Haslingden High School
Geography Department
HOMEWORK BOOKLET
Year 8 Block B

Name: _____ Form: _____

Subject Teacher: _____

Date Given: _____ Date to Hand in:_____

Effort:

House Points:

Comment:

Target:

Parent / Guardian Comment:

You are expected to complete all the main tasks in this booklet.

The ▶ sign in the margin points to tasks for you to complete.

The ▶▶ sign in the margin points to <u>extension questions</u>. Your teacher will tell you which ones they expect you to complete.

Look out for the clock in each section to let you know the maximum amount of time you should spend on each section.

Task 1: Tornadoes

What is a tornado?

A tornado is a violent spinning column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of up to 300 mph. They can destroy large buildings, uproot trees and hurl vehicles hundreds of yards. Damage paths can be in excess of one mile wide to 50 miles long. Tornadoes are very rare in the UK, however in the USA an average of 1000 tornadoes are reported every year. Most tornadoes occur between May and September.

Read the above information and answer the following questions:

1. How fast can the wind be in a tornado? _____
2. How long can the path of a tornado be? _____
3. On average, how many tornadoes are reported in the USA every year? _____
4. When do most tornadoes occur in the USA? _____

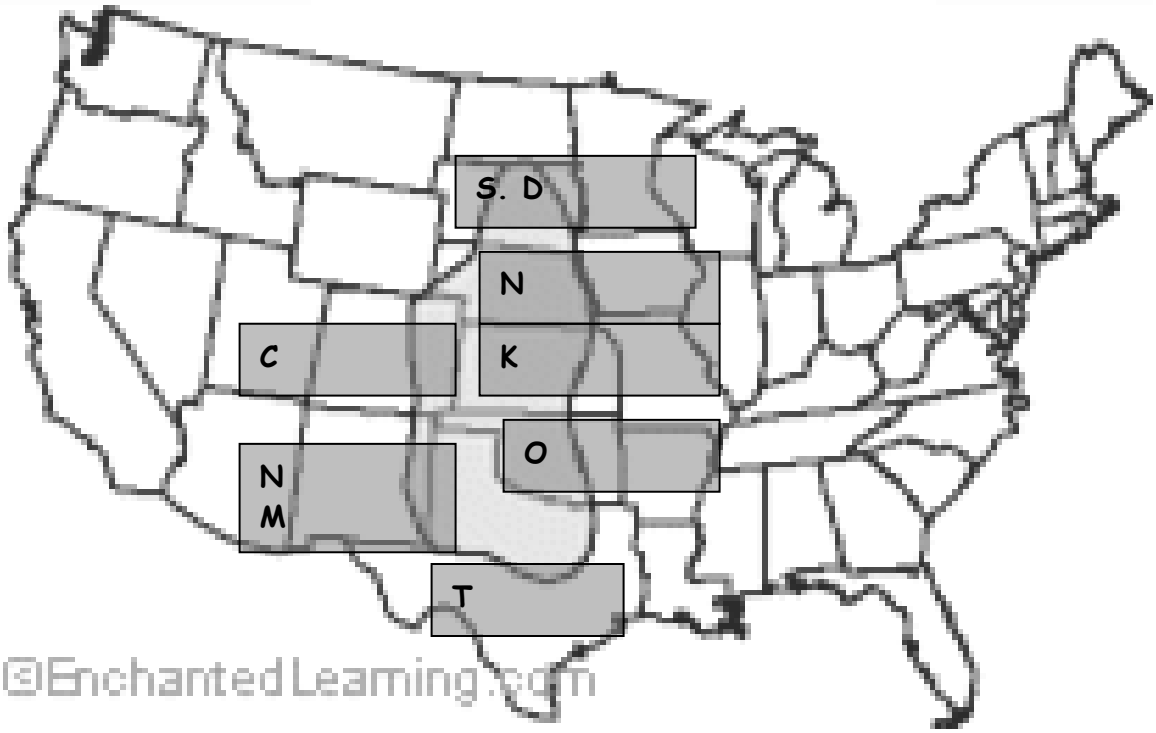
How Is a Tornado Created?

Number the following statements to create the correct order for how a tornado forms:

	The rising air cools and the water vapor being carried by it condenses to form clouds and thunderstorms. The winds near the surface of the ground begin blowing in one direction, while the winds above blow in the opposite direction.
	The clouds get drawn to the ground, forming a funnel. The air being sucked into the tornado creates winds that cause destruction on a massive scale. Gradually, the tornado matures and strengthens by drawing in more moist warm air towards it.
	In spring and summer, the ground gets warmer. The warm air near the surface of the earth rises in the air.
	The difference between the two winds creates a rotating mass of air.

