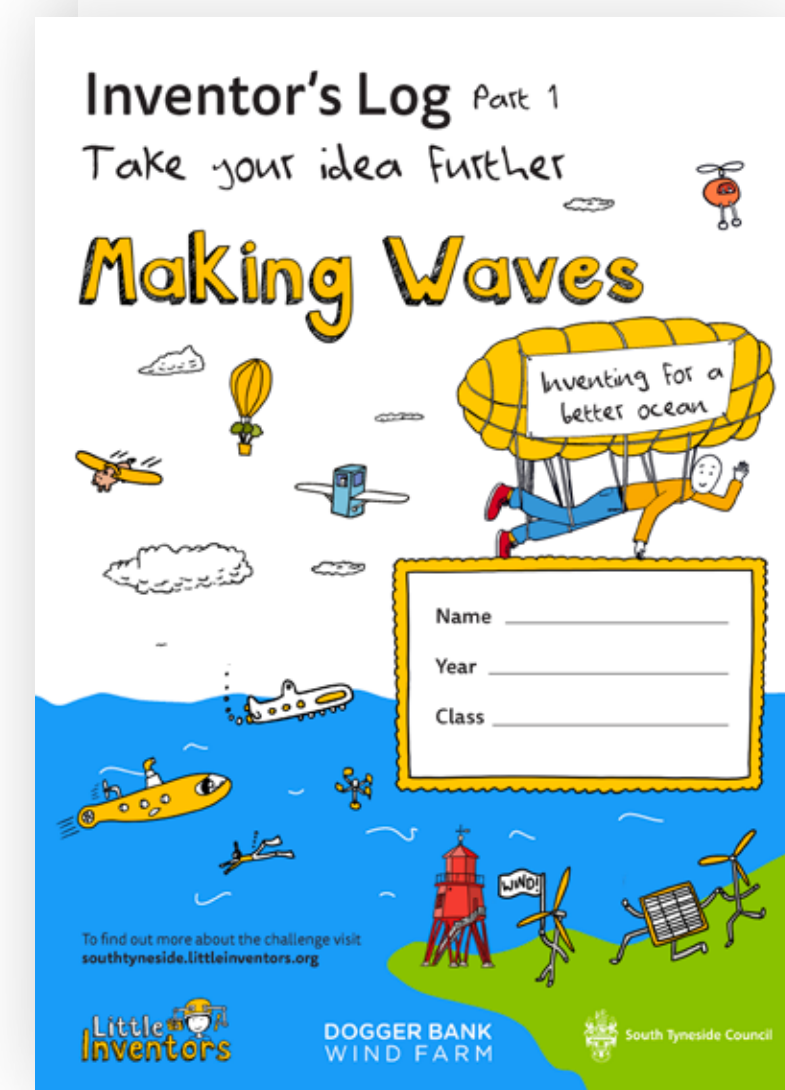
30 - 180 mins



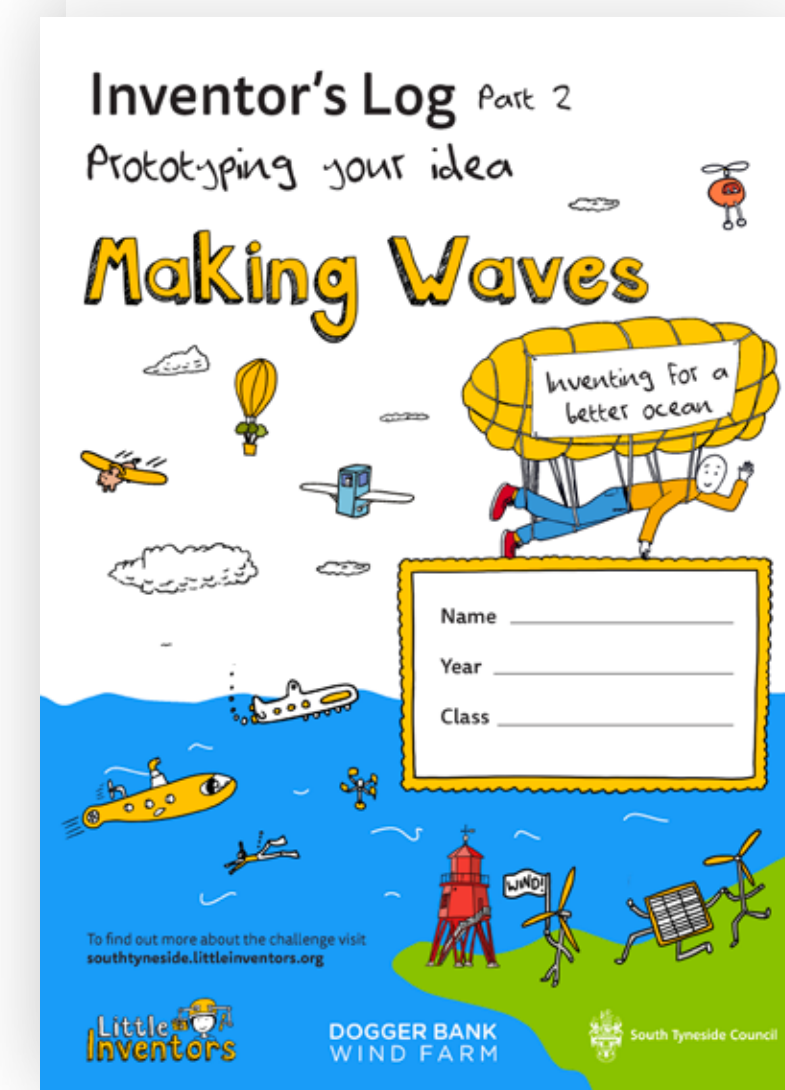
Extension activities for students who want to continue their great work. These activities can form many hours of additional learning and can be dipped into during classtime or at home.



