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To help you plan your year 7 geography lesson on: Four and Six Figure Grid References, download all teaching resources for free and adapt to suit your pupils' needs.The starter quiz will activate and check your pupils' prior knowledge, with versions available both with and without answers in PDF format.We use learning cycles to break down learning into key concepts or ideas linked to the learning outcome. Each learning cycle features explanations with checks for understanding and practice tasks with feedback. All of this is found in our slide decks, ready for you to download and edit. The practice tasks are also available as printable worksheets and some lessons have additional materials with extra material you might need for teaching the lesson.The assessment exit quiz will test your pupils' understanding of the key learning points.Our video is a tool for planning, showing how other teachers might teach the lesson, offering helpful tips, modelled explanations and inspiration for your own delivery in the classroom. Plus, you can set it as homework or revision for pupils and keep their learning on track by sharing an online pupil version of this lesson.Explore more key stage 3 geography lessons from the Geography: what makes a geographer? unit, dive into the full secondary geography curriculum, or learn more about lesson planning.Atlas skills Game - Planet Planners Four figure grid references are indeed very useful. However, a major weakness of four figure grid references is the fact that they are not very accurate. All objects in the same grid square have the same four figure grid reference even though they may be hundreds of meters apart . When greater accuracy is necessary, a six figure grid reference is used.A six figure grid reference does not only indicate the grid square an object is located in. It also tells us the exact point within the grid square where the object is found. Therefore, objects located in the same grid square will have the same four figure grid reference, but different six figure grid references.How to Give a Six Figure Grid ReferenceA six figure grid reference takes the form EEXNNY. EE represents the easting which is immediately to the left of the object and NN represents the northing which is directly under it. Therefore EE and NN represent the four figure grid reference for the object in question. X is a digit which tells us how close to or far away from the easting the object is located. The higher the number, the farther away from the easting the object is. Similarly, Y is a digit which tells us how close to or far away from the northing the object is found. X and Y can have a value ranging from zero to nine. Look at the grid square below.Look at the letter A located within the square. The four figure grid reference for A is 2345. However, 2345 is also the four figure grid reference for any object which lies anywhere in this grid square. We can give the exact location of this A by giving a six figure grid reference. Let us take it step by step.Step 1Remember a six figure grid reference takes the form EEXNNY. The first two digits represent the easting immediately to the left of the object. The easting to the left of A is 23, therefore we have our first two digits. The third digit (X) represents the distance between easting 23 and A. To determine this we need to divide the space between easting 23 and easting 24 into ten equal parts as seen in the diagram below.The lines are parallel to our easting are an equal distance apart from each other. Lets call these lines mini eastings. Now we need to count the number of mini eastings that are between easting 23 and A. In this case there are four. Therefore our thirddigit is 4. So the first part of our six figure grid reference is 234.Step 2The fourth and fifth digits in a six figure grid reference represent the northing which is directly under the object. In this case it is northing 45. The sixth digit tells us the distance between northing 45 and the object. We must divide the space between northings 45 and 46 into ten equal parts as seen below.Once again the lines are parallel to northing 45 and are an equal distance apart. Let us call these lines mini northings. We must count the number of mini northings which are between northing 45 and A. In this case there are seven of them. Therefore 7 will be the last digit in our six figure grid reference. The second part of our grid reference is 457.Our entire six figure grid reference is 234457.Remember:the first two digits represent the easting immediately to the left of the object( in this case easting 23).the third digit (4) represents the distance between the easting and our object. In this case the object is roughly four tenths of the distance between easting 23 and easting 24.the fourth and fifth digits represent the northing directly under our object (in this case northing 45)the sixth digit represents the distance between the northing and our object. In this case, the object is roughly seven tenths of the distance between northing 45 and northing 46.Note: If the position of A was such that it lay directly on mini easting 4 or mini northing 7, its six figure grid reference would still be234457.The two steps shown above need not be done separately. Your mini eastings and mini northings can be drawn such that they form a smaller grid inside the grid square in which the object is located. The six figure grid reference can be completed by giving the number of the mini easting immediately to the left of the object