Lesson Plan
Designing a Brighter Future

Overview

This lesson is designed to allow students to create their ideal city or town of the future. Dealing with the issue of rethinking a better way to live is a challenging and thought provoking exercise. It allows scientific information to be put into context while using innovative ideas and technological advancements. It is really good way to introduce climate change and our future world through a fun hands on activity.

The lesson designed to encourage a cross curricular learning approach, it emphasises problem solving, critical thinking and STEAM learning. The end outcome prompts a discussion around climate change and what the future holds by asking students to deliver a show and tell based on their pop up creations.

Design Brief

To design a city/town of the future.

In the next 50-100 years the earth will continue to warm, we need to act now and find a more sustainable way of using the earth's resources.

In your town plan you must include the following:

- **ENERGY:** Clean and renewable
- **TRANSPORT:** Efficient and green
- **FOOD:** Sustainable, low carbon
- **WASTE:** Reduce, reuse, recycle
- **BIODIVERSITY:** Protect the environment, nature and animal

Background Teacher Notes

Included with this guide is a planning sheet with the main town requirements. An inspiration page with images of renewable energy, buildings etc. This can help to get students thinking about what their city will look like and also acts a guide to drawing. Some students may find drawing a challenge and this acts as a useful aid to overcome this. Younger students could cut buildings directly from sheet and use in pop up if they chose.

Trigger Questions

How will your city look in the future, what will you do differently to how we live now?

• ENERGY

Many cities and towns are trying to reduce energy they get from fossil fuels and move to renewable energy sources. How will you power your future city, wind, solar, hydropower or a combination of many different types?

• What methods will you use to provide electricity for the homes and buildings in your city?
• Will you commit to being 100% renewable?
• Will you allow non-renewable energy sources?
• Where will you put the renewable energy stations?
• Are they on every building, what do they look like?

• FOOD

• Will you allow crops (fruits and vegetables) to be grown?
• Will you allow farmers to raise livestock (cows, pigs, chicken) on your island?
• Will you allow food to be imported that doesn't grow natively?
• Will you offer an incentive to grown your own food?

• TRANSPORT

• Will you allow people to own their own in the town centre?
• Would you provide a cycle infrastructure?
• What type of cars are in use?
• Will you rely mostly on public transportation?
• What type of public transportation will your city rely on?
• Will you reward people who bike and walk to work/school?

• BUILDINGS

Green your buildings! As part of the design can your shops, schools, factories, libraries be built to be more energy efficient.

• How will you heat your school?
• How will you cool your buildings, open the window, include vents to self cool?
• Will you include rain water harvesting that can be used to flower plants and garden?

• BIODIVERSITY

Green cities, lots of plants and trees help improve air quality by producing O_2 and absorbing CO_2. In addition, growing local veg and fruit reduce packaging, air miles and generally cost very little once established.

• Have you added plants and trees to your city? • What about flowers, don't forget about the bee's and pollinators?
• Does your city have a vegetable patch?
• Short on space grow vertically and on top of buildings, plants will grow on the sides or building and on roof tops.

• WASTE

Reducing, reusing, and recycling can help slow climate change. Every product has a life cycle, and every step—from manufacturing to disposal—leads to greenhouse gas emissions.

• Will you ban single use plastic?
• Encourage people to fix things?
• Sustainable fashion, do you really need to buy a new jumper?
• Food packaging, do we always need it

Instructions
See step by step picture guide

Show & Tell
Using the pop up picture ask students to tell someone about their future city, how it works and why they have chosen to do so. Take it home and tell a relative or sibling, display at assembly or science fair

Town Plan 2050

The year is 2050, what will your future look like?