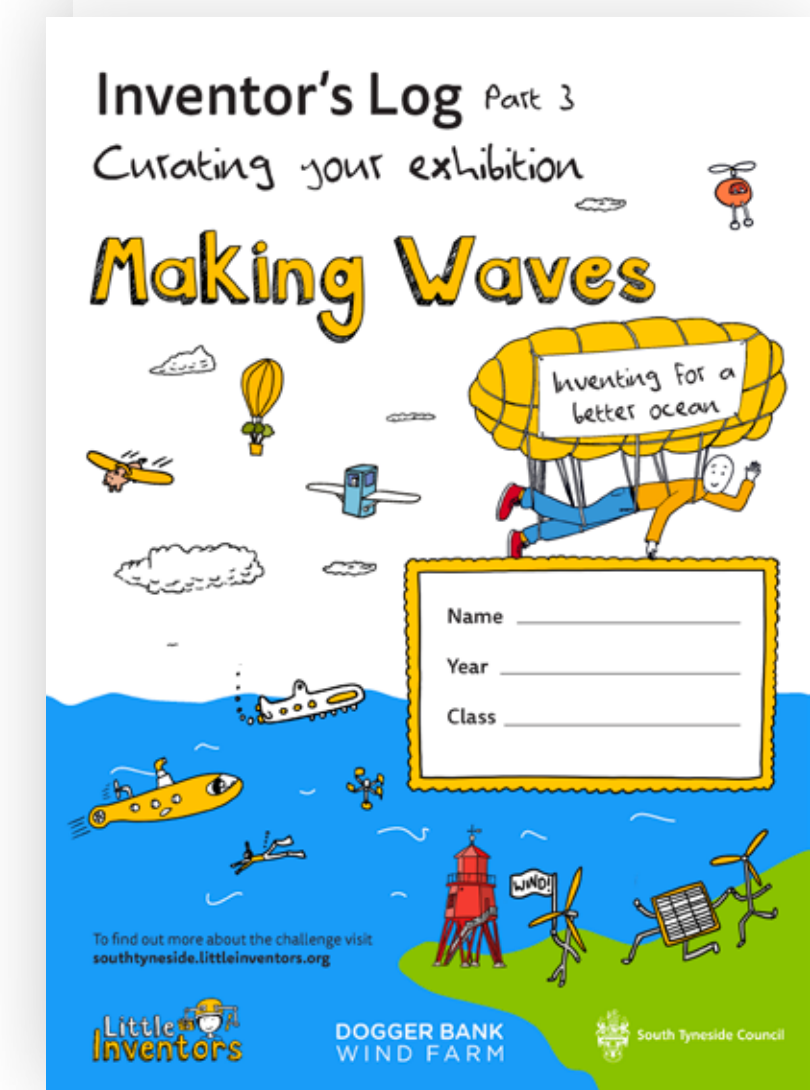
Submarine Prototyping Activity



Take your ideas further



Prototyping your idea



Curating your exhibition

