



TYPHOON TOWN CHALLENGE

SIMULATION GAME



This simulation game accompanies the *Disaster Strikes* primary teaching resources, available to download from christianaid.org.uk/learn-disaster-primary. It is aimed at pupils aged 7–11 (KS2), but can easily be adapted for older age groups.

The *Big River Rising* multimedia documentary has film footage and information on the impacts of flooding in the Philippines. This can be viewed at christianaid.org.uk/big-river-rising

Aims and learning outcomes

The aim of this activity is to help pupils understand the devastating impact of a disaster on the lives of people living in poverty.

After this activity, pupils should be able to:

- reflect on the different needs of people living in a community/settlement

- identify the factors that create happy, healthy and sustainable places for people to live
- understand the restrictions that poverty imposes on people's resources, options and safety
- develop their understanding of another place: the Philippines
- empathise with those affected by disaster
- articulate their response to a challenging situation
- work together as a team to overcome a problem
- recognise the limitations of a simulation game and seek to further their understanding
- engage with ways in which people can recover from disaster and reduce risk in the future.

Curriculum links: Geography

Geographical enquiry and skills

Ask geographical questions/Identify and explain different views that people, including themselves, hold about topical geographical issues/Communicate in ways appropriate to the task and audience.

Knowledge and understanding of places

Describe what places are like/Identify the location of places and environments, including places and environments in the news/Explain why places are like they are; identify how and why places change/Describe how places are similar to and different from one another.

Develop knowledge and understanding of environmental change and sustainability

Recognise how people can improve the environment or damage it/Recognise how and why people seek to manage environments sustainably and recognise opportunities for their own involvement.

Themes

Water and its effect on landscapes and people/How

settlements differ and change/An environmental issue, caused by change in an environment and attempts to manage the environment sustainably.

Curriculum links: RE

Study the work of a Christian charity/Stewardship/Caring for our world.

Curriculum links: Citizenship

Developing confidence and responsibility and making the most of their abilities

Talk and write about their opinions, and explain their views, on issues that affect themselves and society/To face new challenges positively by collecting information, making responsible choices, and taking action.

Preparing to play an active role as citizens

Research, discuss and debate topical issues, problems and events/To recognise the role of voluntary, community and pressure groups/To understand that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment.

Timings

This activity is split into three distinct parts and should be timetabled around a break.

Part 1. People and place (before break)

Groups will be asked to plan and build miniature towns using a mixture of templates (provided) and scrap material. In the process, they will be asked to make decisions about what matters most for people in the places where they live and to consider aspects required for healthy, happy and sustainable communities. Their 'town' will be located in the Philippines, so pupils will be encouraged to develop their geographical imaginations of this country, and to understand the limitations that poverty imposes on people's choices and some of the challenges they face as a result.

This activity could be performed on a larger scale if required, with pupils creating a bigger 'cardboard town' in the school hall.

Part 2. Disaster strikes (during break)

Over the break, teachers should enact a natural disaster in the miniature towns by removing portions of the towns that pupils have created.

Part 3. Recovery and risk reduction (after break)

After the break, pupils will return to scenes of devastation in their miniature towns and will be asked to reflect on what has happened and identify ways in which they can increase their resilience and prepare better for future disasters.

Materials required:

- a map, atlas or globe
- cardboard, paper and other scrap material
- scissors
- glue
- pens
- A1 sheets of paper (one per group), with a thick blue curving line drawn across them (these blue lines will represent the river that runs through the town that pupils will build on the sheet – copy the line on the 'Town map' worksheet)
- photocopies of the worksheets and building templates (provided at the end of this resource).

Part 1. People and place

Split the class into six groups and explain that each group is going to be set the challenge of creating a miniature town, but that first there are some important decisions to make.