Task 1: Tornadoes continued

'**Tornado Alley**' is the name given to the area of the USA where tornadoes are most frequent.



Label the map using the names of the states in the USA that are most frequently affected by tornadoes.

Oklahoma	Nebraska	Colorado	Texas	New Mexico	S. Dakota	Kansas

Many people in Tornado Alley have access to underground storm shelters like the one in the picture. In the event of a tornado warning people will take cover in the shelter.

Research: If you couldn't get to a shelter, where should you try and take shelter?

_____

_____

_____

Task 1: Tornadoes continued

Imagine you have taken shelter during a tornado and you are now trapped in the shelter due to fallen trees. What would you need to survive for two days until you are rescued? Complete the table below explaining what you need in an emergency kit.

- **You must have at least 10 items in your emergency kit.**

Item	Reason

Task 1: Tornadoes continued

- **Extension task for extra house points:**
  - **Research and produce a factsheet for a recent tornado/tornadoes.**
  - **There was a huge tornado in Moore, Oklahoma in May 2013**
    - **Search 'Moore tornado 2013' on Google**
    - **Watch 'Super Tornado' on 4OD**
  - **Include the following information:**
    - **Where did it happen? When did it happen? What were the effects?**

Task 2: Tsunamis

- **Your task for this section is to research and produce a report on the Japanese tsunami that happened in 2011.**

This piece of work will be **levelled** and must be completed to the best of your ability. It is recommended that you spend two hours completing this section of the booklet.

You need to include in your report the following information:

- What causes tsunamis?
- How big was the Japanese earthquake?
- When did it happen?
- What were the effects of the tsunami?
- How did people respond to the tsunami? (What had to be done after the tsunami?)

Remember to include facts in your report. You may also cut out and stick pictures.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Task 2: Tsunamis continued

Task 2: Tsunamis continued

Task 3 Avalanches

An avalanche is a slab of snow sliding down a slope. It can kill!

➢ **Read the information below.**

A lucky escape

Tomas Bergen, 16, won't forget last Tuesday. He was up in the Austrian Alps doing some snowboard practice. A perfect spring day – bright warm sunshine, a clear blue sky, and a thick fresh fall of sparkling snow.

Tomas had stopped to adjust his goggles when he heard a rumble. He looked around. A huge slab of snow was sliding down the slope, towards him. An avalanche! And then it was on top of him. Within seconds he was buried.

Up on the next slope, a group of skiers saw everything. Within 7 minutes they were searching for Tomas, probing the snow with their ski poles. Within 15 minutes they had found him. Shaken and shocked, but unhurt. And glad to be alive.

A deadly hazard

- An avalanche occurs when the forces holding layers of snow together get weakened. So snow slides downhill.
- There are about a million avalanches a year around the world. Many are harmless.
- But more and more skiers are killed every year, by avalanches.
- If you are buried in snow for more than 35 minutes, you have less than a 30% chance of survival.
- If you are buried for two hours, your chance of survival is only 3%.

Preventing avalanches

- Rain, vibrations, a change in temperature: all can trigger an avalanche.
- Skiers often start avalanches, by setting off vibrations.
- So skiers should avoid places with avalanche warnings.
- Planting trees on slopes helps to prevent avalanches. (But trees won't grow on very high slopes, where it's very cold.)
- Safety experts often start small avalanches on purpose, to get rid of unstable snow. (They use percussion guns or explosives.) This helps to prevent big avalanches later.

Task 3 Avalanches continued

Six avalanche facts

1 Most avalanches occur on moderate slopes of 30 to 45 degrees.
(Snow does not collect on steep slopes.)

2 Snow is most unstable during and after snowfalls, and prolonged warm sunshine.

3 In spring in the northern hemisphere, south-facing slopes are most at risk.

4 Smooth grassy slopes are the most dangerous places for avalanches.

5 Trees and bushes slanting downhill are a sign that there's been an avalanche.

6 Snow saturated with rain can turn into an avalanche, especially on south-facing slopes.

Now answer these questions.

1 What is an avalanche?

2 What kind of slopes are most at risk?

3 What may have caused the avalanche that buried Tomas? Look for clues.

4 Explain facts 3, 4, 5, and 6 above.

Fact 3:

Task 3 Avalanches continued

Fact 4:

Fact 5:

Fact 6:

