THE DESIGN THINKING TOOLKIT

Got a problem? Design it better.

Eight skills for solving real problems for real people.

1 Spot a problem
DESIGN

What is annoying, slow, unsafe or unfair?

2 Step into their shoes
EMPATHY

What is it like for them?

3 Ask 'How might we?'
PROBLEM STATEMENT

Who needs what, and why?

4 Think of lots of ideas
BRAINSTORM

What else could work?

5 Choose with a reason
CRITERIA

Which idea meets the criteria best?

6 Build a quick model
PROTOTYPE

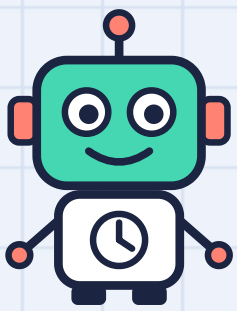
What is the fastest way to try this?

7 Test and listen
FEEDBACK

What did I learn from the test?

8 Try again, better
ITERATE

What one thing will I change next?



Understand first. Then imagine, build, test and go again.

1 DESIGN SKILL ONE

Spot a problem

Design say: duh-ZINE
Planning and making something to solve a problem for someone.

FOUR KINDS OF PROBLEM TO LOOK FOR

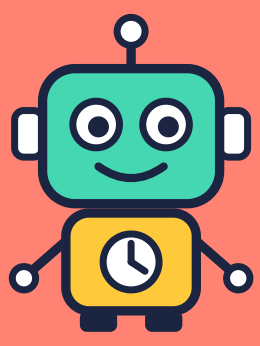
Annoying
The glue stick lid always goes missing.

Slow
It takes ages to find your hat in the tub.

Unsafe
The path is slippery when it rains.

Unfair
The top shelf is too high for small kids.

TOP TIP Keep a bug list. Write down every little thing that bugs you or someone else.



ASK YOURSELF

What is annoying, slow, unsafe or unfair?

2 DESIGN SKILL TWO

Step into their shoes

Empathy say: EM-puh-thee
Understanding how someone else feels and what they need.

THREE WAYS TO UNDERSTAND SOMEONE

Watch
See what they really do.

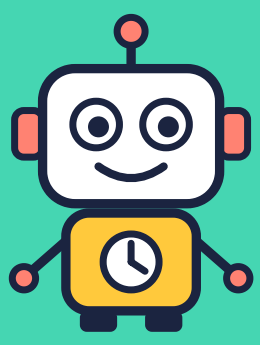
Ask
Ask open questions and listen.

Try it
Do the task their way.

OPEN QUESTION
"What is tricky about carrying your bag?"
Gets a story.

CLOSED QUESTION
"Is your bag heavy?"
Gets yes or no.

REMEMBER The person you are designing for is called the user.



ASK YOURSELF
What is it like for them?

3 DESIGN SKILL THREE

Ask 'How might we?'

Problem statement

One clear sentence that says who needs what, and why.

A PROBLEM STATEMENT

Year 1 students need a way to find their hat because the tub is a jumble.

Too wide

How might we make school better?

Too narrow

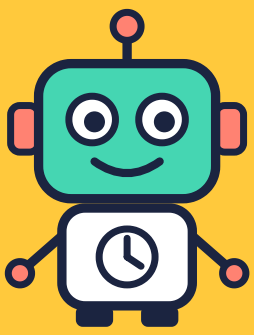
How might we put a blue hook by each door?

Just right

How might we help Year 1 students find their hat quickly?

THE RECIPE

Say who needs what, and why. Then ask: How might we…?



ASK YOURSELF

Who needs what, and why?

4 DESIGN SKILL FOUR

Think of lots of ideas

Brainstorm

Coming up with as many ideas as you can before judging any of them.

FOUR WAYS TO SPARK IDEAS

Change the size

What if it was tiny? Or huge?

Mix two things

A bag and a chair. A bottle and a torch.

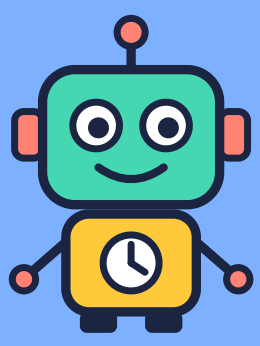
Copy nature

How does a snail stay dry?

Flip it

What would make it worse? Now do the opposite.

Brainstorm rules Go for lots · Wild is welcome · Judge later



ASK YOURSELF

What else could work?

DESIGN SKILL FIVE

Choose with a reason

Criteria say: cry-TEER-ee-uh

The things a good solution must do.

A DECISION GRID: SCORE EACH IDEA OUT OF 3

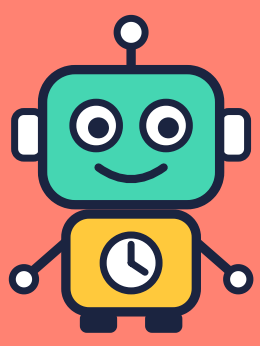
IDEA	CHEAP	EASY TO USE	SAFE	TOTAL
Hat hooks	2	3	3	8
Bigger tub	3	1	3	7
Hat robot	1	2	1	4

IN MATHS

Add the scores. The highest total is the idea to build first.