Ask pupils to discuss, in their groups, the following three questions:

1. What things will people living in your town need in order to be healthy?
2. What things will people need in order to be happy?
3. How will you make sure that your town is environmentally sustainable? (You may need to explain that 'environmentally sustainable' means that people living now don't damage the environment for people in the future.)

After groups have had a chance to discuss this, bring the groups together for a whole-class discussion to share ideas about the things that they think are important for their towns.

Make sure that the discussion covers the following aspects, some of which might not have been considered by the groups:

1. What things do people need to be healthy?
Has the class thought about:
 - medical care
 - safe homes
 - schooling
 - access to food
 - clean water
 - waste/sewage disposal?
2. What things do people need to be happy?
Has the class thought about:
 - recreational space/sport/clubs
 - places for people to meet and socialise
 - places for people to worship
 - places for people to learn/pursue their interests
 - the needs of everyone, including older people, children, parents, those with disabilities?
3. How will you make sure that your town is sustainable?
Has the class thought about:
 - what sort of energy their town will use
 - transport
 - recycling
 - green spaces (eg parks, allotments)?

Explain: *Building homes and supplying essential services like schools and hospitals costs money. Your group will be given a budget (a sum of money to spend), but you will need to work out how to spend this carefully and you will have to make difficult choices.*

Your town – which is not really a town, but a small settlement of people – will be located in the Philippines, a country in south-east Asia.

Ask the pupils to locate the Philippines on a map, atlas or globe. What do they notice about the geography of the Philippines?

Explain: *The Philippines is made up of lots of islands and it is rich in natural resources and wildlife, but also prone to disasters like typhoons. It is located in the Pacific Ocean, in an area known as 'the ring of fire', where lots of earthquakes and volcanic eruptions occur. Its tropical climate and location also mean it is prone to typhoons (tropical cyclones, also called hurricanes in some parts of the world) and flooding.*

With this in mind, what other things will you need to think about when planning your town?

Make sure that they have considered the following:

- safe housing
- flood protection
- how they might respond to disasters.

Hand out one 'Town plan' worksheet per group and give pupils some time to develop their ideas for their town, which they should write down on the worksheet.

Explain: *Many communities in the Philippines are very poor. Your settlement is located in a particularly poor part of Metro Manila, the capital region. This means that you will have a very small budget to spend on building, so you will have to focus on providing the essential things. I have templates available so that your groups can construct strong, safe buildings [hold up your templates to show to pupils]; the rest will have to be built out of scrap material using your creativity and inventive skills.*

Hand out the 'Budget' worksheet, which includes a numeracy element and enables pupils to make choices about how to construct their towns.

(If you are pressed for time, or feel that the 'Budget' worksheet would be too tricky for some groups, then you can just hand out one medical centre, one school and two house templates and explain that groups do not have enough budget for everything that they need for their communities, so they will have to build a further 18 houses out of scrap material.)

The 'Budget' worksheet asks groups to decide how many people they think could comfortably live in small house (answers will probably be around five). They will need to divide 100 by that number to find out how many houses they will need in total for their community (probably around 20). It also explains that they have a budget of 60,000 pesos (₱) to buy templates of safe buildings to make for the town, so they will need to choose an option from the table (reproduced below).

There is not enough money to build everything they need, so they will need to make choices about what to spend their budget on and they will need to create the other things their town needs out of cardboard, paper and other scrap material.

Hand out templates, once groups have decided which ones they want to buy.

Important: make sure that pupils understand that they can make anything else they want for their town out of the scrap paper and cardboard you are providing. Remind them that they should be as creative as they can to try to meet the needs of healthy, happy communities that they already identified on their 'Town plan' worksheet.

(Please note: the prices shown in this table are for the purpose of this game only and do not reflect the true cost of these items)

	A	B	C	Total cost
Building type	School	Medical centre	House	
Cost	₱20,000	₱30,000	₱5,000	
Option 1	1	1	2	₱60,000
Option 2	0	1	6	₱60,000
Option 3	1	0	8	₱60,000
Option 4	0	0	12	₱60,000

Before they start building, hand out the 'Town map' worksheet and ask pupils to sketch a quick map of their town. Remind them that this town is in the Philippines, and the river that runs through the town is prone to flooding, but space is limited. Where will they put their buildings?