5 If you are buried in snow for two hours, you'll probably die. Why do you think this is?

6 The number of deaths from avalanches has risen steadily since the 1950s. Suggest reasons.

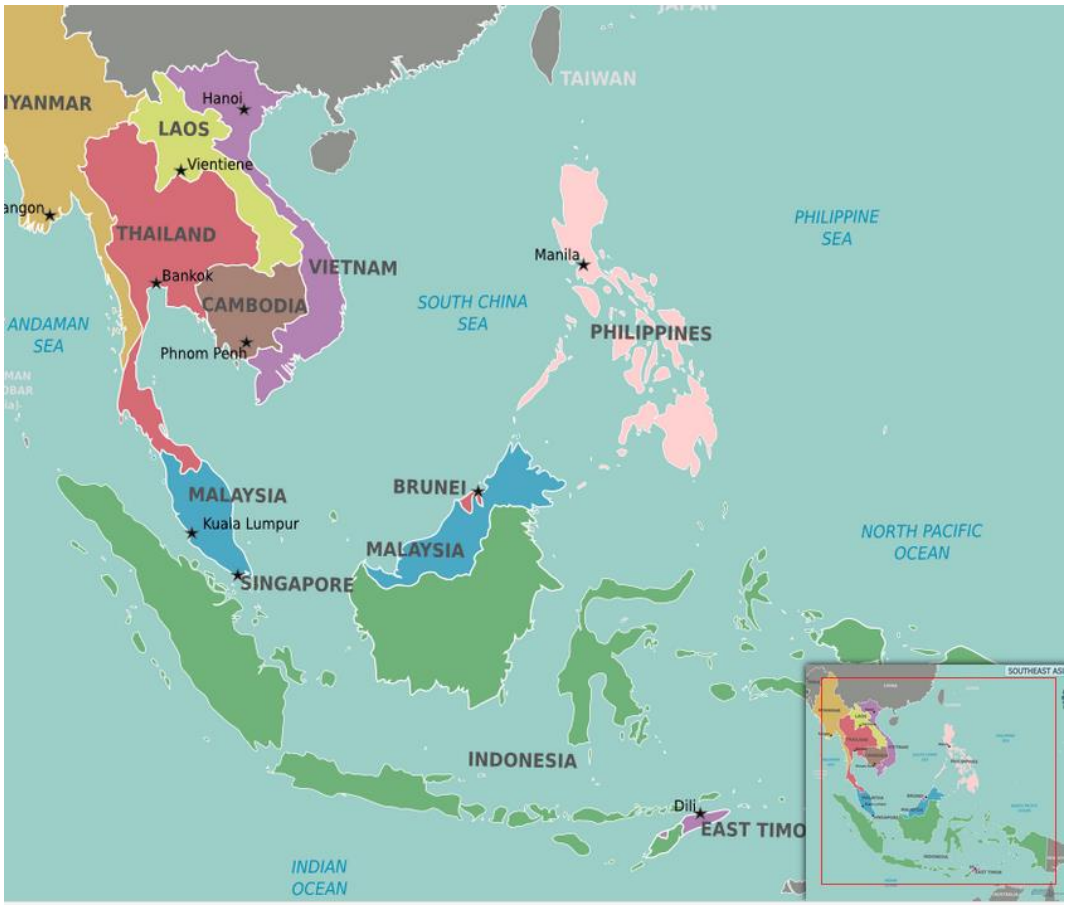
7 In Europe, France, Austria, Switzerland, and Italy have most avalanches – and most deaths from avalanches. Suggest reasons. (An atlas will help.)

8 Give two ways of preventing avalanches, and explain why they work.

Task 4: Hurricanes

A hurricane is a huge storm that forms in tropical parts of the world where is it hottest. They are far bigger than tornados and can last for days or weeks. They have different names in different parts of the world: in East and Southeast Asia they are known as typhoons, in south Asia and Australia they are called cyclones and hurricanes in the Americas.

In November 2013 the Philippines were hit by a powerful typhoon that caused widespread damage. Complete the following sections to find out about Typhoon Haiyan.



1) Using this map and others you can find, describe the location of the Phillipines.

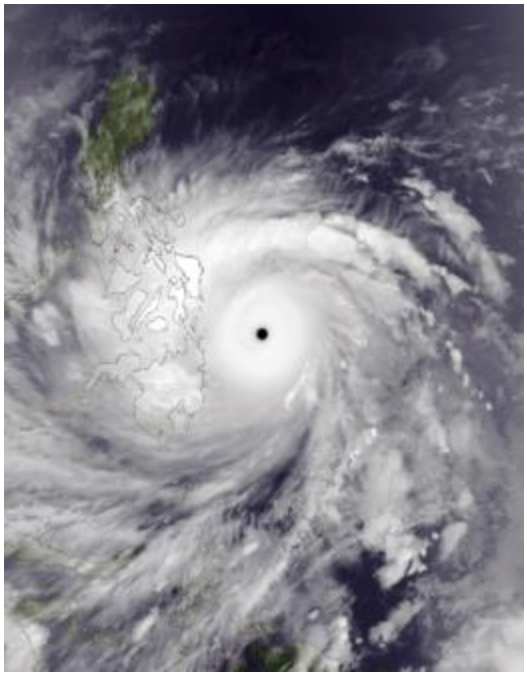
_____

_____

_____

_____

_____



2) Look at the satellite image of Typhoon Haiyan. This was taken when the typhoon was at its strongest.

