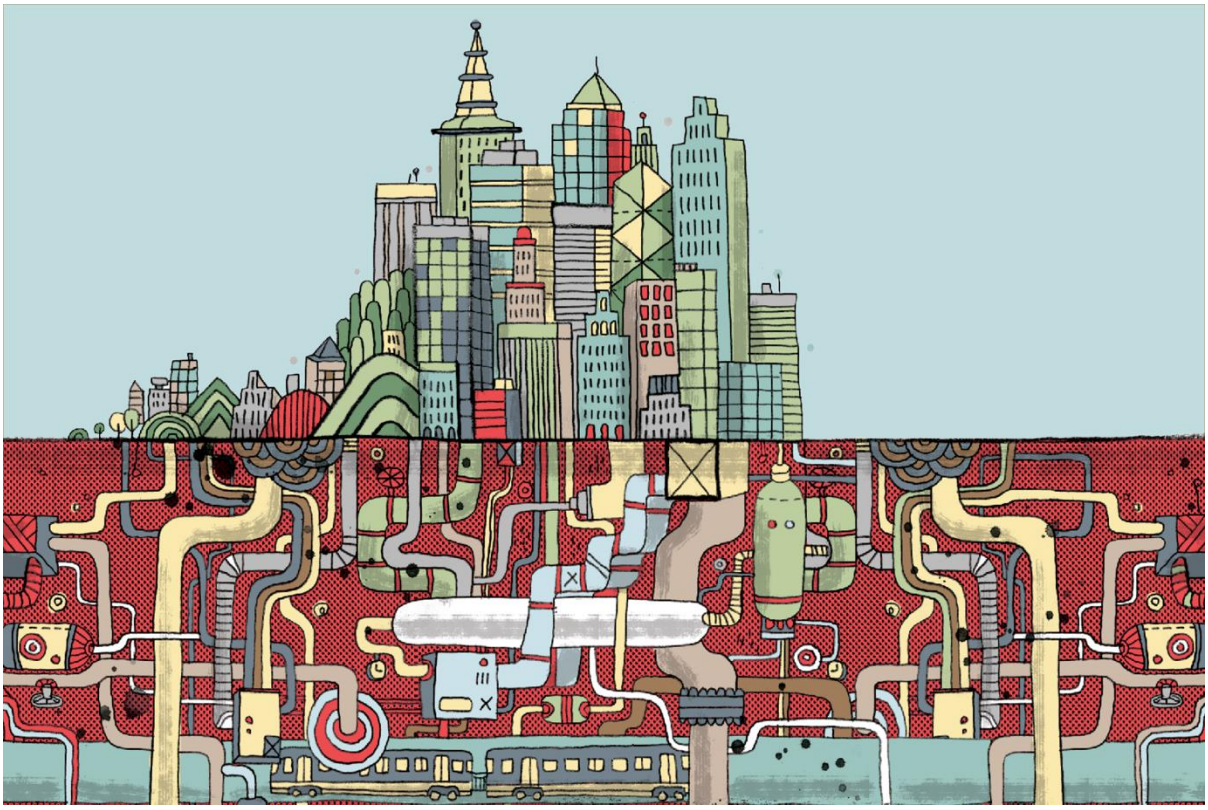
HOW CITIES WORK

Teacher Notes and Curriculum Links –
Early Learners to Year 3: HASS (Geography), Science, Design and Technologies

Exhibition season: 29 February – 30 August 2020



THE WORKSHOPS RAIL MUSEUM

Queensland Government

Introduction

Enter an immersive cityscape full of magical, tactile experiences to discover how the city works. Peek inside buildings, duck underground, and explore the streets to find out what is going on above your head and beneath your feet.

This self-guided learning experience encourages students to explore and investigate the inner workings of a city based on the book *How Cities Work* by Lonely Planet Kids and illustrated by James Gulliver Hancock. This guide supports teachers and adult helpers during their visit, as together with the students they navigate the fun and interactive activities this exhibition has to offer. Students will discover what makes cities special places, use 3D objects to construct their own buildings, and interact with a range of displays.

This exhibition offers students opportunities to think about the city where they live by considering these key inquiry questions:

- Who lives in cities?
- What makes a sustainable city?
- What will our cities look like in the future?

Designed to encourage adult and child interaction through play and discovery, the exhibition explores eight key themes:

1. *In and Out*
2. *City Fun*
3. *City Living*
4. *Build, Build, Build*
5. *Busy City*
6. *Cities of the Future*
7. *Green Spaces*
8. *Going Underground*

Visiting the exhibition

The maximum recommended group size in the exhibition space is 30 students at one time, divided into smaller groups of five students with a supervising adult. This enables smaller groups to engage with the different thematic spaces of the exhibition without overcrowding. Allocate a minimum of 60 minutes in the exhibition for students to explore and interact.

Prior to visiting The Workshop Rail Museum, it is recommended that teachers develop a schedule for groups. While not in the exhibition, other groups can explore the museum and investigate the role of rail in the development of cities. They can also visit the *Sciencentre* Maker Space to design, build, test and refine their own structures or forms of transport, which supports the themes and activities in the exhibition.