Before you design your town gather some information and research the following topics:
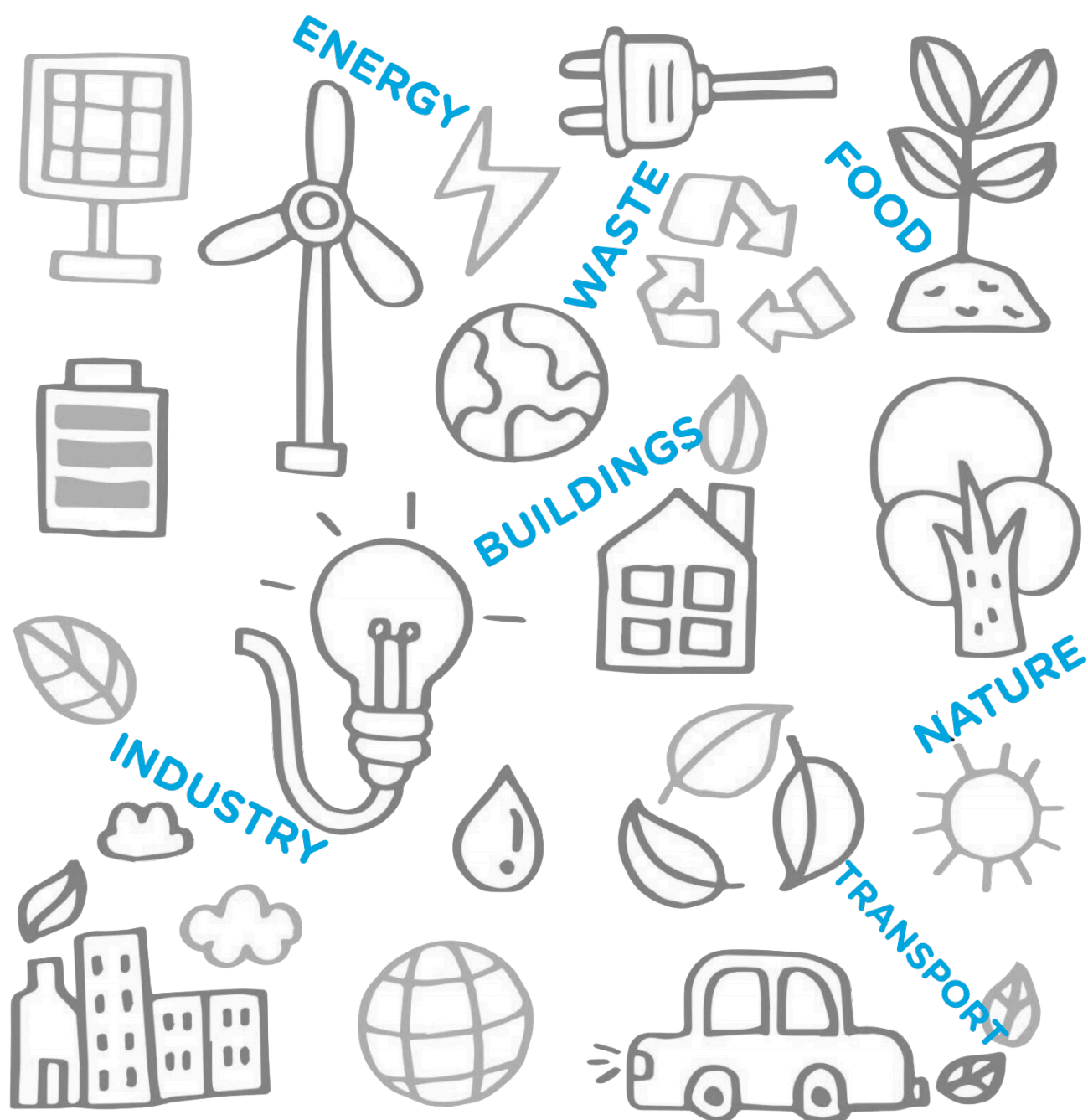
ENERGY

