

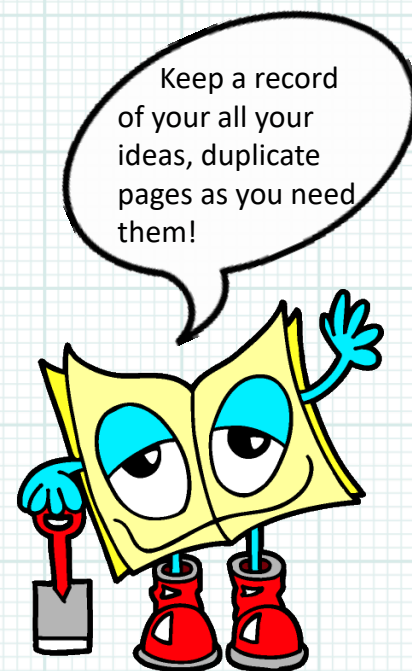


IF YOU WERE an **ENGINEER** What WOULD YOU DO?®



@LEADERSAWARD #LA2020
#IfYouWereAnEngineerWhatWouldYouDo?

Engineer's Logbook





Task 1: Draw and label pictures of the things you think an engineer does.







Task 2: If you could meet an engineer what would you ask them? Add your ideas here



How do you come up with ideas?

What problems have you solved?

When did you know you wanted to be an engineer?





Task 3: Product Functionality

What is it you are looking at?
Describe it here.

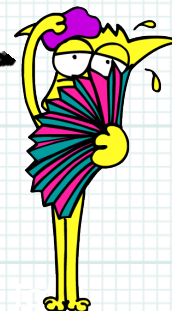
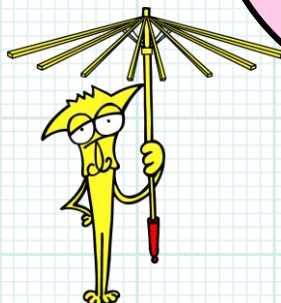
Materials
What is it made
from?

Environment
Where is it used?

Function
How it works

Cost
To buy

Choose
'something'.
How well does it
work? Give each
aspect a score
out of 5.





Aesthetics
How does
it look?

5

Ergonomics
How it feels

5

Safety
How safe is
it?

5

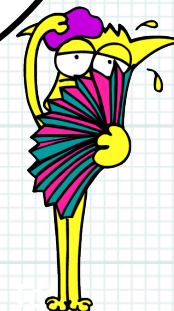
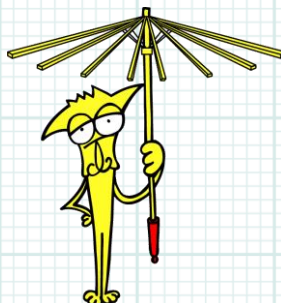
Durability
How long it lasts