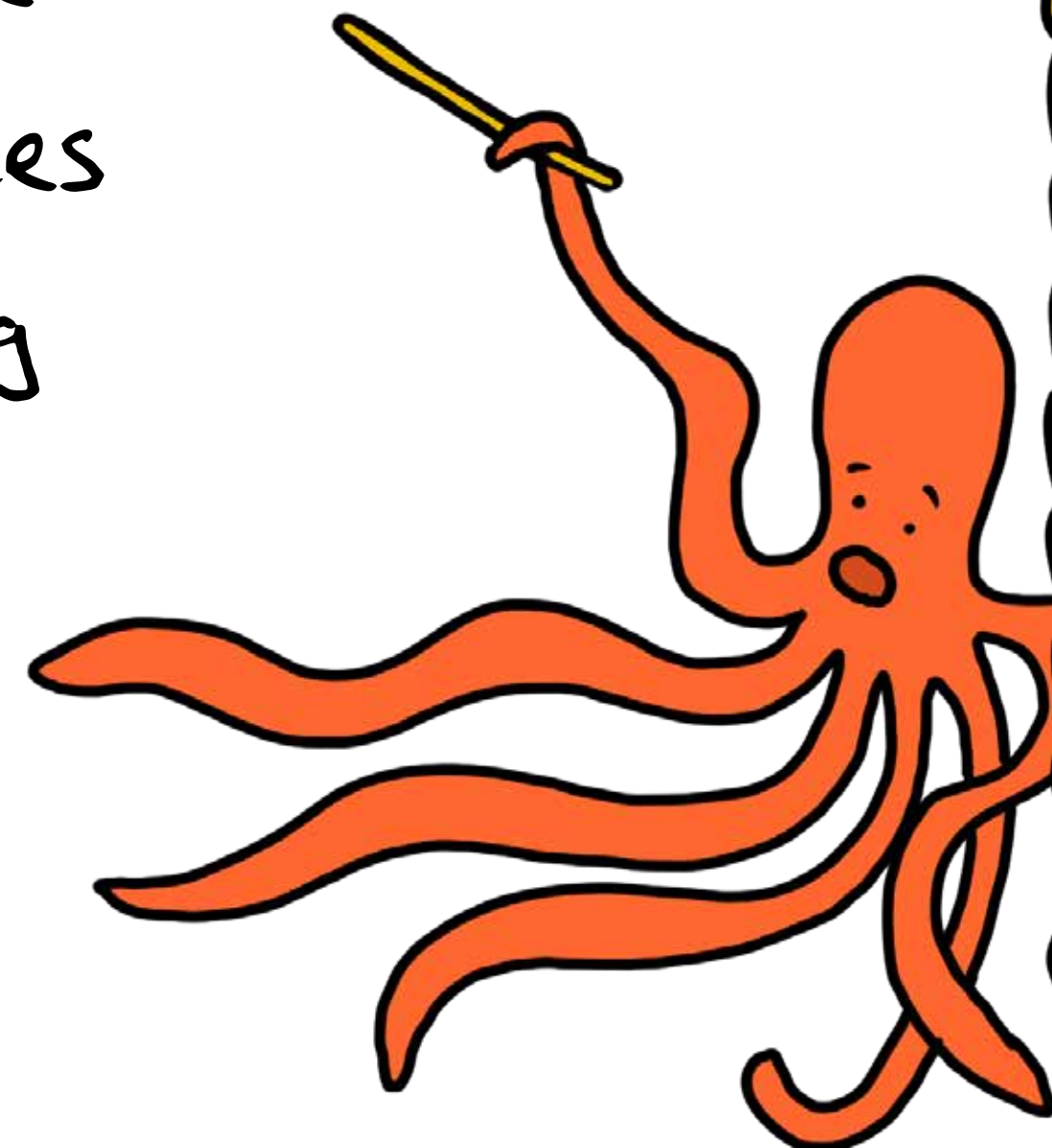
You can also find a  
video tutorial at  
[southtyneside.littleinventor.org](https://southtyneside.littleinventor.org)