Hand each group an A1 sheet of paper with a river (blue line) drawn on it, as well as cardboard, paper, glue and scissors. The towns should be constructed on the A1 sheets, and pupils can use a combination of the templates you've handed out and the scrap material.

Give the groups sufficient time to build their towns (around 30 minutes).

At the end of the building session, pupils should have an opportunity to present their towns to the other groups and to explain the choices they made. Ask questions to encourage them to explain more about their decisions.

- Have they managed to build enough houses to comfortably house the 100 people living in their community? If not, explain that their houses will be a little overcrowded.
- If they haven't built a medical centre, ask what they would do if someone was ill.
- If they haven't built a school, ask how they would teach people to read and write. Would the children have to look after younger siblings or go out to work to get money for the family if there was no school to go to?

Important: do not tell pupils that a disaster will strike their town during break time.

Part 2. Disaster strikes

Over break time, you should secretly enact a typhoon disaster in the towns that pupils have created by removing some portions of the towns that were poorly constructed out of cardboard (leave the templates). You could choose to remove more of the sections that are closest to the river (blue line), as these would be the sections most vulnerable to damage in a disaster.

Important: use your judgement about how destructive you are! Be careful not to destroy pupils' work, but do remove a large enough portion to provoke a response. The aim is that pupils will gain some understanding of the impact of disasters and will be able to reflect on the process of recovery.

It is important that only the sections that are poorly constructed out of scrap material are removed, as a key learning outcome is that pupils recognise that disasters impact most on people living in poverty, whose choices and resources are limited.

Part 3. Recovery and risk reduction

After the break, pupils will return to scenes of devastation in their miniature towns. Explain that their towns have been hit by a typhoon, which is a type of tropical storm, like a hurricane.

Important: this stage should be carefully managed by the teacher to draw out the important learning outcomes. Pupils may feel angry and upset; you should explain that this is an important part of the learning as the aim is to empathise with people who really have faced disaster.

Point out that the parts of the town affected by disaster were the bits that they could not afford to build properly and had to make out of scrap material, and the areas nearest the river. Explain that this is a true reflection of how disasters affect communities – it is usually the weakest buildings and the poorest people living in the riskiest areas who are worst affected by disasters.

Be prepared to allow pupils to express their feelings and encourage discussion around the following questions:

- How does this disaster make pupils feel?
- How did the choices they made when building their town affect the impact of the disaster?
- Do they think that they made the right choices – why/why not? Be aware that groups who built the most houses may feel that they kept more people 'safe' (and therefore 'beat' the typhoon) and those who chose to build hospitals and schools may feel they lost more buildings in the typhoon. Remind pupils that a securely built and located school or medical centre could be used for people to take shelter during, and in the days following, the typhoon. A medical centre would be needed to treat people injured in the typhoon or who suffer from illness afterwards eg from diseases caused by drinking dirty water (ie if there isn't a medical centre, more people could die.) A school could be an important place to educate people about ways to deal with disaster and keep themselves safe.
- What was difficult about the choices they had to make?
- What would the top priorities be after the disaster in their towns?
- What are the limitations of this activity – eg how might people actually experiencing a disaster like this feel?
- What made the town vulnerable in the first place?
- What would the main needs of people really living in this situation be?

Explain: *Although there are relatively few natural disasters in Britain, in some countries, like the Philippines, the threat of natural disasters is very real –*

around 20 typhoons hit the Philippines each year. People living in very poor communities in the Philippines face extremely tough choices. Often, people have to build their houses close to big rivers that are prone to dangerous flooding. And often, houses are small, overcrowded and poorly built from weak materials that are not able to withstand the many sorts of disasters that threaten people in this country, such as earthquakes, typhoons and flooding.