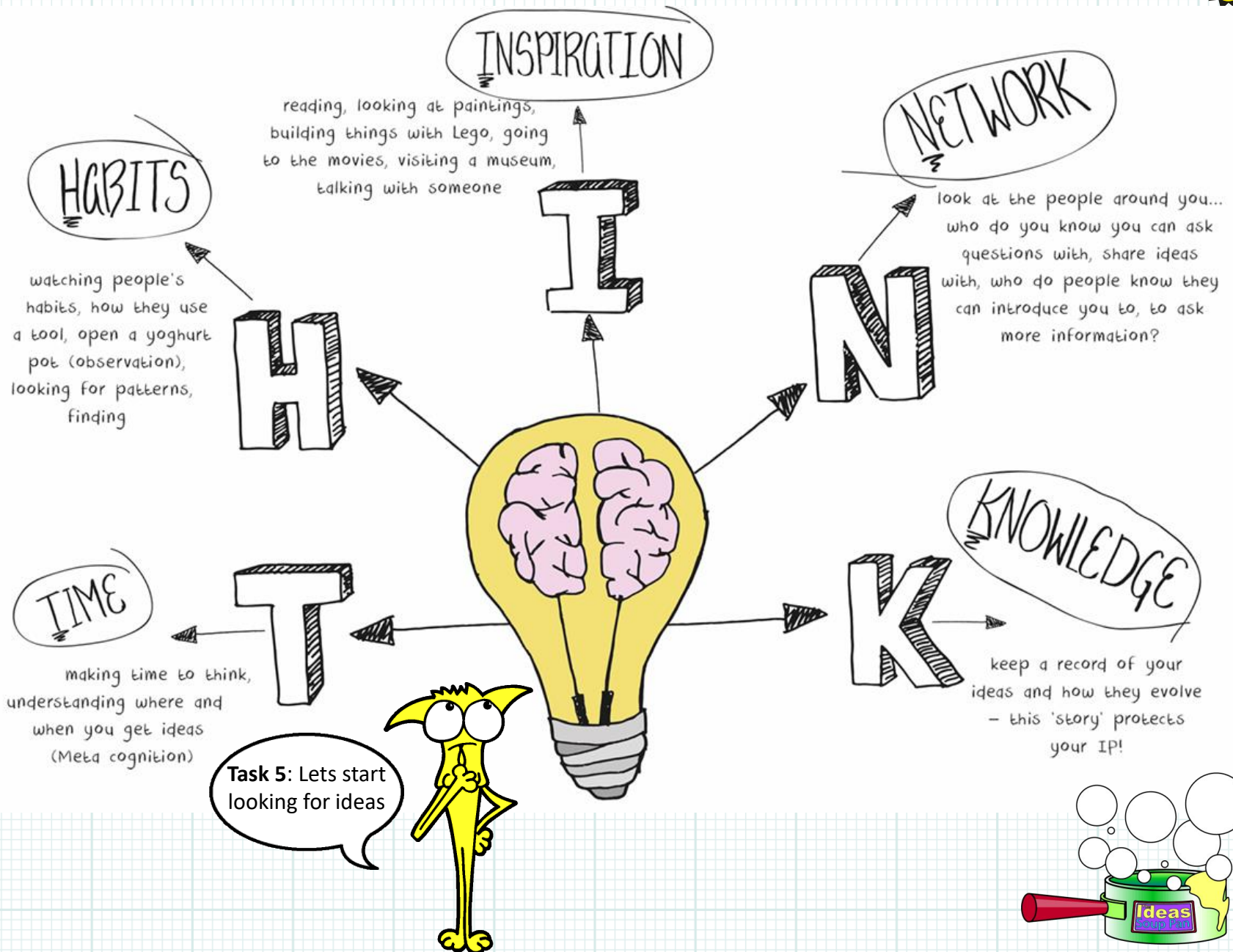
5

In your opinion...
What is the score
out of 40? Does it
do all the things it
should?

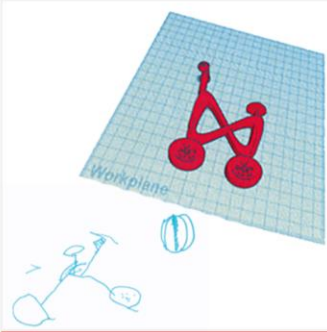
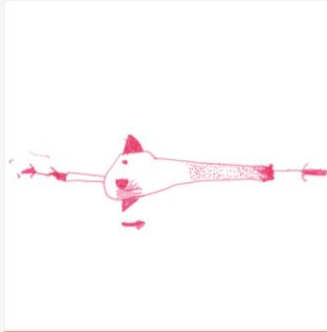
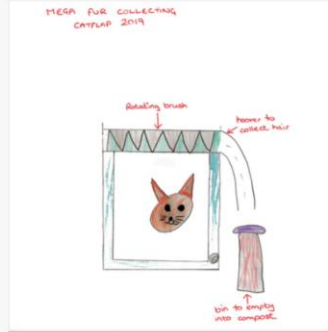
40

Choose
'something'.
How well does it
work? Give each
aspect a score
out of 5.







Bike	Whale of Litter	Tap With Germ Sensor	Mega Fur Collecting Cat Flap 2019
 David Fraser an Early Years pupil at Jimmy Dunnachie Family Learning Centre designed 'The Bike' Davids bike sprays out tree seeds and a spray to water them. When it is running low on seeds or water it sounds an alarm. David 3D printed his idea.	 Lacey Murphy an Early Years pupil at the Jimmy Dunnachie Family Learning Centre designed 'Whale of Litter', Lacey designed a whale that will pick-up all the rubbish in the sea and has an extendable arm to cut the plastic that is caught around fish. Lacey said that plastic is bad for the world and takes too long to break down.	 Perrie Simpson a Primary 1 pupil at Woodside Primary School designed a 'Tap with Germ Sensor' to detect germs and then bleeps when your hands are clean.	 Mae Stanbrook is a Primary 1 pupil at Ae Primary School, Mae designed 'The Mega Fur Collecting Cat Flap 2019' so that as the cat is coming back into the house via the cat flap it grooms all the loose hair from the cat so that hair doesn't collect on the sofas and carpets.
Task 3.1: What do you like about this idea/design? What would you change about the idea/design?			