and the number of the mini easting directly under it (see below). The six figure grid reference is 234457Take the Six Figure Grid Reference Quiz! Data shown on maps Data shown on graphs Look at the Ordnance Survey map below. Notice the blue squares that overlay the map.Eastings are the lines that run from the top of the map to the bottom. They show you how far east you must go.Northing are the lines that run from the left to the right of the map. They show you how far north you must go.When giving a grid reference the eastings are given first, followed by the northings. The four figure grid reference for the square below is 9061.Six figure grid references allow you to identify an exact location within a grid square. Lets zoom into 9061 to find out how these work.In order to identify a six figure grid reference we need to imagine anothergridon top of the existing square.These are then numbered as below.The six figure grid reference for the coniferous forest shown below is 908619. Again, the eastings come before the northings.To help you plan your year 7 geography lesson on: Four and Six Figure Grid References, download all teaching resources for free and adapt to suit your pupils' needs.The starter quiz will activate and check your pupils' prior knowledge, with versions available both with and without answers in PDF format.We use learning cycles to break down learning into key concepts or ideas linked to the learning outcome. Each learning cycle features explanations with checks for understanding and practice tasks with feedback. All of this is found in our slide decks, ready for you to download and edit. The practice tasks are also available as printable worksheets and some lessons have additional materials with extra material you might need for teaching the lesson.The assessment exit quiz will test your pupils' understanding of the key learning points.Our video is a tool for planning, showing how other teachers might teach the lesson, offering helpful tips, modelled explanations and inspiration for your own delivery in the classroom. Plus, you can set it as homework or revision for pupils and keep their learning on track by sharing an online pupil version of this lesson.Explore more key stage 3 geography lessons from the Geography: what makes a geographer? unit, dive into the full secondary geography curriculum, or learn more about lesson planning. Improve your map reading skills by learning how to read a 4-figure, 6-figure or 8-figure national grid reference. This grid reference finder is suitable for beginners and includes a short how to video. The quickest way to find a grid reference of a location is to go to theOS Maps desktop version and right click on the location its that simple! You should see two letters followed by two sets of five numbers like this SZ 65750 98047.If youreusing the OS Maps app then youll need to press and hold to find the grid reference for that location. It will follow the same format as the above. Another great grid reference finder is the OS Locate app which you can use to pinpoint your exact location. Of course, we all know theres nothing more reliable than a paper map and compass when venturing out into the hills. So, its important to know how to find your location (grid reference) on a paper mapto let others know (like Mountain Rescue) know where you are. To do this, you need to understand the National Grid.We explain how below. EXPLORE THE We are with you every step of the way.Shop our trusted walking and hiking maps and guidebooksso you can explore the outdoors with confidence. Go to the shop National Grid You might have noticed by now that OS Maps are covered in a series of blue grid lines. These grid lines help you to pinpoint an exact location anywhere on the map. The horizontal lines are called eastings, as they increase in value as you travel east on the map. The vertical lines are called northings as they increase in value as you travel north on the map. These are linked to the National Grid which provides a unique reference system, and can be applied to all OS Maps of Great Britain, at all scales. Great Britain is covered by grid squares measuring 100 kilometres across and each grid square is identified by two letters, as shown in diagram A. Map grid showing 10km grid squares and TL63Eastin On OS Maps, these squares are further divided into smaller squares by grid lines representing 10 kilometre spacing, each numbered from 0 to 9 from the south west corner, in an easterly (left to right) and northerly (upwards) direction. You can see this in diagram B. Using this eastings and northings system you can identify a 10 kilometre grid square. For example, the above image shows TL63. After the letters you can quote the eastings (6) first, then the northings (3). If you have trouble remembering the order, say along the corridor, THEN up the stairs. Map grid showing 10km grid squares and TL63 On an OS Landranger map you can find the two main grid letters (in this case TL) on the legend or the corner squares of the map. The grid is further divided into 1 kilometre intervals, as shown in diagram C. If you havent got OS Maps orOS Locate or youre using a paper map, it is easy to find a particular place using a grid reference. To start, a four-figure grid reference is a handy way of identifying any square on a map. Grid references are easy if you can remember that you always have to go along the corridor before you go up the stairs. To find the number of a square first use the eastings to go along the corridor until you come to the bottom left-hand corner