COLLECT / MAKE / SHARE DESIGN PROCESS TOOLKIT

V&A Innovate is based on design thinking and human-centred design methodology. The following toolkit, co-designed with professional designers, gives an outline of how you could run Innovate with your school by following three core design stages: Collect, Make, Share.

COLLECT

Explore, discover, listen and observe. This stage is all about getting students out of the classroom in search of a design opportunity.

MAKE

Inventing and exploring multiple ideas, testing them, and learning from feedback before reaching a decision about the right idea to develop.

SHARE

Students define their idea and bring it to life through visualisations and storytelling.

Watch the 'Innovate Journey' animation with your students to introduce Collect, Make and Share and to discuss what it means to be part of a user-centred design process.

This toolkit offers suggestions about how to deliver each stage. We have included activity ideas and printable tools for students to support them throughout the Innovate journey – from exploring the project theme, to prototyping ideas, to sharing their work with the Innovate judges.
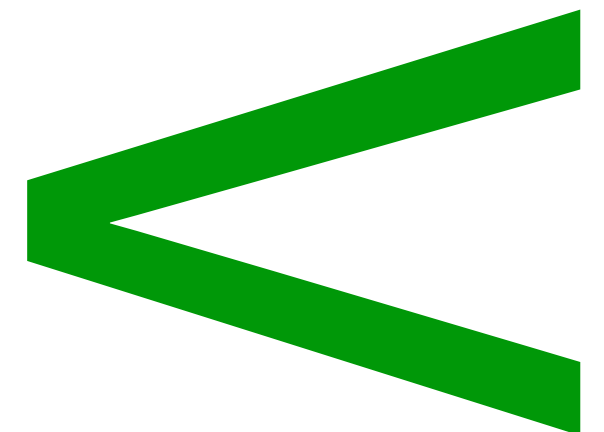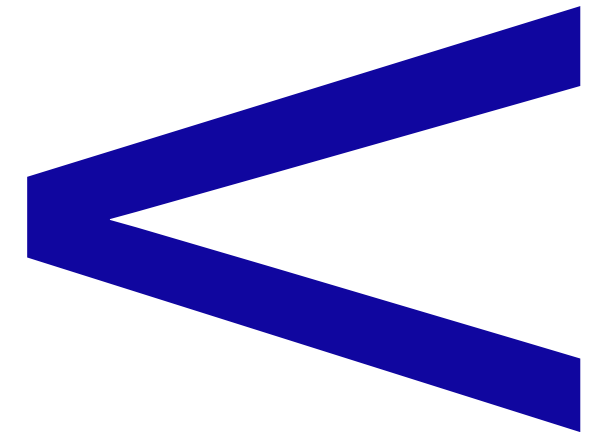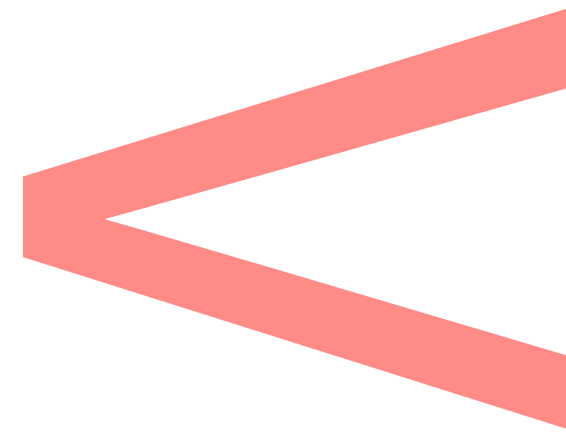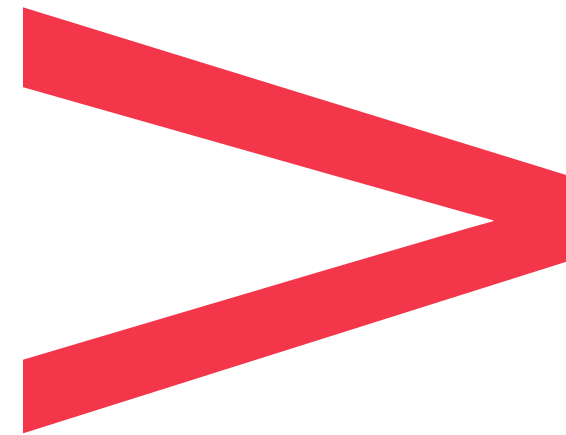
These resources have been co-produced with designers Ella Britton and Hefin Jones.

