Create a Community Challenge
A Competition for Schools in Cambridgeshire and Peterborough

We invite you to work together to create a community.

This challenge combines teamwork, research and decision-making.

We challenge you to make a map or a model of your community.

The winning entry will earn their school a new iPad!

Please note:
Families can join in at home, but only schools can enter. One entry per school.

To enter, submit a picture of your community map or model to maths.team@cambridgeshire.gov.uk by June 30th 2020.
Create a Community Challenge
Your challenge

• Your challenge is to design a town for people to live and work in
• Along the way you will need to answer some ‘Research Questions’ and ‘Community Questions’
• Your research will help you to make better decisions for your town
• By the end of the challenge you will have created a community map or model showing where your citizens live and work
Research Question

What is a community and why do people like where they live?
Community Question

How will we create a successful community that people would want to live in?
Mr Mayor

Meet Mr Mayor. He will guide you along the way by asking you questions, sharing information and asking you to make some important decisions.

“Welcome! You have been chosen to design and build your own community that your citizens enjoy living in.

The town that you create will need housing, places for your citizens to work, a transport network and a source of electricity too. Don’t worry, I’ll be here to help you on your way.”
Your location

We have found you the perfect place for your new town. It’s on the site of two large farms. Although the ground is great for growing vegetables, the farmers have moved to live in the city and gifted us the land so that we can build our community.

The land is located halfway between the cities of ‘Oldchester’ and ‘Newburgh’ and in between the farms runs the River Burne, which flows from one city to the other.
Research Question

How do towns and cities get their names and what do they mean?
Community Question

What will we call our town?
Decision Time: Naming your town

- You will need to decide a name for your town.
- Before you make your decision, you could research how other towns got their names.
- When you create your town name, you could take inspiration from the land’s location, or it’s history. Or you could decide on something truly original. It’s up to you!
- Maybe come up with a shortlist and have a vote.
Name Your Town

Welcome to Santa Clara

CITY NAME

Welcome to Fabulous Las Vegas Nevada

Entering Boston

30

Elkington

Every Vote Matters

New York
Meet Mrs Urbo. She help you to think about the layout of your town and to draw your map.

“Hi! As we build our town we will need to think about where everything goes and how it all joins together.

Creating a 2D community map, or a 3D model village, is a great way to show where your buildings are.

If you decide to draw your map, you could label your buildings or use a key to show what they are. Coordinates can be helpful too. Maybe have a look at some maps of your local area for some inspiration of what to include on your map.

If you decide to make a 3D model of your town, think about the resources you will use to make your buildings.”
Research Question

What do the symbols on maps tell us?
Community Question

How could we show the location of the buildings in our community?
Decision Time: Mapping your Town

- You will need to decide how you will show the location of buildings in your town.
- Will you make a 2D map, a 3D model of your community? Map-making can be hard work, but it’s important to get it right.
- You will need to make a decision as a group and then decide who will be the town planner, responsible for updating the map.
Start Making Your Map or Model
Getting started

The old farmhouse on the north of the River Burne will be used as a construction yard, for us to keep all of the equipment and materials we need to build our community.

The old farmhouse on the south of the River Burne can be converted into your first community building. But what would you like to build first? Don’t decide too quickly, let’s do some research first.
What buildings can you find in your local area?
Community Question

What buildings do we need in our community?
Decision Time: Your first building

• You will need to decide what to build on the site of the old farmhouse on the south of the river.
• Will it be a civic building, like a Town Hall; or somewhere for people to live?
• You will need to make a decision as a group. Maybe you could vote on it? It’s over to you.
Your First Building

Click here if you’re making a 2D map

Click here if you’re making a 3D model
Your Community Map

“Hi! Now that you have decided on your first community building you will need to add it to your map.

As you build more buildings, don’t forget to add them to your map. It’s important so that your builders know where they are going.

It might also be a good idea to create an information page, or small booklet, about the building. This can help your citizens to know all about the building.”
Town Plan

Activity 1
Draw the location of your new building on your map.

Activity 2
Create an information page or booklet to record all of the key information about your building.
Creating Your Buildings

Meet our Chief Builder, Stan.

“Hello everyone. I’m the Chief Builder, Stan. I’m here to help you to think about building your town.

If you’re making a 3D model, you’ll see lot’s of me because I’ll guide you to think about the materials and tools you need.

You don’t need to use the same tools or materials for every building. Have a look around your community and find out what building materials have been used.”
Building Your Town

Activity 1
What will you use to make your first building? Make a plan, showing what you will use.

Activity 2
Use the tools and materials to make a model of your first building. Work as a team!
Powering your Town

“Hi everyone. It’s Stan here, the chief builder.

Now that you have your first building, you will need to connect it to a power supply.

It’s time to do some research into how electricity can be made. Some methods of generating power are better for the environment than others.

Visit [https://www.dkfindout.com/uk/science/electricity/](https://www.dkfindout.com/uk/science/electricity/) to find out how electricity is made. This page will help you to learn more about different sources of energy [https://www.dkfindout.com/uk/gallery/science/energy-sources/](https://www.dkfindout.com/uk/gallery/science/energy-sources/).”
Research Question

How is electricity made?
Community Question

How will we generate power for our town?
Decision Time: Power

• You will need to decide how you will generate the power needed to run your town.
• Will it be a power station or a renewable source of energy?
• You will need to make a decision as a group. Maybe you could vote on it? It’s over to you.
The Power is in Your Hands

Click here if you’re making a 2D map

Click here if you’re making a 3D model
“Hi! Now that you have decided how you will generate electricity for your town you will need to think about where the building will go in your town. Remember to add it to your map!”