of the square you want. Write this two-figure number down. Then use the northing to go up the stairs until you find the same corner. Put this twofigure number after your first one and you now have the four-figure grid reference, which looks like the example in diagram D: 6233. Finding grid square TL 62 33 If you want to pinpoint an more exact place on a map, such as your own house, you will need to use a six-figure grid reference. First find the four-figure grid reference for the square and write it down with a space after each set of numbers, like this: 62_33_Now imagine this square is divided up into 100 tiny squares with 10 squares along each side. Still remembering to go along the corridor and up the stairs, work out the extra numbers you need and put them into your four-figure grid reference like this in diagram E: 625 333. Showing how to calculate a 6-figure Grid Reference When giving directions you can provide even more accuracy to your grid reference by stating a nearby landmark or feature. For example, on the Bembridge OS Explorer map I am at grid reference SZ 644 874, at the crossroads. We hope you found this grid reference finder useful! Put your new skills into practice and get out your OS Map to have a go at finding a few grid references. Check out our Pathfinder guide titled Navigation Skills for Walkers including map reading, compass and GPS. Questions in the exam will be based on topographical mapsThe maps can be from anywhere in the worldMaps will have a key, scale, northings and eastingsThese all need to be used to answer the questions4-figure are used to locate specific grid squares within the mapThe first two figures are the eastings, which indicate how far east or west a grid is across the mapThe second two figures are the northings, which indicate how far north or south a grid is on the map6-figure grid references are used to locate exact points within grid squaresThe first three figures are the eastingsThe second three figures are the northingsTo find a 4 and 6 figure grid referenceFirst, find the four-figure grid reference by giving the number from the bottom of the map first and then the number from the side of the map.4 - figure grid referenceIn image above, the 4-figure grid reference would be 17, 51To give the 6-figure grid reference, you need to imagine that the grid square is divided into 100 smaller squaresFigure 1.1 shows some of the features around the main settlement at Misterblanco in the north-east of the map extractWhat is the six-figure grid reference of the junction to the north of B in Fig 1.1?[1 mark]AnswerThe paper 2 exam will always contain a map. You will be expected to be able to give and use grid references to locate specific places on the map extract.Maps in exams will be scaled at either:1:25,000 (1 cm = 250 m in real life)1:50,000 (1 cm = 500 m in real life)Distance measurement methods: For straight or nearly straight distances:Use a rulerUse the edge of a straight piece of paperUsing map scale:Mark distances on a piece of paper using the scale at the map's bottomLay the marked paper from first to second point to calculate distanceUsing scale to measure a straight lineMeasuring curved route distances:Divide the route into segmentsRotate and mark the paper in stages to calculate the full distanceMeasuring road route on map:Divide the route into straight sections using crossesUse the paper to measure from A to the first crossRotate the paper, pivoting at the cross to mark the second crossMeasuring a curved routeDirections on a map should always be given using compass pointsThere are 16 compass pointsSixteen Compass PointsA grid bearing is measured from the grid north at 0, east at 90, south at 180, and west at 270Grid bearings are given using a protractorThe 0 should be pointing north and the centre of the protractor on the place the bearing is been given fromThe compass direction and grid bearing from the crossroads at A to the location at BIllustration showing how to take a map bearingOn the map below, B is south-west of AThe bearing is 280Height can be shown in three main ways:spot heightcontour linestrigonometrical (trig) stationsSpot heights show the height at a specific point with the height measurement written next to itContour lines are isolinesThey join points of equal height and are usually at 5 or 10-metre intervals (distance between the contour line) this means that the height of the land increases by 5 or 10 metres between the linesA trigonometrical (trig) station is marked by a small black triangle with a height measurement written next to itThe contour lines can also indicate the shape and slope of the land or topographyContour lines close together indicate steep landContour lines very far apart indicate gently sloping or flat land dependent on the distance apartV-shaped valleys have a v-shaped set of contoursA hill is shown by a set of circular contour linesContour linesStudy the map extract and Fig 1 for Stoumont, Belgium. The scale is 1:50000Fig 1Using the map extract, identify the following features shown in Fig. 1The height above sea level of the contour at C..... metres[1 mark]AnswerA cross-section is a slice through the landscapeThey are represented on a map by a line, which is often labelled A at one end and B at the otherThey use the contour lines to determine the height of the landCross-section on a mapA piece of paper is then laid along the line and points A and B are marked onThe contour lines are then marked on each time they cross the paperMarking on the contour linesThese figures can then be used to create