COLLECT

Explore, discover, listen and observe. This stage is all about getting students out of the classroom in search of a design opportunity.

This toolkit includes:
> Explore the theme
> People & Places
> Find your challenge

MATERIALS STUDENTS WILL NEED:
> A3/A4 printouts of the toolkit
> Large paper
> Pens and pencils

AT THE END OF THIS STAGE, STUDENTS SHOULD HAVE:
> Evidence of their primary and secondary research
> Insights gained through investigation

03 > COLLECT

EXPLORE THE THEME

A tool for students to use as part of this activity can be found on page 3.

OVERVIEW
These question prompts should be used with the V&A collections objects in the Home and Community toolkits. The aim here is to use the collections objects and 'Explore the theme' cards together to get your students thinking about issues that might act as a starting point for their own projects.

HOW TO USE
Cut out the question prompt cards and put them face down. Students then take turns to flip over a prompt question card to spark a short discussion about one of the collections objects. One person should be capturing this conversation through drawings or notes.

OUTCOMES
Students will have drawings and notes on issues they'd like to explore further at home, in school or locally.

PEOPLE & PLACES

A tool for students to use as part of this activity can be found on page 4.

OVERVIEW
Ask students to draw a map of the people and places connected to their initial interests. This mapping activity helps students use the output of 'Explore the theme' to identify local people and places that are relevant to their research.

HOW TO USE
In groups, support students to sketch or write examples that draw on their own experience and understanding of the local area. Then ask groups to swap sheets and continue the activity so that they can crowdsource ideas from each other. Once each group has filled out their sheet, ask them to share their ideas.

OUTCOMES
Students will have identified a range of people and places that they can reach out to during the subsequent research phase.

FIND YOUR CHALLENGE: RESEARCH METHODS AND RESEARCH PLANNING

Tools for students to use as part of these activities can be found on pages 5, 6 and 7.

OVERVIEW
Help your students pinpoint what they're trying to find out, where they need to go, who they need to involve and how they should go about it.

HOW TO USE: RESEARCH METHODS
'Research Methods' provides different ways to help students discover more about their theme interests, including guidance about how to listen, observe and talk to people. Help students read through the different method cards and let them choose which ones they want to try. The methods each student chooses will depend on what they'd like to find out, what they feel confident doing and how much time they have for research. Some research will be done in pairs or more, some can be done individually as homework.

HOW TO USE: RESEARCH PLANNING
The 'Research Planning' tool can be used as a quick way to generate ideas for research activities. Set a repeating two-minute timer and ask students to generate as many research activity ideas as possible within ten minutes. Students then share their ideas with their teams before repeating the activity to refine their most exciting ideas. By the end, they should have 1–3 research ideas that they feel confident to go and act on, either on their own or as a team.

OUTCOMES
Students will have 1–3 research ideas to act on.

EXPLORE THE THEME

03 > COLLECT

WHO

> Who is this for?
> Who does this make a difference to?
> Who do you know personally who might use this?

WHERE

> Where can this be found?
> Where can't this be found?
> Can you name specific places?

WHAT

> What does it do? What doesn't it do?
> What is unusual about it?
> What material is it made from? What does this tell you?

HOW

> How does it make a difference?
> How would you describe it without saying what it is?
> How does it make you feel?

WHEN

> When is it used?
> When isn't it used?
> When are the specific moments it's needed?

WHY

> Why was it made?
> Why does it matter?
> Are there any needs or problems it is trying to solve?

PEOPLE & PLACES

Draw a map of the people and places connected to your interests. Mapping your local area can help you think about people and places you might want to talk to or visit for research.

RESEARCH INTERESTS

> Describe your main interest in three words.
> You can either use your responses from the 'Explore the theme' activity or a previous interest that you have.

PEOPLE

> Who in your area does this matter to, and why?
  Who doesn't this matter to?
> Who might know something about this?
  Who could you ask to find out more?

PLACES

> Where would you find activities, actions, events or behaviours relating to your points of interest?
> Where are places that have something in common with your research interests?

FIND YOUR CHALLENGE: RESEARCH METHODS

Research methods are different ways to help you find out more about your points of interests. They include talking to people, listening and observing. You can choose different methods depending on what you'd like to find out.

