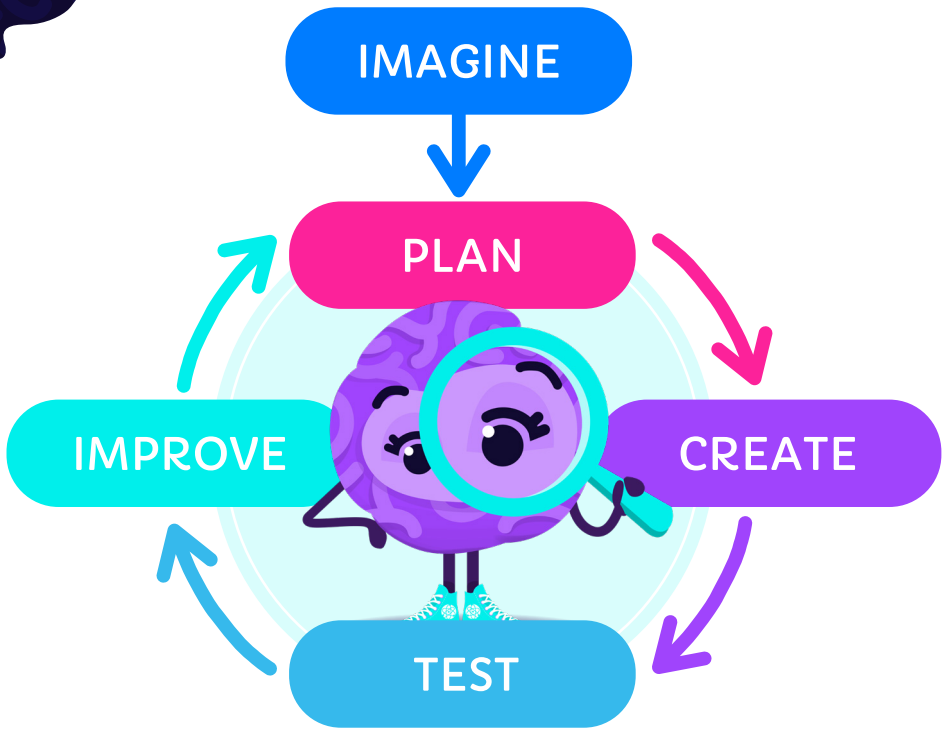
BUILD A NEURON WORKSHEET



IMAGINE

The first step is to think of as many ideas as you can for how the signal might travel from one end of your neuron machine to the other. The wackier the idea the better! Use the space below to jot down your ideas as you discuss in your groups.

BUILD A NEURON WORKSHEET

PLAN

Next, you need to to narrow down your ideas and plan out your neuron.
You can draw out a design for your machine here:

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CREATE

Now its time to get building. Try to follow your plan as closely as possible. If something doesn't work, and you need to change your plan as you go, don't forget to make a note on your drawing of what you have changed.

TEST

Once you have built your machine, you can test if it works.
Make sure you test it several times, and then answer the questions below:

> Which parts of the machine worked well, every time (or almost every time)?

> Which parts caused problems?

IMPROVE

The next step is to work out how to fix the problems, and improve your machine.

> Was there a part where it often got stuck?
Think about how you could change the machine to prevent this problem.

CONGRATULATIONS!

You have finished the first round of the engineering design process! Now, we start it again...

BUILD A NEURON WORKSHEET

PLAN

Sketch out your machine again, with the improvements you plan to make.

CREATE

As before, make a note on your drawing of anything that doesn't quite match the plan whilst making your improvements.

BUILD A NEURON WORKSHEET

TEST

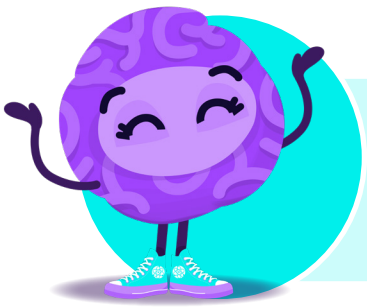
> Which parts of the machine worked well?

> Which parts caused problems?

IMPROVE

Are there any improvements that could still be made?

You can continue this cycle until you are happy with your machine (or until the end of the lesson!). Engineers often spend many months trying out (or prototyping) different solutions to their problems, before landing on the best one. This process is a vital part of doing that.



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