the cross-sectionIn the exam, you may be asked to finish a cross-section or interpret a cross-section. When interpreting cross-sections, you should include:The highest and lowest pointsComparison of slopesAnamoliesMaps can be used to identify a range of landscape featuresThese may be physical and human featuresEach map has a key to show what the symbols meanExample of a map keyPage 2Syllabus EditionFirst teaching 2018Last exams 2026Exam code: 0460 & 0976Continuous data is numerical data that can take any value within a given range, e.g. heights and weightsDiscrete data is numerical data that can only take certain values, e.g. shoe sizeQuantitative data is where the results can be expressed using numerical valuesQualitative data is where the results cant be expressed as numbers, e.g. opinionsOne of the simplest ways to display continuous dataBoth axes are numerical and continuousUsed to show changes over time and spaceStrengths LimitationsShows trends and patterns clearlyQuicker and easier to construct than a bar graphEasy to interpretAnomalies are easy to identifyDoes not show causes or effectsCan be misleading if the scales on the axis are alteredIf there are multiple lines on a graph, it can be confusingOften requires additional information to be usefulA river cross-section is a particular form of line graph because it is not continuous data, but the plots can be joined to show the shape of the river channelExample of a line graphA bar chart is the simplest form of displaying dataEach bar is the same width but can have varying lengthsEach bar is drawn an equal distance apart (equidistant)The data is discrete dataBar graphs are useful for:Comparing classes or groups of dataChanges over timeStrengthsLimitationsSummarises a large set of dataEasy to interpret and constructShows trends clearlyRequires additional informationDoes not show causes, effects or patterns; can be too simplisticCan only be used with discrete dataA typical bar graphHistograms show continuous dataAlways use a ruler to draw the barsAll bars should be the same widthThe top of the bar should reach the number on the side of the graph that is being representedThere should be no gaps; all bars should be touchingEnsure all axes are labelled and that the graph has a titleStrengthsLimitationsLarge data sets can be graphed easilyData can be compared Can be difficult to pinpoint exact data valuesThey can only be used for numerical dataExample of a histogramThe bars are subdivided to show the information, with all bars totalling 100%Divided bar charts show a variety of categoriesThey can show percentages and frequenciesStrengthsLimitationsA large amount of data can be shown on one graph Percentages and frequencies can be displayed on divided bar chartsA divided bar chart can be difficult to read if there are multiple segmentsIt can be difficult to compare data sometimesExample of a compound bar chartThis is a type of histogramUsed to show the age-sex of a populationIt can be used to show the structure of an area/countryPatterns are easy to identifyStrengthsLimitationsEasy to compare age and sex dataEasy to read and annotateCan take a long time to constructDetail can be lost in the data (figures just show a cohort); additional annotations may be necessaryExample of a population pyramidUsed to show proportions, the area of the circle segment represents the proportionA pie chart can also be drawn as a proportional circlePie charts can be located on maps to show variations at different sample sitesThe percentage of the pie chart must add up to 100%To calculate degrees of the pie chart (which totals 360), divide the percentage by 100 and then multiply by 360Each segment should be a different colourStrengthsLimitationsClearly shows the proportion of the wholeEasy to compare different componentsEasy to labelInformation can be highlighted by separating segmentsDoes not show changes over time; hard to compare two sets of dataDifficult to understand without clear labellingCalculating the size of each section can be difficultCan only be used for a small number of categories; otherwise, lots of segments become confusingPie chart showing energy sources in an areaTo work out the percentage increase/decrease, work out the difference between the two numbers, divide the difference by the first number, then multiply this number by 100.For example, the difference between 37 and 43 is 6. Then 6 / 37 x 100 = 16.21.The percentage increase is therefore 16.21%.Uses multidirectional axes to plot data with barsCompass points are used for the axis's directionCan be used for data such as wind direction, noise or light levelsExample of wind direction being shown on a rose diagramTriangular graphs are used to display data, which can be divided into threeStrengthsLimitationsTriangular graphs can be used to plot data such as soil content, rock size or type, or employment in economic activities, etc.The data must be in percentagesCan be difficult to readRead each side carefully so you are aware which direction the data should be considered Always read from 0 to 100 and follow through to the next 0Can be either clockwise or counter-clockwiseIn the example below, the data reads clockwiseExample of a triangular graph Points should not be connectedThe best fit line can be added to show the relationsUsed to show the relationship between two variablesIn a river study, they are used to show the relationship between different river characteristics, such as the relationship between the width and depth of the river channelStrengthsLimitationsClearly shows data