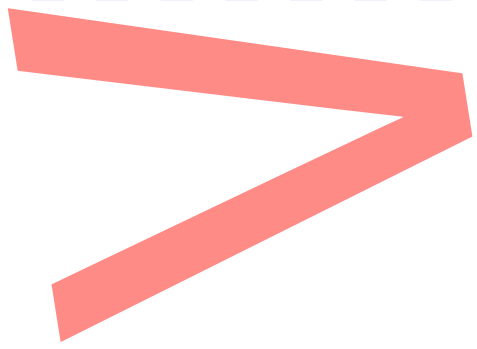|		
Listening	A good way to get information is to listen to people's stories about the topic you're exploring. You can do this in a structured conversation, a formal interview, or an informal chat.	For example: > Sit down with your family over dinner and ask them to share their thoughts and experiences about home or community. > Interview your classmates or teachers and ask them questions about the people they connect with in their neighbourhoods.
Seeing	Observation is an important research method for designers. To learn more about a place, or people's habits, you can watch what happens in a place over time. Draw, photograph and write down what you notice.	For example: > Sit in a public space and watch how people use it over time. > Sketch all the activities you notice at home that could be made more environmentally friendly.
Questioning	Surveys and questionnaires are often used to get a general view of a topic or idea. They can be used face-to-face with people on paper or tablets. Or they can be sent to people by email.	For example: > Create a short questionnaire on paper for your classmates and teachers that asks questions about the future of the home. > Create a short survey online that can be sent to people living in your community, asking them about the spaces and places they go to connect with other people.
Experiencing	Designers often try to understand different people's perspectives by trying to see the world through different eyes. This is called empathy.	For example: > If you want to better understand how a partially sighted person lives alone at home, you might limit your own sight for a short time and see what strategies you would need to get around the house safely.
Playing	If you want to learn something new from people in a group, you can design games that help people share their experiences with you. This makes research more fun and playful.	For example: > Create a treasure hunt in your community and ask people to come up with ways to make the place more appealing. > Create a 'climate futures' board game that asks people questions about how they could change their home for the future in response to climate change.
Inspiring	Inspiration can come from anywhere. Designers often look at unrelated situations and experiences to find interesting ideas. They look sideways and keep their curiosity and minds as open as possible.	For example: > What might an ant farm teach us about home and living together? > How do sci-fi movies tell us about possible futures of the home?

DESIGN RESEARCH METHOD CARDS

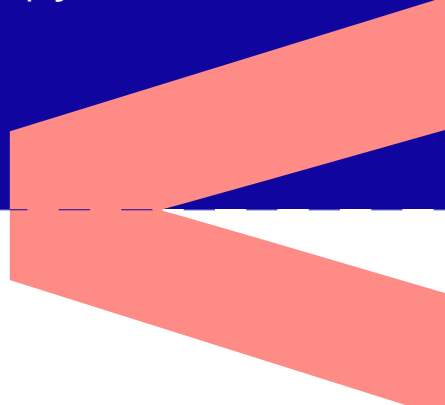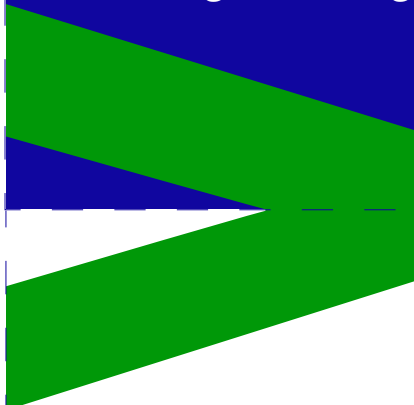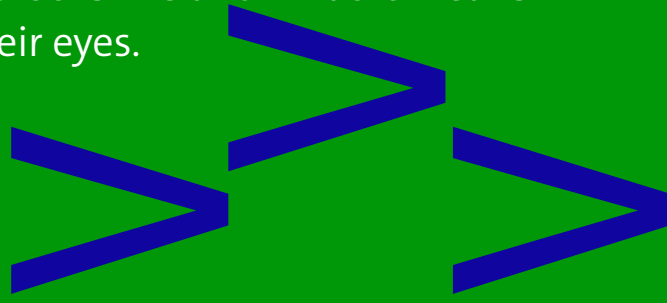Cut out these cards and choose which research methods you would like to use.

IN-DEPTH INTERVIEWS
Using open questions to have a conversation with someone individually or in a group. These people might be someone you know locally, or professionals with a specific area of knowledge that might help you.