Please ensure that students and adult helpers are aware that there are many fun things to play with in the exhibition, but safe and respectful behavior is expected. This requires gentle handling of objects and walking only to ensure students' and objects' safety.

Please note this exhibition features noises and projected images that may be overwhelming for students with sensory processing issues.

Exploration and play: Suggested activities

The following section provides overviews of the exhibition's themes and ideas for engaging students with each theme, including:

- Suggested stimulus questions to activate discussions, engage students' interest, and to make connections with their own lives and experiences;
- Building and construction challenges and extension activities for students to do in *How Cities Work* and in the *Sciencentre* Maker Space.

Exhibition entry

When entering the exhibition, hand out a hardhat and high visibility vest to each student. These are located on different walls around the exhibition. To assist students in drawing connections between the exhibition and their own lives, use some of the questions below to engage them.

Suggested stimulus questions:

- Do you know anyone who wears clothes like this to work? Can you think of anyone who might wear these kinds of clothes?
- What work do they do?
- Why do they wear clothes like this?
- Why are you wearing these clothes to go into this exhibition?

Theme 1– In and Out

This interactive display is about transport and the ways people, food and other supplies move in and out of the city. Encourage students to interact with the activities in this space and share their discoveries as they discuss some of the following questions.

Suggested stimulus questions:

- How did you get to school this morning?
- How did we come to the Museum today?
- What are other ways people travel around a city?
- What types of transport can you see in the display?
- What other things are transported in and out of cities? How?

Theme 2 – City Fun

This is a free play and small construction zone where students can design their own cities using wooden blocks and vehicles. This area is designed for younger learners and includes a quiet corner for reading or time out if the exhibition becomes too overwhelming for students with sensory processing issues.

Suggested stimulus questions:

- What are you building?
- Does this look like where you live? (For example, your home or street?)
- Who lives or works in the building you are making?
- What can people do there?

Extension challenges

Challenge students to improve and expand upon their constructions, for example:

- Build the tallest building (younger learners)
- Design a city layout (older learners)

There are other interactive, kinesthetic activities in this space including assembling zoo animals and placing them in the City Zoo, or completing a City Museum jigsaw activity.

Suggested stimulus questions – *City Zoo*:

- What is your favourite animal? Why?
- Can you show me what noise it makes? **OR** How does it move?
- What animals might you find in a zoo?
- What animal are you making?
- Where will you put it the zoo? Why are you putting it there?

Suggested stimulus questions – *City Museum*:

- What is a museum?
- What types of things can you see in a museum? (***Hint:*** ask them specifically about what they have seen or think they will see at The Workshops Rail Museum)
- What things we are putting back into the *City Museum*? What do you think they were used for a long time ago?

Theme 3 – City Living

Students discover the different types of housing in which people live in cities, from old terraces to new builds, and from houses to apartments. Encourage students to lift, open or slide the flaps on the interactive display to investigate the different types of houses and discuss what they see.

Suggested stimulus questions:

- Tell the group about your house: What does your home look like? Who lives there?
- What things are in your house? (For example: furniture, people, rooms, pets). Can you find some of these things here?
- How are the homes different or the same?
- What are the people doing?
- Is your home like this? In what ways is it the same or different?

Theme 4 – Build, Build, Build

Students use large noodles, connectors and blocks to construct their own city and building designs. Please ensure that students are mindful of behaving appropriately and safely to ensure that they do not hurt each other or damage the materials.

Suggested stimulus questions:

- What kinds of things could we build with these materials?
- What will you build today?
- What is it used for? **OR** What is its purpose?
- What do the different parts do to make your structure work?
- Who uses it? **OR** Who lives in it?

Extension challenges

Suggest students expand upon their constructions, for example:

- Can you make it bigger?
- Can you make it taller? As tall as you/me?
- What would happen if you added another piece (noodle, connector)?
- How can you change it so it can be used for something else?

Theme 5 – Busy City

This space includes a large, interactive touch screen wall where students can make the city come to life. Students touch the screen to bring up different city features and sounds. Encourage them to share in a discussion using these prompts below.

Suggested stimulus questions:

- What do you see? What do you hear?
- What do you think it would smell like?
- What are the people doing?
- What could you do there?
- Can you tell the group a small story about what is happening?

Theme 6 – Cities of the Future

This interactive area encourages students to think about the future of cities with an environmental focus on renewables, clean energy and transport. Encourage students to add a contribution to the exhibition's *Cities of the Future* display. Discuss some of the following ideas with them.

Suggested stimulus questions:

- What do you think future cities will look like?
- How will people travel in the future?
- If you were to design a building, house or form of transport for the future, how would it be different to what we have today?
- Could you design a city on the moon or another planet? What features would it need so that people could live there?

Theme 7 – Green Spaces

Students explore and learn about the importance of green spaces within cities as they interact with the different displays in this space. Encourage students to share their outdoor activities through discussion and role-play.