Show pupils a video of flooding in the Philippines, from the *Big River Rising* resource, 'The emergency' chapter, which can be viewed at christianaid.org.uk/big-river-rising

The film shows the impacts of flooding on the informal community of Banaba, which is located right next to the river.

Now ask the pupils:

- How do they feel now that they have seen the damage that floods have really done in the Philippines?
- What were key differences between pupils' imaginary towns and the reality of life for the people shown in the film?
- What were the challenges that this community faced?
- Why might their choices be limited?
- What aspects of life that they considered when they were planning their towns are not open to people living in this community in the Philippines?
- Why is this?

Explain: Christian Aid works with partner organisations in the Philippines, who support the poorest communities before and during disasters. After a disaster strikes, Christian Aid's partners are on hand to help people with the emergency supplies of things they need, like food, water, blankets and school materials. But they also focus on helping people to prepare for future disasters and to make sure that next time a disaster happens, they will be able to cope better. For example, they have helped to set up early warning systems, such as a system of loudspeakers or two-way radios, and a network of trained hazard-watchers to warn communities when villages are at risk.

Discuss:

- What information would students need to make decisions about the safety of their towns?
- What communication systems could be put in place to keep their towns safe?

You can watch a hazard-watcher at work in the *Big River Rising* resource: 'Belen's warning'. Belen de Guzman is a flood-monitor who works in Metro Manila. In this film, she nervously monitors the rising water as it threatens Banaba, the informal settlement community where she lives. Trained by Christian Aid's partner the Centre for Disaster Preparedness, Belen helps coordinate the evacuation of her community, before her own shantytown home disappears beneath the floodwaters.

Offer pupils some more templates to make the necessary repairs and improvements to their town and encourage them to introduce any measures to help protect the town and the people living there from possible future disasters (for example, they could build a loudspeaker system out of cardboard). They could also think about inventive ways to help make the town environmentally sustainable.

You can use the other *Disaster Strikes* teaching materials to help pupils understand more about disasters around the world. These are available from christianaid.org.uk/learn-disaster-primary

Conclusion

Explain: *The important thing about disasters that happen again and again, such as flooding in the Philippines, is that a community must be united, and work together as a team. They must recognise the importance of helping each other, and sharing what they have, because next time it may be them in need of help.*

They must also work together towards a more sustainable existence. For example, in the Philippines, there is a community who work very hard to ensure their part of the river does not become clogged with rubbish because this can block the river flow and make flooding worse.

Ask pupils to consider the ways in which their groups have worked together as a team and how this has helped them to cope with the 'Typhoon town challenge'.

You could award a prize to the team that you feel has created the most resilient town and/or exhibited the most effective team-work.

Taking it further

Evacuation plans

Explain: *A big problem after many disasters is that people take risks because of the fear of losing precious belongings. In the Philippines, many people get stranded in their homes because they are afraid to leave their things behind. A community will be left in chaos after the floods, and there is a real risk of theft and looting.*

Discuss: What do pupils value the most and what would they save if they had to leave their homes quickly? (You might like to ask them to list their own belongings and then ask them to prioritise.)

There is a simulation game to help explore this situation called 'Emergency exit'. You can download this from christianaid.org.uk/emergency-exit

Climate change

Explain: *Around 20 typhoons hit the Philippines every year. These typhoons are becoming stronger and more destructive, partly as a result of climate change. All around the world, people are learning to adapt to the changing climate, and making efforts to limit climate change by cutting emissions of greenhouse gases.*

You can download the *Disaster Strikes* resource from christianaid.org.uk/learn-disaster-primary to explore climate change and disasters in more depth. The resource includes instructions for a 'Climate change chatterbox' activity to help pupils spread the message about cutting carbon emissions.

