The Wonderful World of Mapping

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This unit plan was created based on the SOSE essential learnings PS7.5- Distribution maps, climate zone maps and weather maps have specific features to convey information, including latitude, longitude, eight compass points, scale and distance, a legend and shading and/or symbols.

Unit Plan- The Wonderful World of Mapping

KLA	Year Level	Duration			
SOSE	7	6 Weeks			
Goal Statement					

Throughout the duration of this unit students will be exploring the geography strand of place and space to enhance their ability to interpret a variety of maps for three key purposes. These purposes include investigating where places are in relation to each other, giving directions and finding your way as well as interpreting data to solve problems. Students will use map skills to read and interpret a range of maps including distribution, climate zone and weather at a global, national and local level. In addition to different types of maps, there will be a key focus on specific features that help convey information. During this unit students will organise this information in the form of a learning journal which will include a glossary of key terms. This will assist them in identifying what they have learnt and what is still left to discover as well as reflect on key learning at the end of the unit.

Studies of Society and Environment Content/Concept and Skills Statement

Activities in this unit aim to develop students' ability to comprehend and interpret information in relation to mapping. Knowledge of the world in relation to population statistics, climate, geography, weather and many other social aspects in our world make maps an integral tool in being able to make informed decisions about the world around us. Reading maps and understanding the content being conveyed is a critical tool in receiving information and using it to form opinions efficiently.

The content will be scaffolded to allow students to gradually develop their understanding of what maps are and what maps can be used for. By structuring content in this way students will be able to build upon their previous knowledge and eventually be able to interpret information from maps independently. The investigation will follow the social investigation guidelines to ensure the structuring of content throughout the unit is effectively presented.

Statement of Intention

By the end of this unit it is intended that students will be able to demonstrate their ability to:

- ✓ Read and interpret the data being presented on climate zone, weather and distribution maps
- ✓ Identify and distinguish the differences between climate zone, weather and distribution maps
- ✓ Investigate where places are in relation to each other using maps
- ✓ Find their way and give directions using the 8 compass points.
- ✓ Understand that lines of latitude and longitude are used to determine co-ordinates on world maps
- ✓ Design and create maps with specific features
- ✓ Use a scale to calculate the distance between two places
- ✓ Read and interpret data on maps through the specific features of shading and symbols.

Key Questions

- 1. What are maps?
- 2. How do we understand maps?
- 3. What information do different maps tell us?
- 4. What do the different elements on the map mean?
- 5. How can we distinguish between the different types of maps?
- 6. What features of maps help us to identify and describe where places are in relation to each other?
- 7. What features of maps help us give directions and find our way?
- 8. What features of maps help us interpret data in order to solve problems?

Identify Curriculum				
Ways of Working	Knowledge and Understanding			
 Identify issues and use common and own focus questions Plan investigations using inquiry models Draw conclusions and make decisions based on information and evidence by identifying patterns and connections 	PS 7.5 -Distribution maps, climate zone maps and weather maps have specific features to convey information, including latitude, longitude, eight compass points, scale and distance, a legend and shading and/or symbols.			
General Capabilities	Cross Curriculum priorities			
 ICT For example ICT will be embedded into this unit through the use of synoptic maps Numeracy For example students will use numeracy to locate points of latitude and longitude on a world map 	Aboriginal and Torres Strait Islander histories and cultures For example Indigenous cultures will be embedded into this unit through the use of distribution maps to highlight where the different Indigenous language families reside within Australia.			

	Develop assessment	Make judgments		
Assessment Type	What will be assessed	Stage of S.I.S	Purpose of assessment	Assessable elements
Diagnostic	Students ability to: Reflect on their prior knowledge	Explore	To identify what students already know about maps and the specific features used to convey information in order to expand their current knowledge.	Students will be assessed based on the features of the maps that they are already able to identify
Formative	 Students ability to: Distinguish between the three different types of maps Describe what information the map is conveying and what features assist them in interpreting the data on the map 	Analysing Information	For the teacher to observe the student's current understanding and provide feedback or follow up lessons to assist individual students.	Student's ability to identify climate zone, weather and distribution maps and their purposes.
Summative	Student's ability to: Identify and describe distribution, climate zone and weather maps Read and interpret the data on the maps to solve problems Locate specific features on a map explain their role Create a distribution map based on the data provided	Conclude and Review	To ensure students have reached a new understanding of the three types of maps that have been investigated during the unit as well as the specific features that may be used to help convey information.	This assessment will take place in the form of an end of unit test. The students will be assessed on their ability to answer the questions provided.