Suggested stimulus questions:

- What types of outdoor activities can people do in green spaces? What do you like to do? Can you show us? (Encourage students to role-play or mime an outdoor activity)
- What kinds of green spaces are there in cities?
- Why is it important to have many green spaces like these ones in big, busy cities?
- How can we look after our green spaces so they are there for people to enjoy in the future?

Theme 8 – Going Underground

Cities have a lot to see above the ground, but there is a completely different underground world to discover by entering the tunnel. This is a darker space that includes an interactive display in the floor. Before going into the tunnel, ask students to guess what they might find and then see if they can discover any of those things in the space. Encourage them to investigate the walls, ceiling and floor of the tunnel to discover what lies underground.

Suggested stimulus questions:

- What things can you see in the water? (this is the floor display)
- Should all of these things be there? Which ones shouldn't be there?
- Where do you think the water goes?
- What happens with all the rubbish in the water?
- What do you imagine it would smell like in here?

After the Exhibition – STEM challenge

After seeing the exhibition, visit the Maker Space in the *Sciencentre* at The Workshops Rail Museum. Using the materials and directions provided, students participate in a design and construction challenge. There are two challenge options available:

- ***Challenge 1:*** *How will we transport people and other things across the land in the future?*
- ***Challenge 2:*** *Create a bridge strong enough for a train to cross over a river*
- Encourage students to follow the Maker Space design process of:

- Students share their designs by discussing how it works and how it could be improved
- Students can also share their designs with other museum visitors by adding it to the pin board

How Cities Work – Curriculum Links

EARLY YEARS – EARLY LEARNING FRAMEWORK
OUTCOMES
Outcome 2: Children are connected with and contribute to their world • Children become socially responsible and show respect for the environment ***Outcome 4:*** Children are confident and involved learners • Children develop dispositions for learning such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination and reflexivity ***Outcome 5:*** Children are effective communicators • Children interact verbally and non-verbally with others for a range of purposes

AUSTRALIAN CURRICULUM

FOUNDATION – YEAR 2: SCIENCE
SCIENCE INQUIRY SKILLS
Foundation: *Questioning and predicting* Pose and respond to questions about familiar objects and events **ACSIS014**
Year 1: *Questioning and predicting* Pose and respond to questions, and make predictions about familiar objects and events **ACSIS024**
Year 2: *Questioning and predicting* Pose and respond to questions, and make predictions about familiar objects and events **ACSIS037**

FOUNDATION – YEAR 3: DESIGN AND TECHNOLOGIES
KNOWLEDGE AND UNDERSTANDING
Foundation to Year 2 Identify how people design and produce familiar products, services and environments and consider sustainability to meet personal and local community needs **ACTDEK001**
Year 3 (and 4) Recognise the role of people in design and technologies occupations and explore factors, including sustainability that impact on the design of products, services and environments to meet community needs **ACTDEK010**
PROCESSES AND PRODUCTION SKILLS
Foundation to Year 2 Use materials, components, tools, equipment and techniques to safely make designed solutions **ACTDEP007**
Year 3 (and 4) Select and use materials, components, tools, equipment and techniques and use safe work practices to make designed solutions **ACTDEP016**

FOUNDATION – YEAR 3: HASS – GEOGRAPHY

KEY INQUIRY QUESTIONS

Foundation:
- What are places like?
- What makes a place special?
- How can we look after the places we live in?

Year 1:
- What are the different features of places?
- How can we care for places?
- How have the features of places changed?

Year 2:
- What is a place?
- How are people connected to their place and other places?
- What factors affect my connection to places?

Year 3:
- How and why are places similar and different?

KNOWLEDGE AND UNDERSTANDING

Foundation:
The places people live in and belong to, their familiar features and why they are important to people ACHASSK015

Year 1:
The natural, managed and constructed features of places, their location, how they change and how they can be cared for ACHASSK031

Activities in the local place and reasons for their location ACHASSK033

Year 2:
The influence of purpose, distance and accessibility on the frequency with which people visit places ACHASSK051

Year 3:
The similarities and differences between places in terms of their type of settlement, demographic characteristics and the lives of the people who live there, and people's perceptions of these places ACHASSK069

INQUIRY AND SKILLS

Foundation:
Questioning
Pose questions about past and present objects, people, places and events ACHASSI001

Evaluating and reflecting
Reflect on learning to propose how to care for places and sites that are important or significant ACHASSI009

Year 1:
Questioning
Pose questions about past and present objects, people, places and events ACHASSI018

Evaluating and reflecting
Reflect on learning to propose how to care for places and sites that are important or significant ACHASSI026

Year 2:
Questioning
Pose questions about past and present objects, people, places and events ACHASSI018

Evaluating and reflecting
Reflect on learning to propose how to care for places and sites that are important or significant ACHASSI042

Year 3:
Questioning
Pose questions to investigate people, events, places and issues ACHASSI052

Evaluating and reflecting
Interact with others with respect to share points of view ACHASSI059