$2 + 3 + 3 = 8$

Good criteria are **clear** **fair** **chosen before you score**



ASK YOURSELF

Which idea meets the criteria best?

6 DESIGN SKILL SIX

Build a quick model

Prototype say: PRO-toe-type
A quick, cheap first version you build to test an idea.

FOUR KINDS OF PROTOTYPE

Sketch
Draw it with labels.

Model
Build it from card and tape.

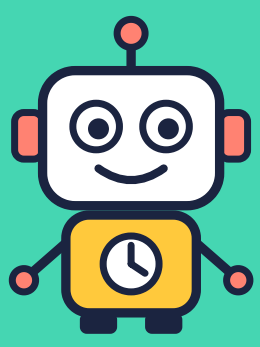
Storyboard
Draw it like a comic.

Act it out
Pretend to use it.

IN MATHS

Work to scale. If 1 cm stands for 10 cm, a 150 cm bench becomes a 15 cm model.

$150 \div 10 = 15$



ASK YOURSELF

What is the fastest way to try this?

7 DESIGN SKILL SEVEN

Test and listen

Feedback

What people tell you, or show you, about how well your idea works.

THREE WAYS TO GIVE FEEDBACK

I like•••
Say what works, so it stays.

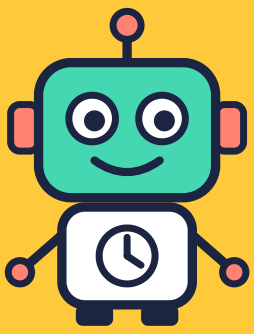
I wish•••
Say what could be better.

I wonder•••
Ask a question or offer an idea.

HELPFUL FEEDBACK IS SPECIFIC

"I wish the handle was bigger, because it hurt my hand."

TOP TIP When you test, watch and listen. Do not explain or argue.



ASK YOURSELF

What did I learn from the test?

8 DESIGN SKILL EIGHT

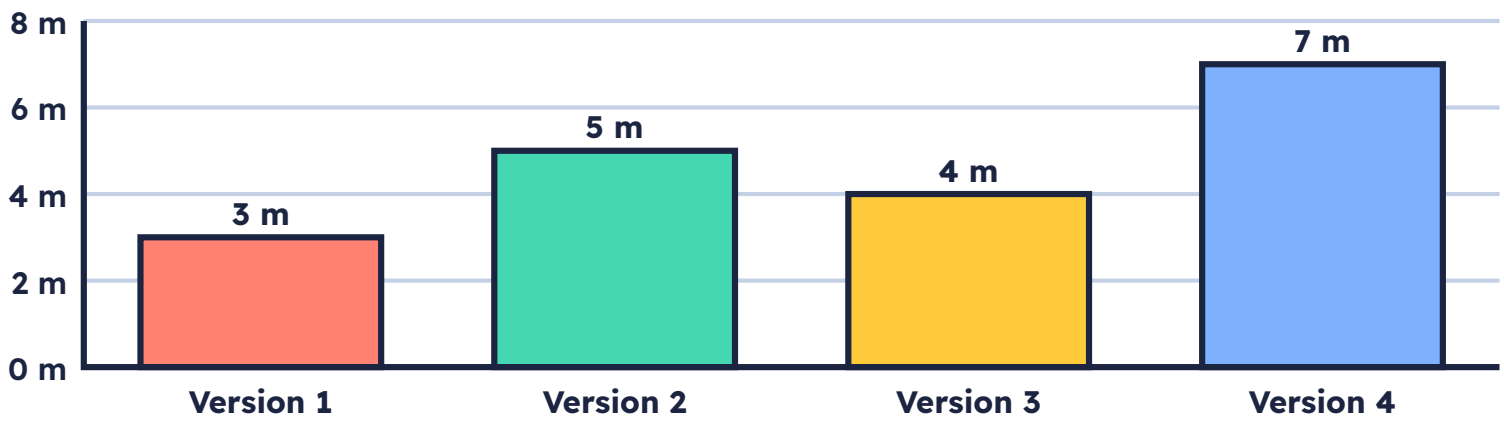
Try again, better

Iterate say: IT-er-ate

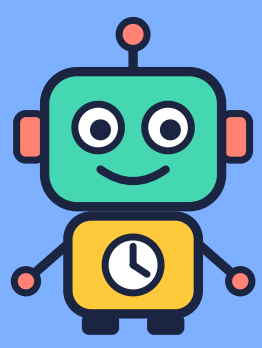
To improve something by making a new version, testing it, and doing that again.

Build > Test > Learn > Change one thing > Go again

HOW FAR THE PAPER PLANE FLEW



FAIR TEST Change one thing at a time, or you will not know what helped.



ASK YOURSELF

What one thing will I change next?