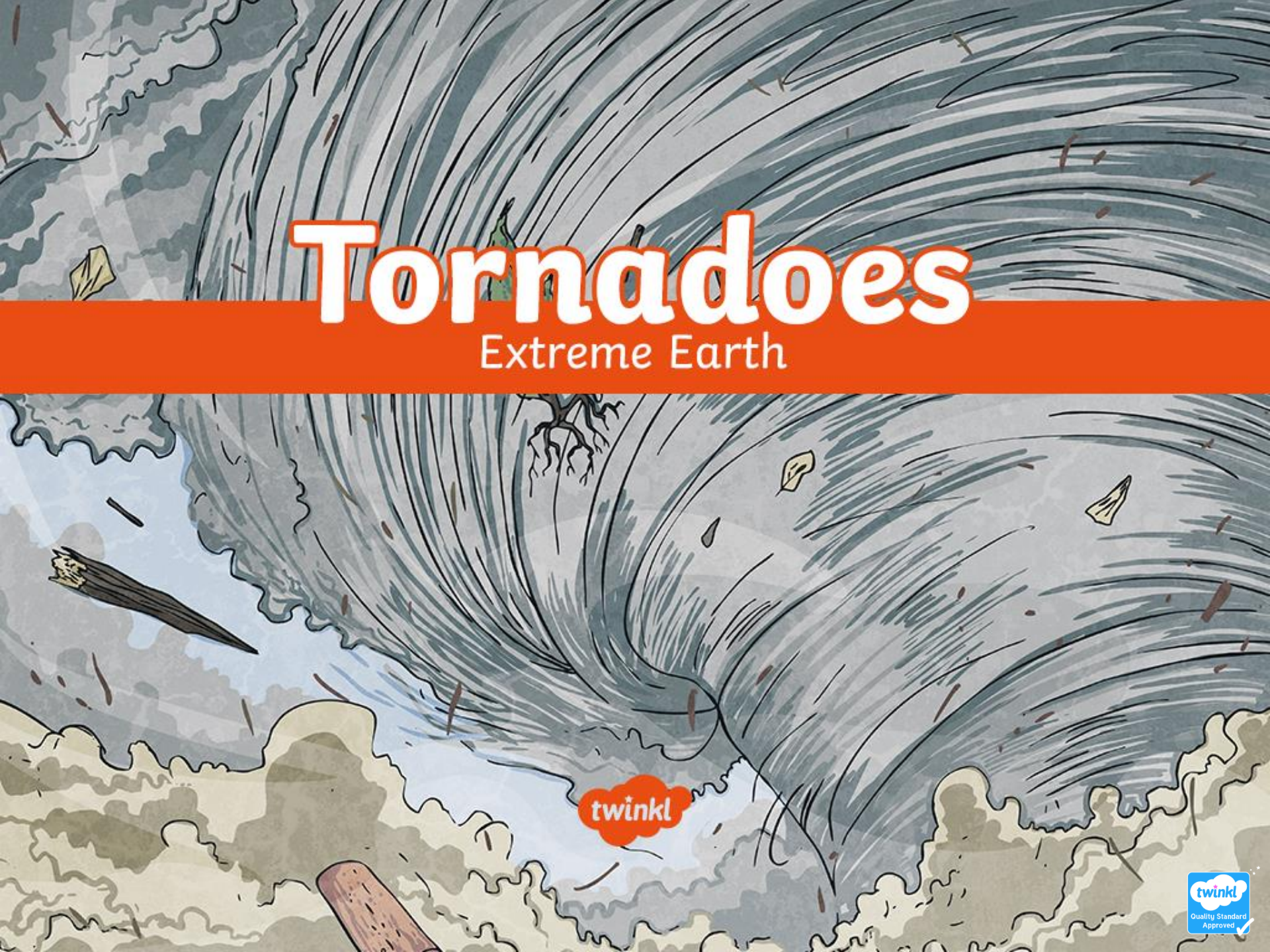
Tornadoes