Additional notes for teachers

Disasters in the Philippines

Located on the Pacific ring of fire, the Philippines is a country situated on the edge of disaster. Earthquakes, volcanoes, typhoons and floods threaten its 94 million citizens. Christian Aid partners continue to work tirelessly in response to the devastation wrought by different disasters in the Philippines and to help ensure that communities there are well prepared for future disasters.

The destruction caused by extreme weather events, environmental damage inflicted by mining activities and the loss of huge tax revenues are just some of the problems that continue to impact on the lives of many in the Philippines. In times of disaster, the poorest families

are generally the worst affected, because they tend to live in the riskiest areas and their modest homes are the least able to withstand powerful winds, heavy rains and surging floodwaters.

Scientists play an important role in development, especially in the areas of disaster planning and mitigation, because they are able to help communities predict and adapt to changing environmental issues.

Our work

Christian Aid partner organisations in the Philippines are helping the most vulnerable communities cope with disasters and adapt to the effects of climate change. Our partners help poor people, in both rural and urban areas, protect and claim their rights to homes, land, services and resources, and our partners are also campaigning for fairer national and international economic policies.

The UK government has been supporting Christian Aid for several years to implement programmes that address urban disaster and help people to cope better with disasters affecting urban areas.

What you can do

- Use our *Disaster Strikes* resources to help track disasters affecting the poorest communities around the world. You can download these materials from christianaid.org.uk/learn-disaster-primary
- You can order a copy of the *Disaster Strikes* poster (ref F2202) by emailing orders@christian-aid.org
- Help us continue to support our partners by fundraising for or donating to our emergency appeals. For more information on current emergencies, visit christianaid.org.uk/emergencies

£29 would pay for hygiene kits for 10 people who have lost essential supplies in floods.

£71 would pay for 300 water purification tablets to protect from the dangers of dirty drinking water.

£330 could buy relief packages for 10 families who have been displaced by a typhoon.

TYPHOON TOWN CHALLENGE

BUDGET WORKSHEET

You will need to think about housing for your community.

- How many people do you think could comfortably live in a small house? _____
- There are 100 people in your community, so how many houses will you need in total?

_____ (To work this out, divide 100 by the number you chose above)

Building type	School	Medical centre	House
Cost	₱20,000	₱30,000	₱5,000

You only have 60,000 pesos (₱) to buy building templates, so you will need to make some tough choices. Look at the table below and decide which is the best option for your town. Remember, you can make any buildings that you can't afford to buy out of scrap paper and cardboard.

	A	B	C	Total cost	Tick your preferred option
Building type	School	Medical centre	House		
Option 1	1	1	2	₱60,000	<input type="checkbox"/>
Option 2	0	1	6	₱60,000	<input type="checkbox"/>
Option 3	1	0	8	₱60,000	<input type="checkbox"/>
Option 4	0	0	12	₱60,000	<input type="checkbox"/>

Once you have chosen an option from the table above, work out which buildings you will need to make out of scrap material. To work out how many extra houses you need to make from scrap material, do the following sums.

{answer to question 2 above} minus {number in column c of the option you chose} = _____

If you didn't choose Option 1, you will also need to build a school and/or a medical centre as well as some extra houses.

