What makes a city?
A city is a large settlement where a great number of people live and work closely together.

There are many activities which happen within a city; it also includes a central system of governance.
Top Facts about Cities!
Tokyo in Japan is the most populated city in the whole world with 37,393,129 people!

Today, it is estimated around 55% of the world’s population live in cites... but, this could grow to 68% by 2050!

New York in America has the longest city street network in the world at 10,000km... equivalent to travelling from London to New York and back!

Istanbul in Turkey is the only city in the world located within the borders of two continents!

Damascus in Syria is thought to be the world’s oldest city at 11,000 years old!
Can you name some of these famous cities?

*answers at the back, but no peeking!
So what makes a ‘Smart’ City?
Reusable energy production

Fun and accessible for everyone!

Plenty of green space

Healthy and promotes strong wellbeing

Exciting and inspirational

Integrated technology

Recyclable and sustainable building materials

Mix of places for play, learning and working
Plenty of green space... parks, sports fields, gardens, woods, wetlands

- a place within the city for fun, recreation and meeting friends!
- trees produce oxygen, and help filter out harmful air pollution. Water spots, from lakes to rivers and fountains, moderate temperatures.
- having access to green spaces can reduce health inequalities, improve wellbeing, and aid treatment of mental illness
Fun and accessible for everyone!

• Cities should be safe and accessible for everyone, including the young and old, those with physical or mental disabilities, and people of any race and any gender or any economic status.

• When everyone has better connections to jobs, schools and resources they are happier and more productive.
Exciting and inspirational!

- Not only do buildings need to be functional and practical but they can inspire and delight, improving our lives and creating a more exciting place for us to live and work.

- Testing different uses and different structures in new and surprising ways develops new ideas and can push the boundaries of what we can achieve in the future.
Renewable energy production

• Cities need electricity, or energy to power almost everything!
• Renewable energy is a source of clean and inexhaustible energy such as wind, sunlight and moving water.
• There is plenty of renewable energy all around us. Renewable energy is great as it does not produce greenhouse gases – which cause climate change.
Sustainable building materials

- A sustainable material does not deplete non-renewable resources and has no adverse impact on the planet when used.
- Ideally, we would use renewable materials which come from plants and animals and include; wood, bamboo, straw, thatch, cork, wool, silk, beeswax, rubber, sewage sludge...
- However, this can be difficult so we can also try and reduce wasting materials, try and reuse materials and use materials which can be recycled in the future.

Exciting structural frames built in wood

Thatch may be used on walls as well as the roof

Colourful tiles made from recycled material
What might a ‘Smart City’ of the future look like?
What did you notice?
Reimagining your street as a ‘Smart’ street
So what is your street like?...start by making a list

<table>
<thead>
<tr>
<th>What is already ‘Smart’ about your street?</th>
<th>What could be improved about your street?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ...........................................</td>
<td>1. ...........................................</td>
</tr>
<tr>
<td>2. ...........................................</td>
<td>2. ...........................................</td>
</tr>
<tr>
<td>3. ...........................................</td>
<td>3. ...........................................</td>
</tr>
<tr>
<td>4. ...........................................</td>
<td>4. ...........................................</td>
</tr>
<tr>
<td>5. ...........................................</td>
<td>5. ...........................................</td>
</tr>
<tr>
<td>6. ...........................................</td>
<td>6. ...........................................</td>
</tr>
</tbody>
</table>

REMEMBER the tips of what makes a ‘Smart’ city!
Draw, collage, paint your ‘Smart’ street

Start with either a photo or a drawing of your street!
Draw, paint or collage over the top to create your ‘Smart’ street

You will need:
- Crayons or Markers
- Large piece of paper
- Photos
- Magazines
- Scissors
- Pritt Stick

Remember to use your imagination!

Some ideas for your drawing!
Designing a building in a ‘Smart’ city
The ‘Building Drawing Combination Game’

1. Starting at the bottom of the page, everyone draw the ground floor...remember to draw the front door!

   Fold the page along the dotted line so your partner can't see your drawing. Mark on the other side of the fold where your walls end, so the next person can make the 1st floor line up.

2. Now switch papers with your friend, and draw the 1st floor.

   Have it go all the way between the dotted lines. Mark on the next section where the 1st floor ends so the next person can make the 2nd floor line up.

3. Fold and switch papers again. Now it's time to draw the 2nd floor.

4. Last swap! Draw the roof, think about gardens and making power!

5. Now you can unfold your drawings and see your designs!

You will need:
- A friend or two
- Crayons or Markers
- Task sheet or Paper

REMEMBER, don't peek at each other's drawings!
Here’s an example (you can use lots of colour though!)
Collage your buildings together to make a ‘Smart’ neighbourhood

Here’s some we made earlier!
Designing your ‘Smart’ city
RECAP: What to think about when designing your city...

• WHAT **FUNCTIONS** WILL THERE BE?
• **WHO** IS IT FOR?
• WHAT IS THE BEST **LOCATION**?
• HOW DO YOU **ACCESS**?
• HOW DOES IT **LOOK**?
• WHAT IS IT **MADE** OF?
• ARE YOU LOOKING AFTER THE **ENVIRONMENT**?
• HOW WILL **POWER** BE GENERATED?
Draw out your Masterplan... a view from above!

You will need:
- Crayons or Markers
- Large piece of paper

Here’s an example

Green Space
Renewable Energy
Transport
Sustainable Materials
Schools
Mix of uses

Exciting!
Model your ‘Smart’ City Masterplan to bring it alive

You will need:
- Crayons or Markers
- Coloured paper
- Thin card
- Lego person/ Jelly Baby
- PVA Glue
- Coloured fabric, string, straws, sticks or any textured materials
- Toilet roll tubes
- Egg boxes

Start with a cardboard base to start your model

Use colour and texture to show different materials

Use a Lego person or Jelly Baby to make sure your buildings are the right size!
Paper Modelling Techniques

- Roll
- Flange
- Cut
- Slot/notch
- Tabs & slits
- Fold
- Brass fastener
- Fringe
- L-brace
- Weave
- Wrap
- Pleat
- Stitch
- Curl or quill
ENJOY & HAVE FUN!
Answers

A. London, England
B. Paris, France
C. Cairo, Egypt
D. New York, America