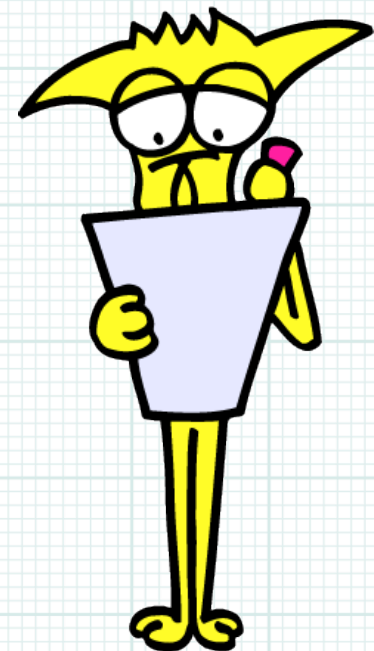
The Weighable Suitcase	Bio-Degradable Cardboard Glider	Metal Straw	Chill Band
Kaitlin Bennett's design, 'The Weighable Suitcase', features a suitcase where the handle acts as a fulcrum. The weight of the contents is balanced against the weight of the handle itself, allowing it to stay up or down based on the load.	Cameron Mullett's design, 'Bio-Degradable Cardboard Glider', is a model airplane constructed from cardboard. It includes a main body, wings, a tail fin, and a propeller-like engine at the front, designed to drop supplies into refugee camps before naturally degrading.	Scott Coulter's design, 'The Metal Straw', shows two versions of a metal straw. One is a standard rigid straw, while the other is designed to collapse inward when squeezed, preventing litter from being discarded in the environment.	Natasha Clark's design, 'The Chill Band', is a wristband intended for students with anxiety or autism. It incorporates fidget toys and sensory tools to help them concentrate better in class by providing a tactile distraction.
Kaitlin Bennett a Secondary 1 student at Kilmarnock Academy designed 'The Weighable Suitcase', and whilst this was one of two designs she entered (and not her favourite) the judges really liked the idea of a suitcase which weighed itself.	Cameron Mullett a Secondary 1 student from Arbroath High School designed 'Bio-Degradable Cardboard Glider' which is able to drop supplies into refugee camps and then be left to bio-degrade naturally.	Scott Coulter a Secondary 2 student at St. Matthew's Academy designed 'The Metal Straw' as a solution to plastic straws and their impact on the environment. This design, made from metal easily collapses and can be kept in your pocket.	Natasha Clark an Secondary 2 student at West Calder High School designed 'The Chill Band' for students who suffer from anxiety or autism to enable them to concentrate better in class – the design has many features that the student can play with to help them concentrate better.



Task 4: Create an Idea Flow Chart

What is the problem you have found?	What is your first solution?
Who will it help? Who is the audience?	What is your second solution?
	What is your third solution?

Fill in the flow chart by thinking of an audience you want to help and some problems or complaints they have. See if you can come up with different solutions to the problems then explore why they would work and, in some cases, why not.

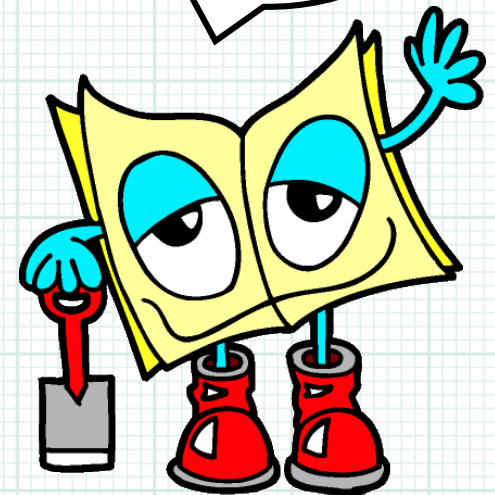


IF YOU WERE an
ENGINEER
What WOULD YOU DO?

Primary Engineer Programmes
...the first step®



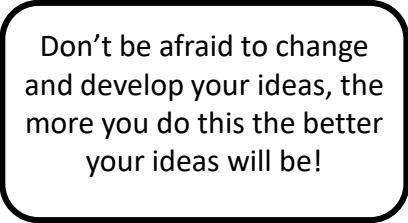
Task 5: Choose your best idea and draw it, use lots of annotation explaining how the parts of your drawing will work





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What WOULD YOU DO?®**

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Task 6: Now it is time to write your letter to the engineer explaining your idea and why they should build it!

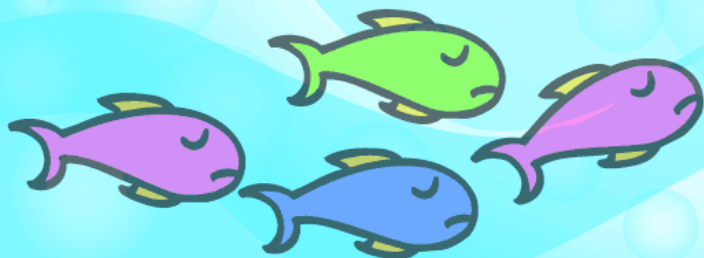
What is your invention?

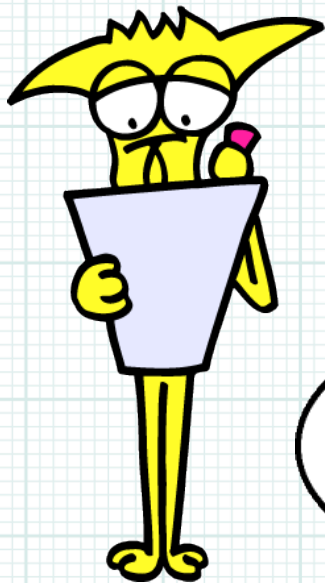
Why should it be made?

Who inspired you?

How did you come up with the idea?

Who does it help?





You may want to
design a logo add it
to your letter.

Your address

Date:

Primary Engineer
Floor 2
AMS Office Tower,
AMS Technology Park
Burnley Lancashire
BB11 5UB

Dear Primary Engineer,

What is your invention?

How did you come up with the idea?

Who does it help?

Why should it be made?

Who inspired you?

Yours sincerely,

Lined area for writing the letter.