We need to build the following buildings from scrap material: _____

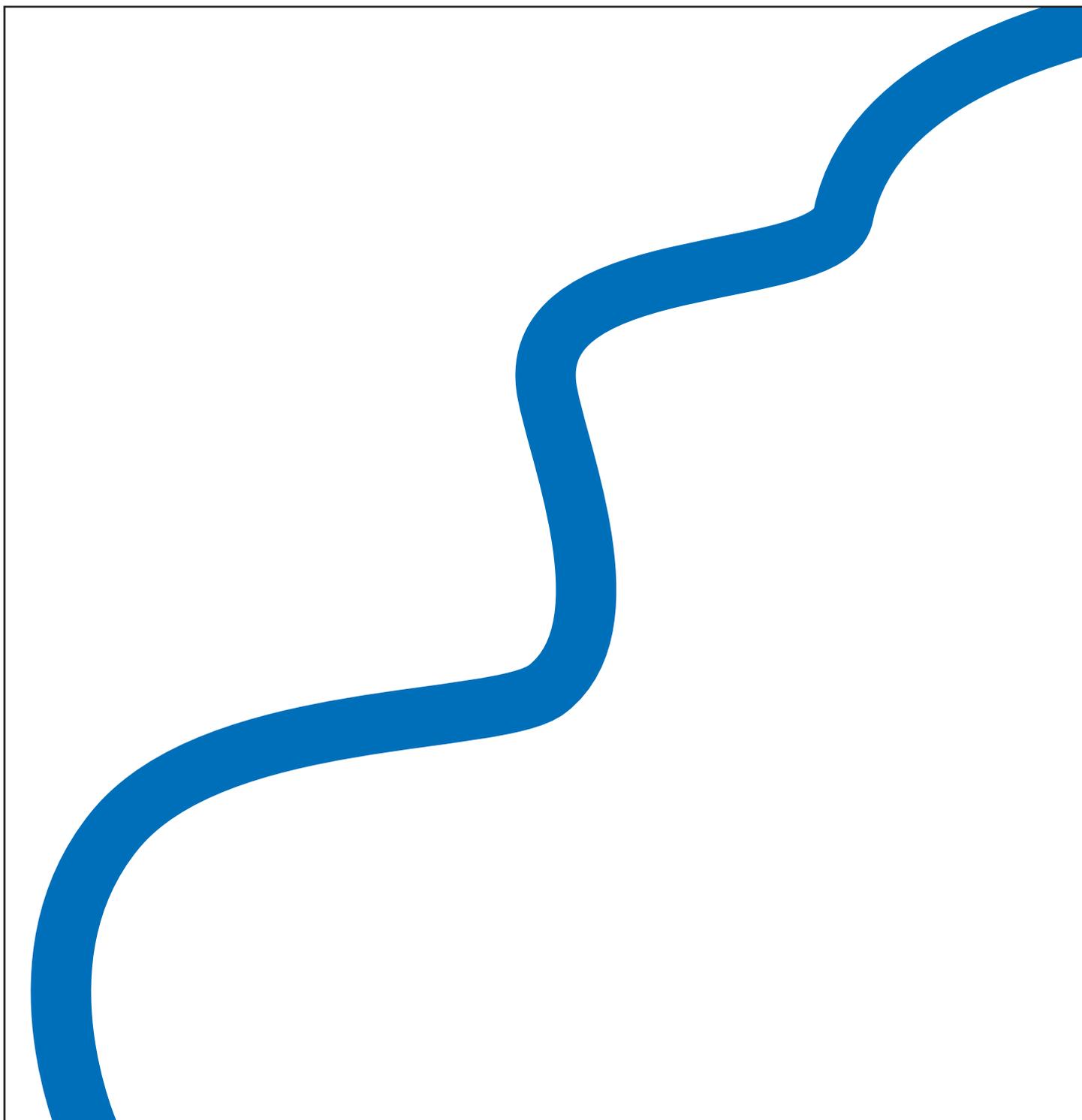
Then decide in your groups how you will work together to build your town.



TYPHOON TOWN CHALLENGE

TOWN MAP WORKSHEET

Sketch out a quick town plan here:

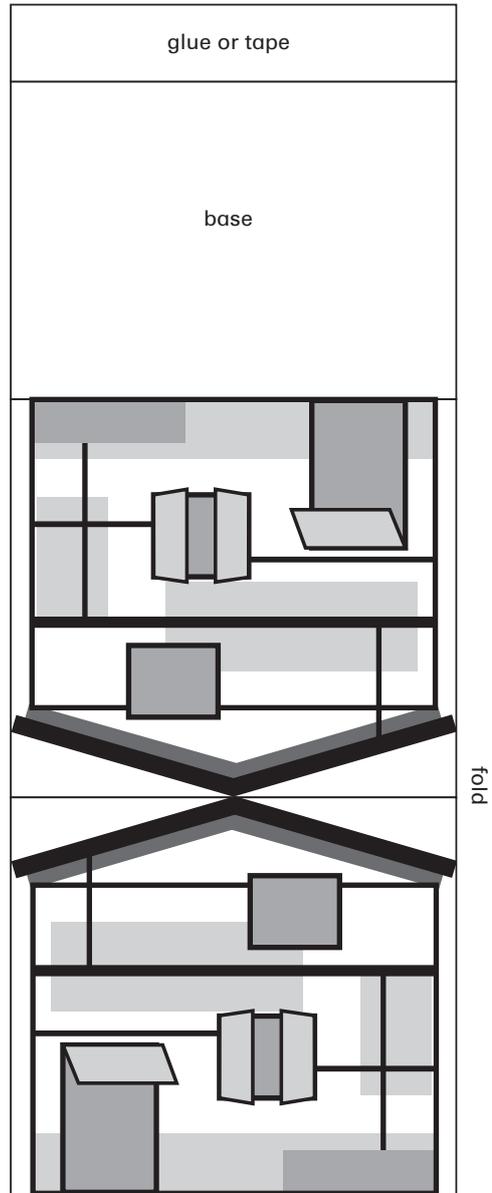
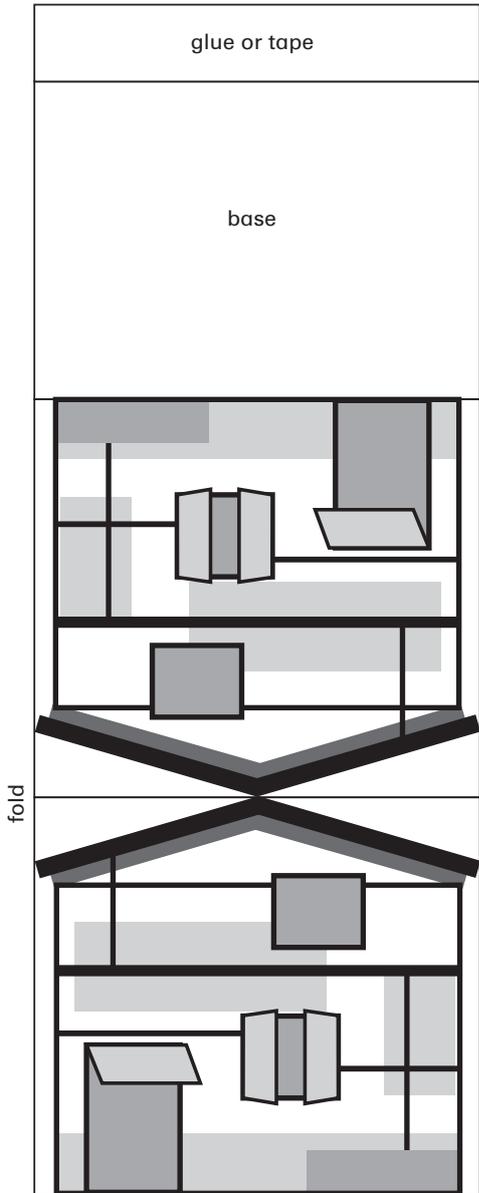


Remember to use this as a guide when you are building your town.