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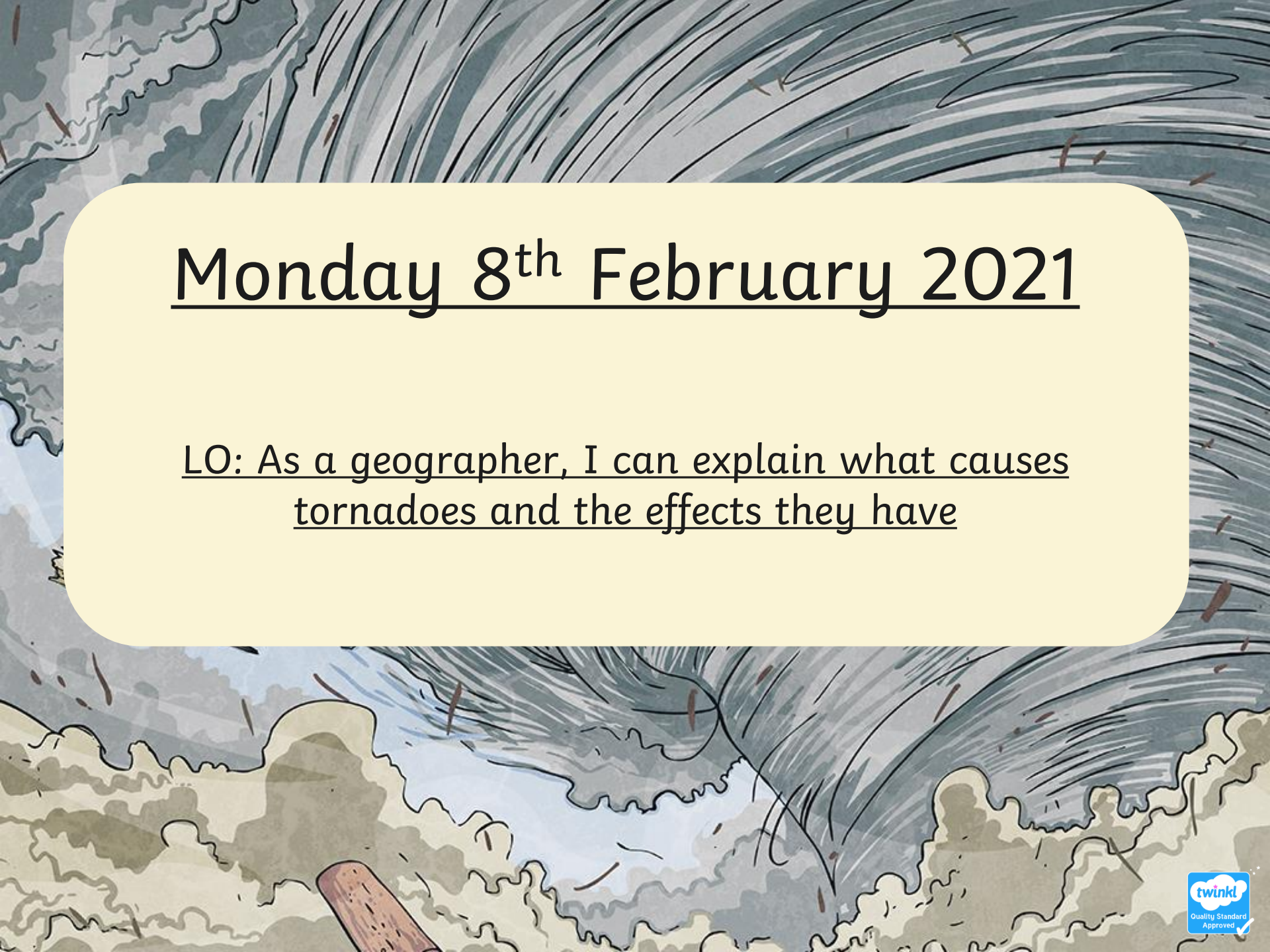