TRANSPORT

FOOD

WASTE

NATURE

BUILDINGS

Town Planning Inspiration

ENERGY
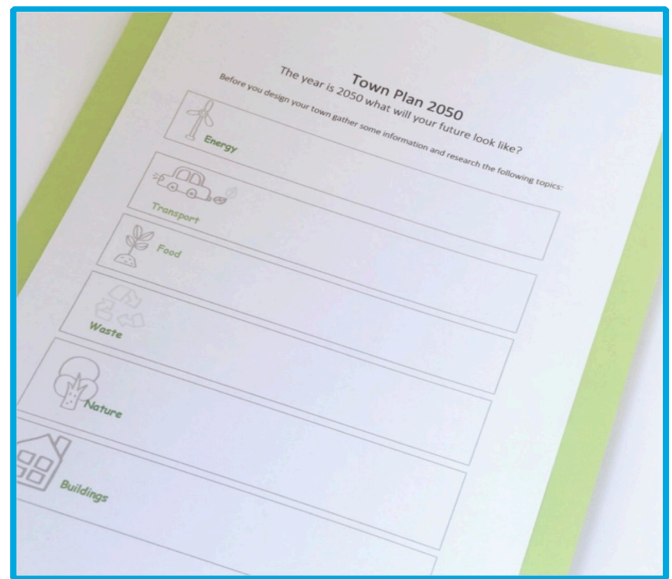
WASTE

FOOD

BUILDINGS

NATURE

INDUSTRY

TRANSPORT

Future City 2050

Step by Step Guide:

Step 1

You will need: Coloured card, white card, scissors, tape, markers, town planner, inspiration guide, scissors and glue

Step 2

Use the planning guide to research and design what your future city will look like. Books, computer research or maybe invite an engineer are all helpful for this stage. Remember just because it isn't invented yet doesn't mean you cannot include it you are innovators of tomorrow.
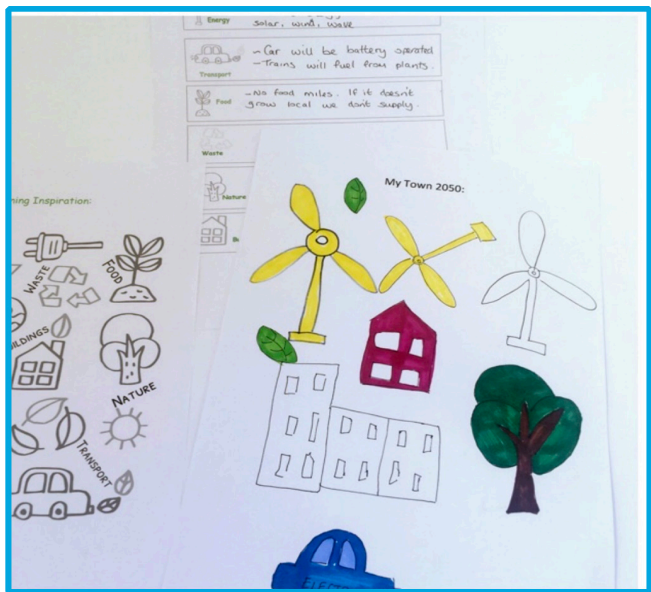
Step 3

When you are finished town planning use some white card to make some drawings of your buildings and structures. Colour and design them to your choice.

Step 4

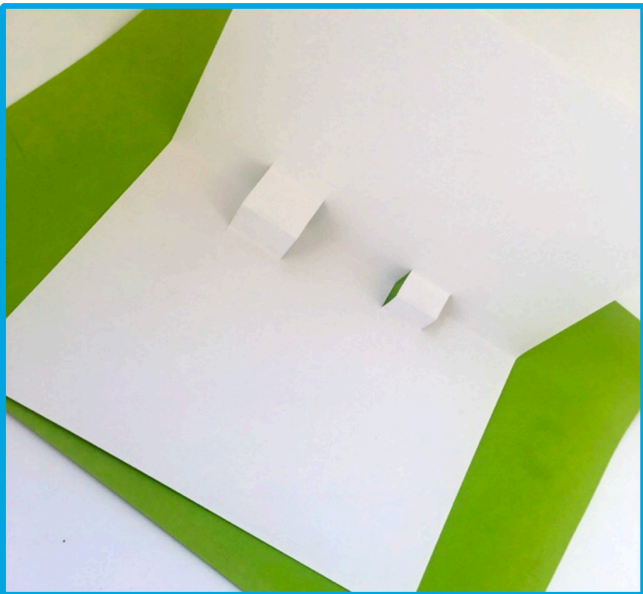Carefully cut around buildings and structures.