# Tips on using the resources

The resources are designed to be worked through from top to bottom intersected with hands-on activities along the way to keep the students engaged and developing their creativity and inventing skills.

It's important to familiarise yourself with the resources before delivering anything to your class.



In addition to the printed materials your class will need:

- . Pens and coloured pencils
- . Scissors
- . Junk materials for students that prefer to think with their hands rather than sketching (e.g. cardboard boxes, plastic bottles, pipe cleaners...anything destined for trash that can be re-used to make a model)
- . Additional materials for prototyping are on the submarine prototyping activity

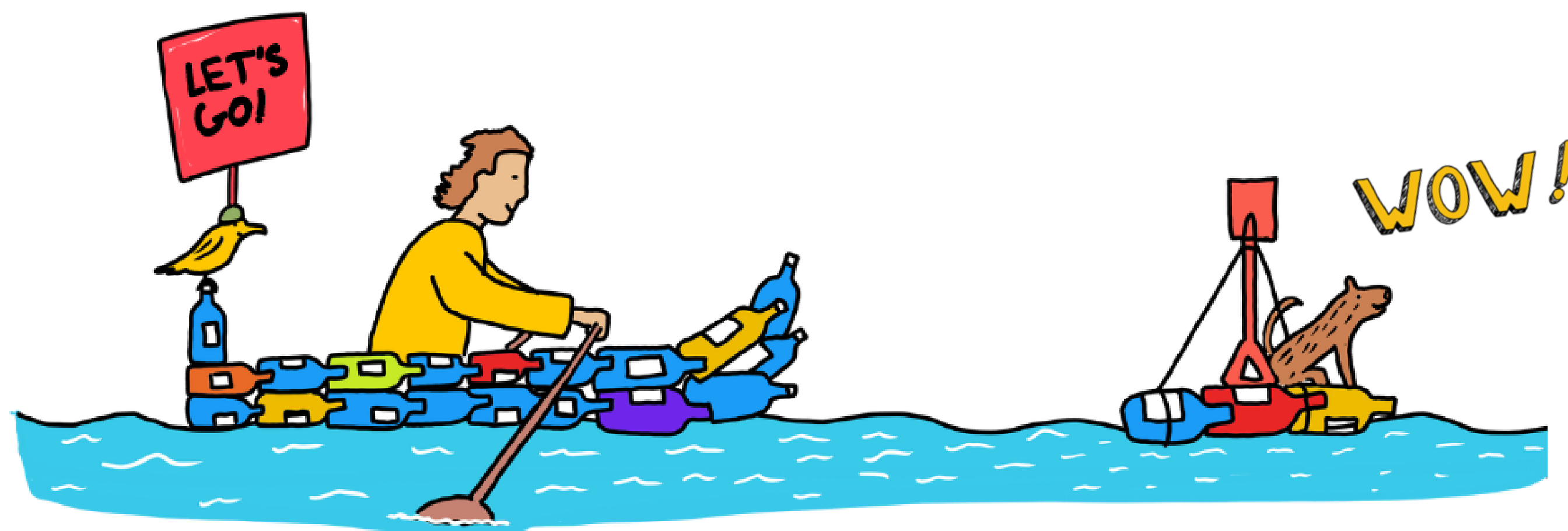


# Little Inventors

# Dropbox

# Google Drive

Alternatively send via WeTransfer to [hello@littleinventors.org](mailto:hello@littleinventors.org).