Monday 8th February 2021

LO: As a geographer, I can explain what causes tornadoes and the effects they have

What Is a Tornado?

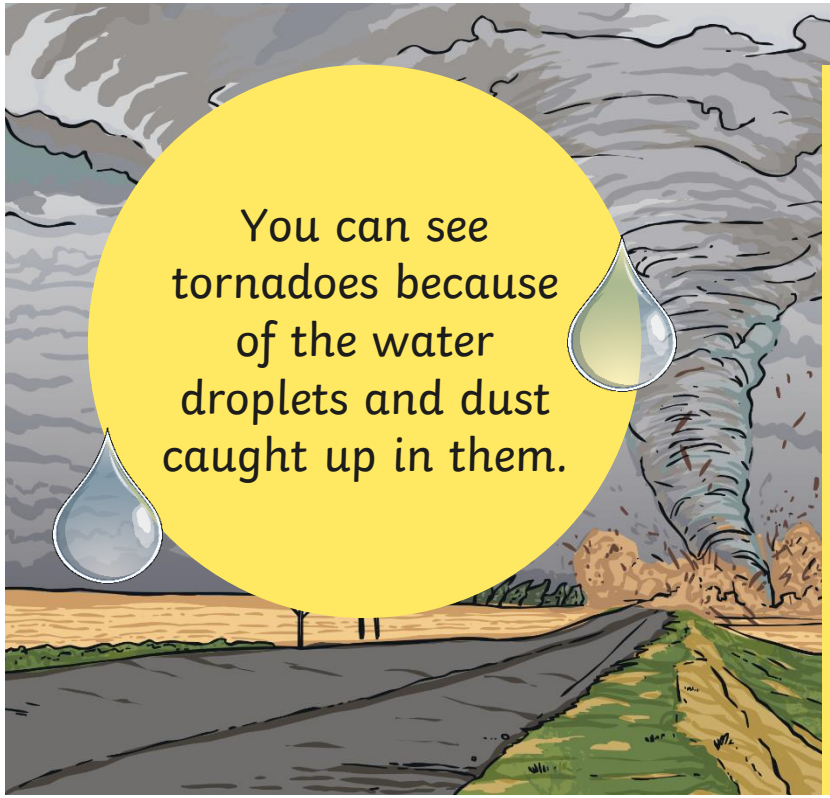
A tornado is a swirling funnel of air that can come down from some of the biggest clouds, called Cumulonimbus.

At the same time, there can be thunder and lightning.

How Do Tornadoes Form?

Whole Class

Tornadoes form when warm air rises up from near the ground into big cumulonimbus (thunderstorm) clouds.



- The winds high up near the tops of the storm clouds start rotating.
- The rotating air is called a vortex.
- More air flows in along the ground from all directions and the vortex moves downwards and becomes more narrow.
- Funnel clouds form and develop into tornadoes.

What Causes a Tornado?

Whole Class

Watch this video which shows how tornadoes are formed.
https://www.bbc.co.uk/programmes/p0295zl2

How Do Tornadoes Form?

Whole Class

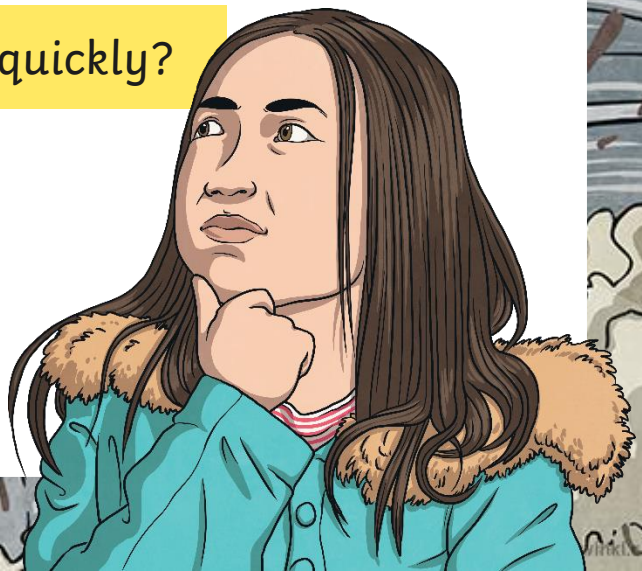
Watch what happens inside the bottle.

What did you notice?

If the bottles are rotated slightly, does the same thing happen?

What did you see?

How could we make the vortex spin more quickly?



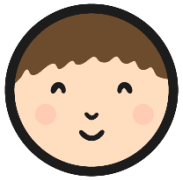
How Do Scientists Collect Data About Tornadoes?

Watch this Storm Chasers video. Storm Chasers are film makers and scientists who head into storms to film tornadoes. They film as the tornadoes form and collect data about what is happening.
https://vimeo.com/45839725

What did you notice about the equipment they used?

How was it suited to the job?

What Do Scientists Use?



What Scientists Use

To exp

Watch the Storm Chasers video again. Can yo
of each piece of equipment.

Radar maps: To provide location informa
information.

Satellite dish: To collect monitoring data.