Step 5
Fold a piece of white card in half and make two to three parallel cuts into the folded side of the card. Each cut can be of a different length.

Step 6
Fold the tabs back and forth to crease.

Step 7
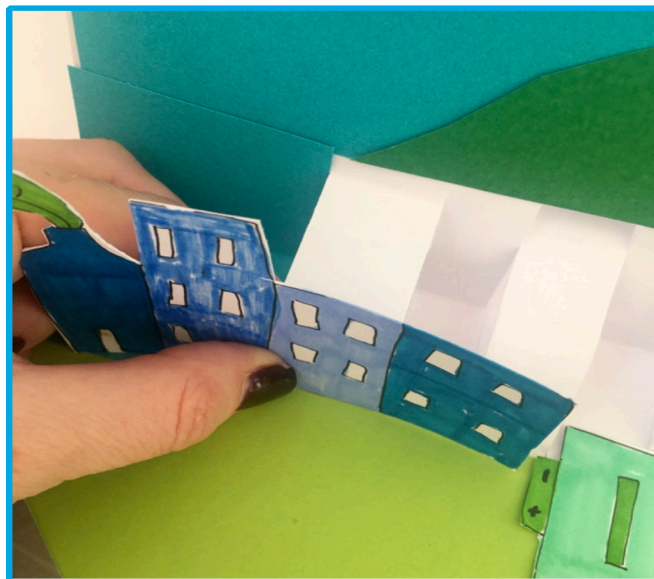Open card and pop out the tabs, they will hold some of your structures.

Step 8
Use coloured card and scrap pieces of paper to design the background and landscape. Use glue to attach.
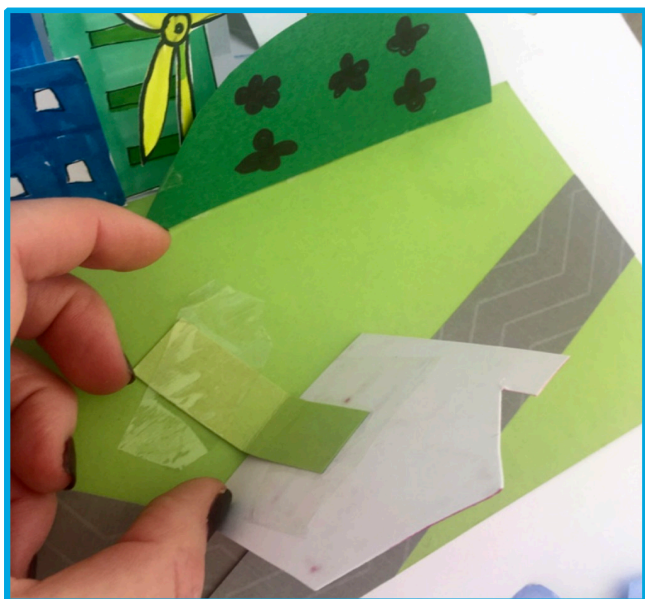
Step 9
Lay out buildings and structures and decided how you would like the town/city scene to look.

Step 10
Add some double sided tape or glue to pop up and attach buildings. This will provide 3D effect.

Step 11
Fold a piece of card in half and attach as a tab to a building. Stick structure in place for a pop up effect.

Step 12
Continue to add buildings, energy, flowers, shops, cars etc. You have completed the story of your green city!

Thank you for your purchase.