Label the 'eye of the storm' where there is no cloud.

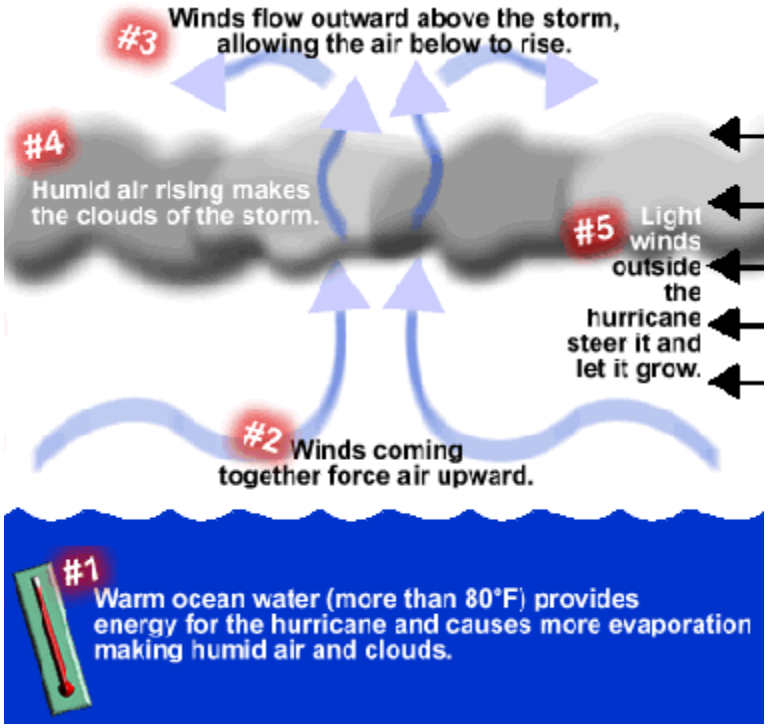
How does it compare in size to the Philippines?

_____

_____

_____

_____



3) Follow the steps 1 to 5 to see how a hurricane forms. Use it to answer these quick questions:

The sea needs to be 80°F, how high is that in °C? (subtract 32, devide by 1.8)

_____

What is created when warm, moist air rises?

_____

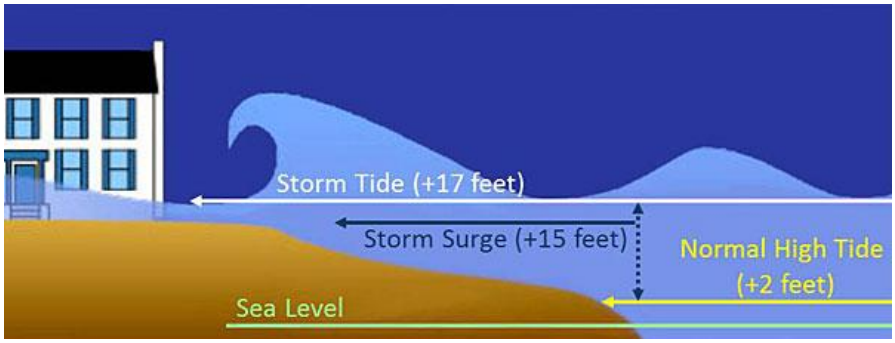
If hurricanes need warm water as fuel, what do you think happens when the hurricane moves over land?

_____

_____

_____

4) As well as incredibly strong winds and heavy rain, hurricanes create a 'storm surge' as they push seawater onto the land as shown on the diagram below:



What do you think are the dangers of a storm surge?

_____

_____

_____

_____

_____

_____

5) Tacloban was one of the worst hit places in the Philippines, but it has recovered. Label these before and after pictures to show what you can see:

6) In December 2014 the Philippines were hit by another typhoon, this one was called Hagupit.

- **Haiyan was responsible for 6,300 deaths but Hagupit only caused 18 deaths.**
- **Haiyan caused $2bn of damage but Hagupit caused only $114m.**

Suggest some reasons for the difference in the effects of these two typhoons.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

EXTENSION:

Hurricanes are usually given a name. Every year an A-Z list is published that has alternating boys and girls names. The 1st hurricane of the year is given the name beginning with A and so on. The lists are used again very few years until there has been particularly bad hurricane and there retire the name.

Has there been a hurricane, typoon or cyclone with your name?

Which names have been retired and why?