FLY ON THE WALL
Hanging out in a place and almost making yourself invisible to people. Just observing, listening and keeping notes of everything you notice.

WALKING TOURS
Inviting people who know a place or a service to walk you through the experience. Showing you what it looks like and what it means through their eyes.
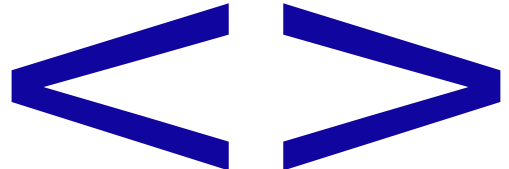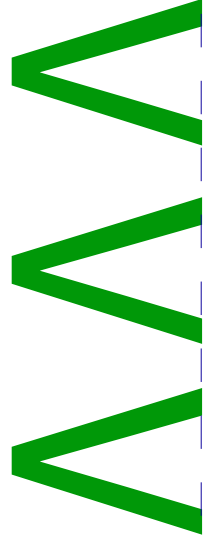
INTERVIEWING YOUR CLASSMATES
Using open questions or a questionnaire to have a conversation with your classmates about the context. What do they think? What questions do they have? What are they passionate about?

EMPATHY TOOLS
Putting yourself in other people's shoes as much as possible and trying to experience what they experience.
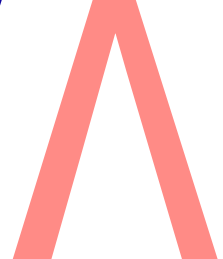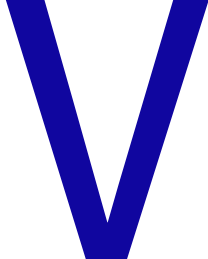
JOURNEY MAPPING
Visualising the story of someone's experience step-by-step to learn more about what you are trying to investigate.

INTERACTIVE GAMES
Creating playful and interactive experiences for people, designed to help you find out more information about their experiences.

RAPID PROTOTYPING
Quickly building or 'mocking up' ideas to gain more insight into what people will respond to best, or what may or may not work.

SIDEWAYS INSPIRATION
Looking at situations that seem unrelated and thinking about what relationship they might have to your research e.g. what can a supermarket learn from a Formula 1 pit stop?

FIND YOUR CHALLENGE: RESEARCH PLANNING

Identify what you're trying to discover, with who, and how.

PERSON

Who will be involved?

Pick a person from your 'People & Places' outputs

PLACE

Where will it happen?

Pick a place from your 'People & Places' outputs

RESEARCH METHOD

Pick any research method and place it here.

Swap it for a different method every time you start over

ACTIVITY

What will you do to learn something?

Person + Place + Method =

TIME

When will it happen?

How long will you need?
At what time of day?

OUTPUT

How will you share/communicate what you've done? Notes, drawings, audio recordings, film, etc.

What tools/equipment will you need? Paper, camera, audio recorder, etc.

MAKE

Inventing and exploring multiple ideas, testing them, and learning from feedback before reaching a decision about the right idea to develop.

APPROXIMATELY 2 HOURS
This toolkit includes:
> Define your challenge
> Generate ideas
> Test & Learn

MATERIALS STUDENTS WILL NEED:
> A3/A4 printouts of the toolkit
> Large paper
> Pens and pencils
> Rough prototyping materials (paper, card, tape, string, etc.)

AT THE END OF THIS STAGE, STUDENTS SHOULD HAVE:
> Visual evidence of all the ideas they've generated in answer to their design question
> Visual evidence of how these ideas were tested, what was learnt and what happened as a result
> A focused concept which answers their design question and is clearly the result of testing

04 > MAKE

DEFINE YOUR CHALLENGE: YOUR FINDINGS

A tool for students to use as part of this activity can be found on page 10.

OVERVIEW
A finding could be anything interesting, exciting or surprising that students have come across in their research. The aim of this tool is to help students share their research findings and expand on them together to find design opportunities.

HOW TO USE
Students write down or draw what they've found during their research activity. This can be done individually or in groups.

OUTCOMES
Students will report back a range of observations and findings from the research activity and then select around three findings that they feel most interested in.

DEFINE YOUR CHALLENGE: YOUR QUESTION

OVERVIEW
Help students focus in on their challenge by turning their research findings into a question they want to answer. Their question could be a challenge set to them by somebody they've met during the research, or it could be a challenge that they've set for themselves.