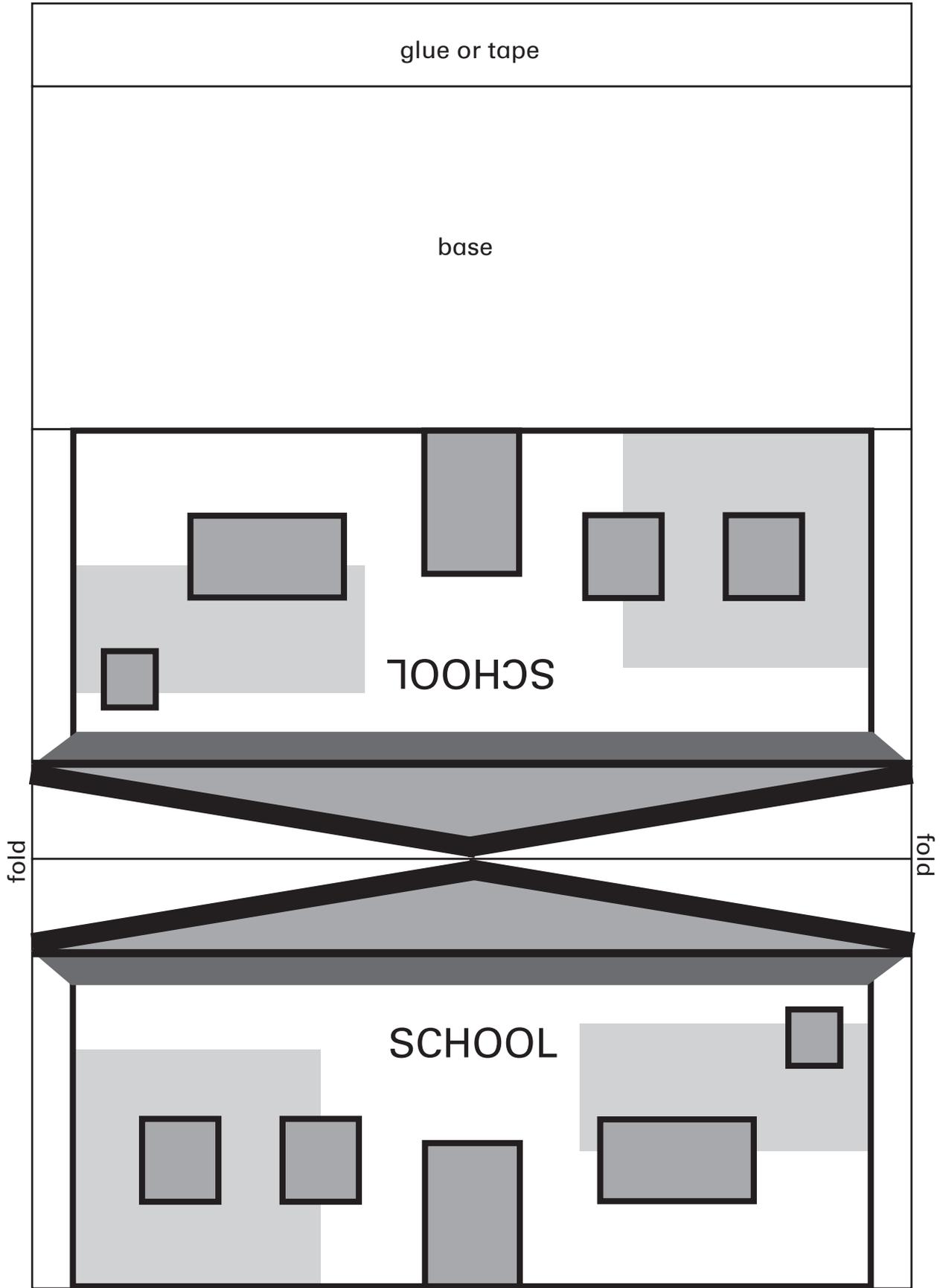
TYPHOON TOWN CHALLENGE

HOUSE TEMPLATE



TYPHOON TOWN CHALLENGE

SCHOOL TEMPLATE



TYPHOON TOWN CHALLENGE

MEDICAL CENTRE TEMPLATE

glue or tape

base



MEDICAL CENTRE



fold

fold



MEDICAL CENTRE