## My Making Waves Invention

Draw your invention here! Use a black pen, add colours and labels

Invention name \_\_\_\_\_

First name \_\_\_\_\_

Age \_\_\_\_\_

School \_\_\_\_\_

Town/city and country \_\_\_\_\_

**Tell us more!**  
(Who it is for, what it does, how it works)

# DEADLINE

# 30th APRIL

# 2025

**MY INVENTION**

Upload your idea at [southtyneside.littleinventors.org](https://southtyneside.littleinventors.org) to get feedback. Who knows, it could be made real!

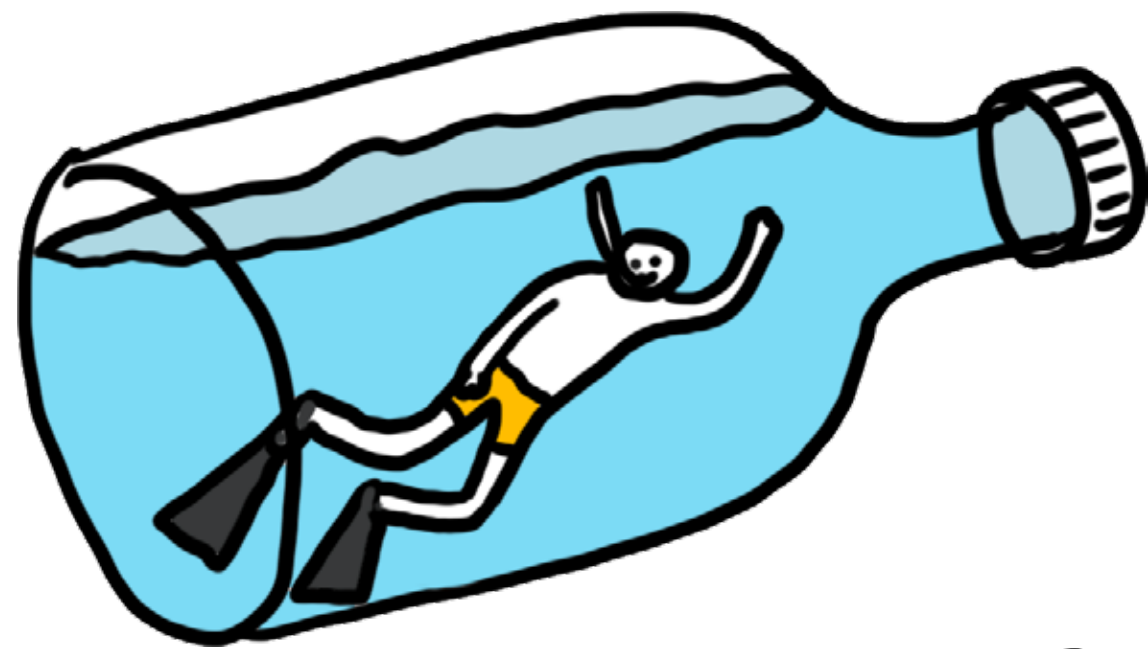
The best ideas submitted will be published on the website with feedback from our experts! And one idea will be brought to life by a professional maker!



# What next?

Celebrate all of the hard work completed by the whole class. You may want to explore ideas of how you can showcase all of the inventions at your school.

How about an invention exhibition?  
You could invite the school community to come and explore all of the fantastic ideas!



[Download the Classroom Exhibition Materials at southtyneside.littleinventors.org](https://southtyneside.littleinventors.org)



# We're here to help



If you have any questions or need any help  
please get in touch with Ellie or Craig at

[hello@littleinventors.org](mailto:hello@littleinventors.org)

We wish you and your  
students the best of luck  
with the challenge and  
can't wait to see the  
inventions!