correlationShows the spread of dataMakes it easy to identify anomalies and outliersData points cannot be labelledToo many data points can make it difficult to readCan only show the relationship between two sets of dataExample of a scatter graph with a trend line (aka line of best fit)Positive correlationAs one variable increases, so too does the otherThe line of best fit goes from bottom left to top right of the graphNegative correlationAs one variable increases, the other decreasesThe line of best fit goes from the top left to the bottom right of the graphNo correlationData points will have a scattereddistributionThere is no relationship between the variablesExamples showing three types of correlationMaking predictions from a set of dataYou may be asked to make a prediction for the next step in given data (either table or graph form) in your examStudy the data carefullyLook at the direction in which the data is goingAre the numbers increasing or decreasing?Is there a clear pattern forming?E.g. does the data point value change by 3, 4, 6, etc. each timeStudy the scatter graph below, which shows the cost against distance travelledCost against distance travelled scatter graphPredict what the cost at would be at 1.75 kmAnswer:To predict the cost at 1.75 km, look at the cost at 1.5 km and 2.0 kmThenfollow the line of best fit to predict the value at 1.75 kmCost would be 1.3In the exam, you will not be asked to draw an entire graph. However, it is common to be asked to complete an unfinished graph using the data provided. You may also be asked to identify anomalous results or to draw the best-fit line (aka trend line) on a scatter graph.Take your time to ensure that you have marked the data on the graph accuratelyUse the same style as the data which has already been put on the graphBars on a bar graph should be the same widthIf the dots on a graph are connected by a line, you should do the sameThese are maps that are shaded according to a pre-arranged keyEach shade of colour represents a range of valuesIt is common for one colour in different shades to be usedCan be used for a range of data, such as annual precipitation, population density, income levels, etc.StrengthsLimitationsThe clear visual impression of the changes over spaceShows a large amount of dataGroupings are flexibleMakes it seem as if there is an abrupt change in the boundaryDistinguishing between shades of colour can be difficultVariations within the value set are not visibleExample of a choropleth mapThe symbols on the map are drawn in proportion to the variable representedUsually, a circle or square is used but it could be an imageCan be used to show a range of data, for example, population, wind farms and electricity they generate, traffic or pedestrian flowsStrengths LimitationsIllustrates the differences between many placesEasy to readData is specific to particular locationsNot easy to calculate the actual valueTime-consuming to constructPositioning on a map may be difficult, particularly with larger symbolsProportional circles map showing GDP (billion US$) across EuropeThese are a way of displaying data using symbols or diagrams drawn to scaleUseful way of showing data if accuracy is not too important and data is discreteYears do not need to be continuousSymbols do not need to be whole but can represent a proportionA key is needed to show if the total number of objects or events that image represents exceeds oneStep 1: Read the problem carefully and identify the specific information requested from the pictogramStep 2: Count the symbols corresponding to the desired information and report the countExample of a pictogramIn the pictogram above, you can see that 4 shoppers walked to the supermarket, but only one used a taxiThe majority of shoppers used a car to travel to the supermarketDid this page help you? Learning Objective: Locate places on maps using 4 and 6 figure grid referencesSuccess Criteria:KNOW why it is useful to be able to use grid references,UNDERSTAND how to locate places using grid references andBE ABLE TO follow instructions to locate places on maps; give the 4 and 6 figure grid reference of places on maps Many maps have a grid of squares drawn on the map to make it easy to find, or locate things. Four figure grid references are the numbers which help us to locate a particular square.The first two numbers tell us how far to go along the bottom or top of the map.The last wo numbers tell us how far to go up the sides of the map. The grid below contains a mystery picture. Some of the squares have been coloured in black. Complete the rest of the picture by colouring in the grid squares as follows. activity.jpgFile Size: 501 kbFile Type: jpgDownload File Four figure gird references are used to l_____ a particular g_____s_____ on a map.The first two numbers _____.The last two numbers_____. Click this button to take a quiz We can find exact points on a map by using six numbers of figures.The first three numbers tell us how far to go along the bottom or top of the map. The third number tells us the number of tenths of a grid square.The last three figures tell us how far to go up the side of the map. The sixth number tells us the number of tenths of the grid square.On a map you may have to estimate the tenths of each grid square. Remember that five tenths is a half a grid square.

## How to work out 6 figure grid references. 4 figure grid references. What are 4 and 6 figure grid references. How to work out 4 and 6 figure grid references. How to do 4 and 6 figure grid references. How to work out 4 figure grid references.