Using their research findings, ask them to come up with lots of questions they want to answer. What excites them most from their research? What problem did they find that really needs a solution? For example, if they found out during the research process that a relative was feeling lonely and isolated, their question might be: How can my relative feel more connected?

OUTCOMES
Each team will have a question they want to try to answer through prototyping and testing.

GENERATE IDEAS: IDEAS FACTORY

A tool for students to use as part of this activity can be found on page 11.

These activities will help your students unlock their creative thinking. Encourage students to unpack their design challenge and explore it in multiple ways.

OVERVIEW
Use these prompt cards to help students come up with lots of ideas for solutions based on their design question.

HOW TO USE
Cut out the individual cards and place them face down. Turn over one card at a time and ask students to brainstorm as many ideas as they can in a few minutes. You could use a timer for this activity to keep things moving and reduce any preciousness about ideas.

OUTCOMES
Students will have a range of different ideas that they can use for further development in the next activity.

Inventing and exploring multiple ideas, testing them, and learning from feedback before reaching a decision about the right idea to develop.

04 > MAKE

PROTOTYPING THE EXPERIENCE

OVERVIEW
Help students explore their ideas with rough physical prototyping to put themselves in the shoes of the user. This is an activity of testing and iterating, not of making finished models.

HOW TO USE
STEP ONE - Each group makes a prototype of their idea using rough modelling materials, such as paper, card, string and tape.

STEP TWO - Each group adjusts their prototype by thinking about how their user would experience it. They then test out the prototype by asking the following questions: Who is the user? Where is it used? What is it like before use / in use / after use?

STEP THREE - Each group reflects on the process and makes a note of any issues, problems or opportunities they come across. Was it clear how it worked? What worked and what didn't? Was it suitable for the user?

REPEAT: Cycle through these steps until they are happy enough with their prototypes to take them forward to the 'Test & Learn' activity which involves real world people and places.

OUTCOMES
Each student group will have at least three rough prototypes that explore their idea and that they'd be happy to take forward and test with people.

TEST & LEARN: ACTIVITY PLANNING

A tool for students to use as part of this activity can be found on page 12.

OVERVIEW
Help students plan for how they'll test their prototypes with people. Before you start this activity, make sure each team knows who their target user/s are.

HOW TO USE
Students come up with potential activities for testing out their prototypes. They populate the 'Activity planning' framework with their idea and combine it with one research method and one person/place. They then decide how they intend to capture their findings (notes, photos, audio recording) and come up with a 'Test & Learn' activity that they can take forward. You can set a repeating two-minute timer and ask students to come up with as many Test & Learn activities as possible within ten minutes. Repeat until they have a Test & Learn activity that they feel confident to go and do, either individually or in teams.

OUTCOMES
Students will have a plan to test their prototypes and should feel confident about it. They should capture their testing through notes, drawings, photos, etc. Once they have tested their idea, they should take on board the feedback they receive, so they can adapt it.
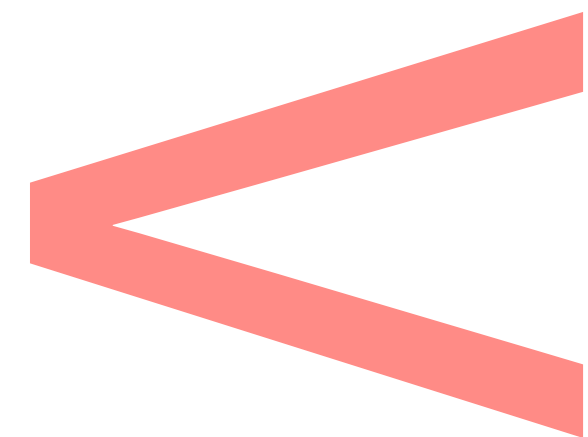
DEFINE YOUR CHALLENGE: YOUR FINDINGS

Write down or draw everything that you found out during your research activity

OBJECTS

What objects did you find out about? How were they used? How are they useful to the people using them?

BEHAVIOURS

What did you find out about how people behave in certain places or with certain objects? Was there anything surprising you found out?

FINDINGS

What was surprising, exciting, unusual, interesting?
If you could only share one thing from the research, what would it be?
What do you know now that you didn't know before?

MATERIALS
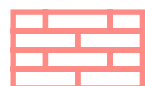
Were there any surprising materials you found out about?
Did you discover any sustainable materials?