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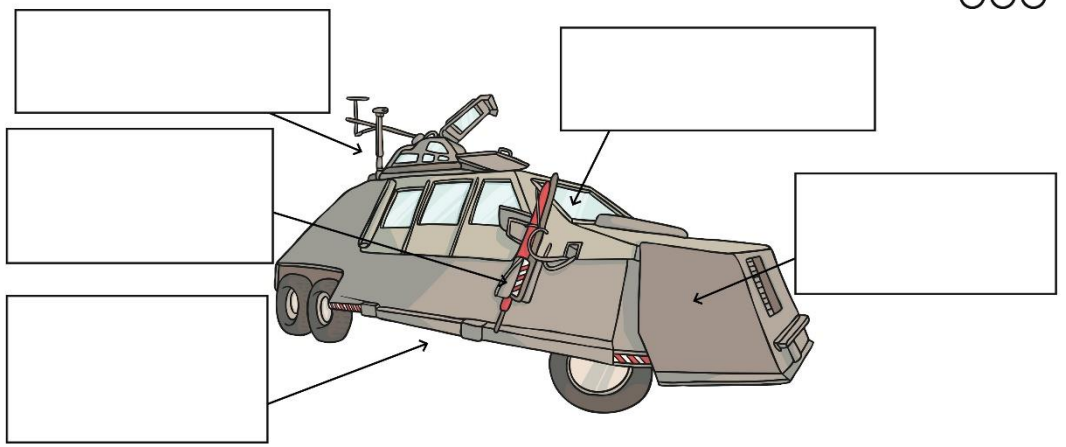
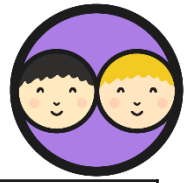
Tornado Intercept Vehicles

To explain what causes tornadoes and the effects they have.



gas-powered	strong armoured plating	tough plastic	low body
monitoring equipment	flying objects	collecting data	flipped over

How Do Scientists Compare Tornadoes?



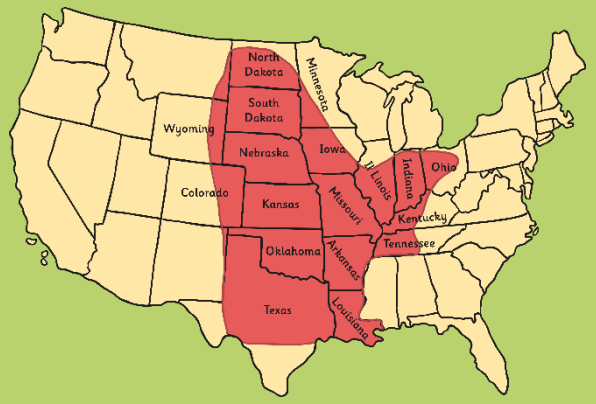
EF Level	Wind Speed	Damage Profile
EF0	40-72 MPH	**Minor Damage:** Some damage to chimneys, branches break off trees, shallow-rooted trees are pushed over and sign boards are damaged.
EF1	73-112 MPH	**Moderate Damage**: Surface of roofs are blown off, mobile homes are pushed off foundations or overturned and moving cars pushed off the roads.
EF2	113-157 MPH	**Considerable Damage:** Roofs are torn off houses, mobile homes are demolished, large trees are snapped or uprooted and light objects fly through the air.
EF3	158-206 MPH	**Critical Damage:** Roofs and some walls are torn off well-constructed houses; trains are overturned, most trees are uprooted and heavy cars are lifted into the air and thrown.
EF4	207-260 MPH	**Severe Damage:** Well-constructed houses are demolished, structures with weak foundations are blown some distance, cars are thrown and large objects fly through the air.
EF5	261-318 MPH	**Total Destruction:** Strong framed houses are lifted off foundations and carried considerable distances, large objects such as cars and trees fly through the air and steel-reinforced concrete structures are badly damaged.

Where Do Tornadoes Happen?

America

Most tornadoes occur in **Tornado Alley**.
(Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Iowa, Missouri, Arkansas and Louisiana)

More than 500 tornadoes are reported in Tornado Alley each year.