Activity 1: Decide where your electricity station will go
Activity 2: Add your electricity station to your map
Activity 3: Make an information page or leaflet about your energy station.
Building Your Town

Activity 1
What will you use to make your energy station? Make a plan, showing what materials you will use.

Activity 2
Use the tools and materials to make a model of your first building. Work as a team!

Activity 3
Decide where your building will go and add it to your model.
Getting bigger

Now that you have your construction site, your energy source and your first community building I think you’re ready to grow your town...

This next stage of development is all about housing and places for people to live. Some families are large and others are small. We will need houses for everyone in your group.

Research different types of house and find out what you can about apartments, bungalows, terraced, detached and semi-detached houses.
Research Question

Why are houses different shapes and sizes?
Community Question

Where will our citizens live?
Decision Time: Housing

• You will need to decide how you will provide housing for all of your citizens.
• Will you have a one style of house or different types of houses?
• You will need to make a decision as a group. Maybe you could vote on it? It’s over to you.
Houses for everybody

Click here if you’re making a 2D map

Click here if you’re making a 3D model
Your Community Map

“Hi! Now that you have decided what types of houses people will live in, you need to think about where your houses will go.”

Activity 1: Decide where your houses will go
Activity 2: Add your houses to your community map
Activity 3: Make an information page or leaflet about you’re the houses in your community.
Building Your Town

Activity 1
What will you use to make your houses? Make a plan, showing what materials you will use.

Activity 2
Use the tools and materials to make your model houses. Work as a team!

Activity 3
Decide where your houses will go and add them to your model.
Getting connected

Now that your community has several buildings, you will need to connect them together. This next stage of development is all about transport and helping people to get around your community.

People like to travel in different ways. Your job is to think about how to make this as easy as possible and to stop any future traffic problems.
Getting connected

Some towns have creative ways of overcoming traffic problems. Cambridge uses a ‘park and ride’ system to reduce the number of cars coming into the city. In London there is a underground network of trains. In Copenhagen over 60% of people cycle to work and the city is very ‘cycle friendly’.

Research how people travel to work in different cities before deciding how you will connect the buildings in your town.
Research Question

How does transport help people travel to work without lots of traffic?
Community Question

How will our citizens travel around our town?
Decision Time: Transport

• You will need to decide how you will connect your buildings so that your citizens can safely travel around the town.

• How would you like citizens to travel around your town?

• You will need to make a decision as a group. Maybe you could vote on it? It’s over to you.
Transporting your citizens

Click here if you’re making a 2D map

Click here if you’re making a 3D model
Your Community Map

“Hi! Now that you have decided how your citizens will travel around your town, you need to think about how you will show this on your map.”

Activity 1: Decide where your transport lanes and roads will go
Activity 2: Add your transport network to your map
Activity 3: Make an information page or leaflet about how you will encourage safe travel in your community.
Building Your Town

Activity 1
Will you need to build any transport buildings for your town? Maybe you will need a cycle park, a railway station, a car park or a bus depot.

Activity 2
Make a plan for your building and then build it.

Activity 3
Decide where your transport buildings will go and add them to your model.
A Working Town

Now that you have power, houses and a transport network, you need places for people to go to work. This next stage of development is all about jobs and the buildings we need for the people who help us. Some people work for emergency services, other people make and sell things for us to buy.

Research different types of workplaces and find out what you can about the places people work in your local area.
Over to you!

It’s now over to you to build the other buildings in your town to provide places for your citizens to work.

• Research what you could add to your town.
• Vote on what you will build and where it will go.
• Make your buildings and add them to your community map or model.
• Keep adding the transport you need to keep people connected.
Congratulations!

Well done you have made a marvellous town!

Share your success by taking a photograph of your community and sending it to maths.team@cambridgeshire.gov.uk
Extra Challenges
Extra Challenges

• With places for your citizens to live and work, you’ve got a town of your very own.

• However, if you would like to make it a bit more of a challenge we I have some ‘Extra Challenges’ for you to overcome.

• Don’t try all of the Extra Challenges at the same time!
Recycling Challenge

• Your town is getting untidy!
• How will you help your citizens to create less waste?
• Is there somewhere for their household waste and recycling to go?
• Maybe you can create posters to encourage people to keep your community clean and tidy!
Firehouse Challenge

• Your local school has had a small fire! Fortunately the school teachers put the fire out, this time.
• You could write a newspaper report about how the fire started and the teachers who saved the school.
• Is there a fire station in your town? If not, you should build one straight away!
• Maybe you can create a leaflet to tell people what to do if there is a fire!
Crime Challenge

• Your local community police station has heard that there has been some vandalism in your town. The local transport hub has been spray painted with graffiti!

• What would you do if you saw someone committing a crime in your local area or in your school? Who would you tell?

• Maybe you can find out what happens to people when they have been arrested by the police?
Flood Warning Challenge

• The national weather centre has warned that heavy rain is on its way and there is a danger that the local river will flood!
• How can you protect your town from flooding?
• Maybe you can find out more about flooding and what people have done to protect their towns from the dangers that come with heavy rainfall?
Bridge Building Challenge

• The old bridge connecting the north and south of the town has collapsed! Fortunately the bridge was empty at the time and nobody was hurt.

• How will you rebuild the bridge?

• Maybe you can find out more about different types of bridge and how they’re build?

• Then build a new, strong bridge that is suitable for cars, lorries and cyclists to use.