		Unit Overview		
Lesson Number	Stage of Social Investigation Strategy	Lesson Description	Resources	Assessment
1.	Motivate	Focus: What are maps? Time: 30 minutes - Provide students with two maps (A blank map of Australia and a detailed one) - Ask students to individually write down what they see in front of them and to describe the types of features on the map in their SOSE learning journals, regardless of whether they know the correct term or what the feature is representing. - As a whole class compare and contrast the different elements on the map with a key focus on what makes these two examples a map. Write this list in SOSE learning journal. - Teacher leads discussion with the class about the unit and informing the students that they will be learning about different types of map as well as various mapping skills	 SOSE learning journal and pencils Detailed map of Australia Blank map of Australia 	- Observation of class discussion
2.	Explore	Focus: What are maps used for? Time allocation: 50 minutes - As a class set up a paper world map on the wall. The map is on A4 print outs and is made up of several pieces. Have the same map on the digital projector for students to use as guide. - Nominate students 2 at a time to place 1 piece of map on the wall between them, use the map on the projector as a guide. - Once the world map is completed have students seated and focussed on the projector with their SOSE learning journals in front of them opened to the list made in lesson one. - Show a detailed world map and ask students to see if they can identify any elements that are similar/different between the map of Australia shown in lesson 1 and the world map. - Students will then be shown a variety of maps on the digital projector. - Lead discussion; Do all the maps look the same? What could different	 Map of world a4 print outs Blu tack SOSE learning journals Pencils Prepared map images Large sheet of butchers paper Permanent marker 	- Diagnostic Assessment to observe students prior knowledge

		maps be used for?		
		- Create a list of answers to reflect upon in future lessons.		
		·		
3.	Frame, Negotiate and Identify	Focus: Where to from here? Time: 30 minutes - Recap on the maps seen in previous lessons and talk about the list made about map features and also about what different maps may be used for. - As a class form a list of questions to help with the investigation. - Help the class form a well thought out list of questions which they will be aiming to answer as the unit proceeds. - Display a poster of questions on the wall next to the giant map. - Explain to class how the unit will be explored and how they will go about answering the class questions.	- SOSE learning journals - Butchers paper - Pen	- Observation of students contribution to forming key questions
4.	Gathering Information	Focus: Maps in general Time: 50 minutes - Explain to the class that there will be 3 types of maps which the unit will focus on, distribution, weather and climate zone maps Show an example of a distribution map, lead the class through its features and ask them what they can see. Ask students to identify which kind of map it is, based on the evidence discussed. Once the answer has been reached add it to the word wall. Re-visit it's features and add them to their SOSE learning journal under distribution map. Draw student attention to any key or legend Show students a climate zone map and discuss its features. Students will notice similarities between distribution map and climate zone map Ask students to discuss what they think the difference is between them Add information to word wall under climate zone map Show students a weather map and discuss the features which appear. This map looks quite different to the others so allow students to discuss what they see with a partner Add information to word wall under weather map.	- Word Wall - Examples of distribution, climate zone and weather maps	- Observation of small group discussions - Collect and make anecdotal records based on the learning journals

		- Lastly show students a world map which includes lines of longitude and latitude. Students will have made note of these lines in previous lessons but have not been taught what they are. Explain what each of the lines is and add it to the word wall. Explain that next lesson they will learn more about these lines of longitude and latitude.		
5.	Gathering Information	Focus: Longitude and Latitude Links to other curriculum areas: Mathematics Time: 45 minutes - Introduce the terms longitude and latitude to the word wall and using a globe locate the equator and prime meridian on a world map. Explain that the equator is a line of latitude and the prime meridian is a line of longitude Display these two lines on the giant class map Ask students to consider the identifiable differences between longitude and latitude. Prompt them to look at the shape of the lines and the direction that they are travelling. Teacher should lead the students to understand that the lines are forming a grid over the map which work as co-ordinates to locate a specific country In small groups students explore a variety of world maps and compare the way the lines of the equator and prime meridian have been labelled. Students will form a list of countries and oceans that 0° latitude and 0° longitude pass through.	- Word Wall - SOSE learning journals - Globe - World Maps	- Observe group work and input into class discussions - Collect and mark the lists that each group create - Feedback to students on their results
6.	Gathering Information-	Focus: Distribution Maps Time: 60 minutes - Begin by showing images of distribution maps that were covered in lesson 2 and reflect on the ideas and words the students had formed to describe these maps that were formed in lesson 4 - Ask students to brainstorm in pairs what information the legend on each map is conveying and add the term 'legend' to the word wall - Try and link the images into three distribution map types: Dot Distribution Maps, Thematic Distribution Maps(shading) and Statistical Distribution Map - Show how distribution maps can show segregation, clustering and	 Word Wall Different distribution maps SOSE learning journal Whiteboard and markers Masking tape Coloured pens 	- Collection of SOSE learning journals for teacher to check - Feedback to individual students