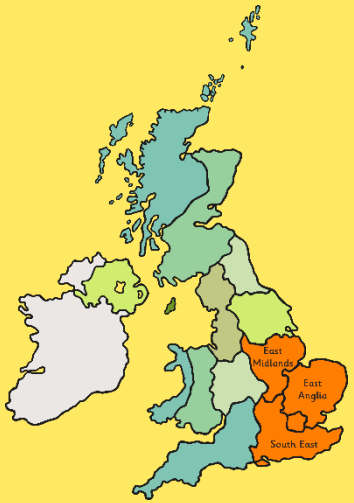


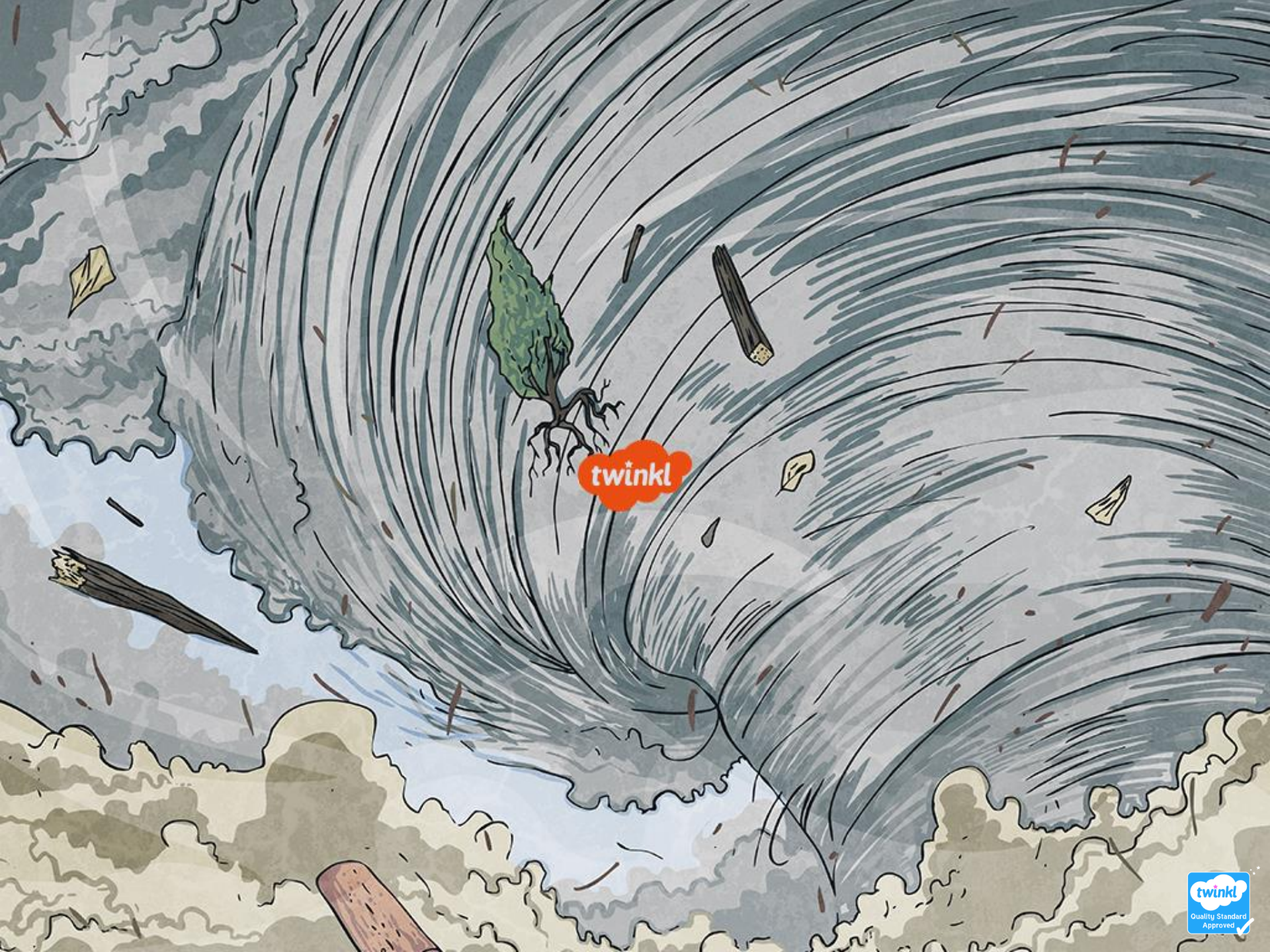
The UK

Most tornadoes occur in South East England, East Anglia and the East Midlands.

About 30 tornadoes per year are reported in the UK.

The UK has more tornadoes per unit of land than any other country in the world!

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