ROUTINES

What did you discover about how people go about their daily lives? Was there anything you saw that helped them? Were there things that made their routine more difficult?

IDEAS FACTORY

These cards will help you come up with lots of ideas based on the design challenge you have set yourselves.

Cut out the individual cards and place them face down. Turn over one card at a time. For each card, spend two minutes brainstorming as many ideas as you can.

Reflect and decide which ideas feel strongest by asking:
Does it connect to something you found out in your research?
Would it have a real impact on the people it's for?
Could it realistically be made, thinking about cost, materials, manufacturing and sustainability?

£1 project budget	£1million project budget	One day to make it	50 years to make it
Use any material	Use recycled materials	For only one person	For as many people as possible in the world
Imaginary technology	Made by people in their home	In the form of an instruction manual	In the form of an app

TEST & LEARN /
ACTIVITY PLANNING

Plan out how you'll test your ideas with people. Before you start, make sure you know who your target users are!

IDEA

Example: Gardening tool for people with arthritis
Draw, describe or put an image of your idea here

+

PEOPLE & PLACES

Example: Elderly neighbour at their house
Who will be involved and where? These should be specific examples of people and places in your area that you have access to.

+

RESEARCH METHODS

Choose a research method:
Listening
Documenting
Experiencing
Seeing
Questioning

= ACTIVITY

Example: Give the neighbour a prototype to use for a couple of days and ask them about their experience using it
Draw or describe your ideas for your testing activity. What will you do? When will it happen and how long will you need?

OUTPUT

How will you capture the activity?
E.g. notes, drawings, film
What tools/equipment will you need?
E.g. Paper, phone camera, audio recorder

SHARE

Students define their idea and bring it to life through visualisations and storytelling.

If you're submitting your students' designs to the V&A Innovate National Schools Challenge, they'll need to present their design journey and final idea on two A3 design sheets. Read the judging criteria and entry requirements carefully to better understand what the judges will be looking for. You can also take a look at examples of entries from last year on our website.

APPROXIMATELY 2 HOURS
This toolkit includes:
> Storyboard your idea
> Self-Reflection
> Submit to V&A Innovate

MATERIALS STUDENTS WILL NEED:
> A3/A4 printouts of the toolkit
> Large paper
> Writing and drawing materials

STORYBOARD YOUR IDEA

OVERVIEW
Ask students to visualise their idea in different stages to help show how their idea works with people. Students should draw and annotate their idea before use, in use and after use.

EXAMPLE
Idea: Gardening tools for people with arthritis
Before use: A photo of the gardening tool hanging up in a shed
During use: A photo of a neighbour with arthritis using the tool while gardening
After use: A photo of the neighbour hanging up the gardening tool in the shed

OUTCOMES
Students should have three drawings of their idea in a storyboard format that they can include in their entry to the V&A Innovate National Schools Challenge.

SELF-REFLECTION

OVERVIEW
Host a reflective discussion that invites students to share what they've learnt about design and about themselves.

HOW TO USE
Ask students to share what they've learnt using the following prompt words: collaboration, surprises, skills, obstacles. Ask students to think about three things for each prompt word that they've learnt or experienced throughout the process. After individual self-reflections, pick one prompt word at a time and ask students to share their responses for that word as a group.

OUTCOMES
Students should have a documented range of reflections that they can include in their entry to the V&A Innovate National Schools Challenge.

SUBMIT TO V&A INNOVATE

A template for students to use as part of their submission can be found on the next two pages.

OVERVIEW
Students entering the V&A Innovate National Schools Challenge should communicate their ideas using different creative methods, making sure they describe the whole process from research to the final idea. Read the judging criteria and entry requirements carefully to better understand what the judges will be looking for.

HOW TO USE
As long as ideas are presented on two A3 sheets, students have the freedom to display their design idea however they wish. Students looking for more structure or who have less time can use the submission template as guidance.

OUTCOME
Each team will have created two A3 design sheets to submit. One should describe their design process and the other their final design idea.

DESIGN JOURNEY

EXPLORING THE THEME

TEAMWORK

RESEARCH: PEOPLE & PLACES

TESTING & LEARNING

OUR FINAL IDEA

THE PROBLEM WE ARE TRYING TO SOLVE
WHO IT'S FOR
HOW IT WORKS

REFLECTION ON OUR
DESIGN JOURNEY