		colour coding		
		- Place the Australian distribution map/s on the whiteboard		
		·		
7.	Gathering Information	- Conduct hair colour distribution activity(See Appendix A) Focus: Climate Zone Maps Time: 45 minutes - Play clips of movies to students (e.g. Madagascar, ice age, lion king, finding nemo). As a class discuss the range of climates that are evident in each and the location that they may be set in Show students a large example of a world climate map and allow them to work in small groups to investigate where each movie would have been located - Incorporate the idea of 'symbols' on a map and describe how symbols and shading can represent the different climates on a map Teacher will add the term 'symbol' to the word wall and students will add it to their glossary of terms Inform students of the country each clip is set in and allow them to use an atlas' to investigate the location of the area Encourage the small groups to discuss where all these places are in relation to each other and any lines of latitude and longitude that connect them Students should also discuss what impact that climate has on people who live in that country and how it affects their daily lives as well form a list based on similarities and differences of the different countries and Australia As a class the students will choose a symbol for each clip and place it	- YouTube clips - IWB - World Climate Map - Atlas' - Word Wall - SOSE Learning journal	 Teacher questioning Observation of: small group work SOSE learning journals
		on the class map	A !!	0.11
8.	Gathering Information	Focus: Weather Maps Time:45 minutes Links to other curriculum areas: Science & ICT - Refresh student's memory by looking at the images shown in lesson 2 and reiterate the ideas the students spoke about based on those images Ask students to write down their observation about the weather today. Prompt students to think about how people predict and read the weather.	 Australian government bureau of Meteorology website Word Wall SOSE Learning journals 	 Collection of learning journals Observation of class discussion Feedback to individuals on their work

9.	Analysing Information	- As a class investigate the Australian government bureau of Meteorology and explore the different national weather maps using the 8 compass points to view different areas. Ensure to view the synoptic weather map and allow the children to discuss what they are seeing Investigate the weather maps that show wind direction and speed. Explain to students the link between wind direction and the 8 compass points (e.g. a south-easterly wind) - Add the terms low, high and tropical cyclone winds the word wall Based on the data from the weather maps they have just seen, ask students to individually write a weather forecast for the local news in their learning journals with a focus on using the 8 compass points Focus: Question and Answer Time: 45 minutes - Refresh students memory in relation to questions formed in lesson 3 Have students try to answer each question in their learning journals based on the knowledge they have gained so far Stimulate a class discussion relating to the answers students have come up with in their learning journals Create a new poster with the answers written on them to be displayed in the classroom beside the questions already created.	- Learning Journals and pencil - Poster paper - Marker pen	Formative Assessment: - Collection of learning journals - Observation of participation in class discussion
10.	Analysing Information	Focus: Interpreting Data Time: 30 minutes - Have students split up into four rotation groups Each rotation will have a folder in which students will have to sort and identify different types of maps The information students will collect from each station should include what the map is specifically used for and the different features found on it This information should be written onto the work sheets provided (See Appendix B) As class share and discuss each groups responses	- Rotation Activity Folders - Activity Work Sheet	- Collection of work sheets - Observation of involvement within small groups - Formative Assessment

11.	Analysing Information	Focus: The route to school Time: 45 minutes - Students work by themselves to create an individual map on A4 paper to show their path from home to school - The focus of this activity should be on creating an appropriate legend with symbols to show what they pass on their journey (e.g. roundabout, bridges, railway lines), designing a scale to show directions as well as writing a directions using the 8 compass points - In pairs students will swap their maps and using the directions written	- A4 paper - Pencils - Australian Maps for class	- Collection of individual maps - Individual feedback to students
		follow the route their partner takes from home to school - Teacher will display the maps around the room - Finish with around the world activity(See Appendix C)		
12.	Conclude and Review	Focus: Freddy Forgetful Activity Time: 45 minutes - Working in small groups, each group is given a postcard from Freddy Forgetful that he had sent during his trip around Australia. Students must work together to figure out where in Australia the post card was sent from based on the clues Freddy left in the letter (e.g. Sites of Australia) Students present their findings to the class	Atlas'SOSE learning journalsPostcard resources	- Observation of small group work and their findings
13.	Conclude and Review	Focus: Around the world Time:60 minutes - The student's task is to choose 5 places that they want to travel to around the world and investigate where these places are in relation to Australia The student must describe the countries position in terms of key lines of longitude and latitude, coordinates and the countries distance from Australia Students must then create their map to highlight key places they have visited. Their map must include specific features of shading to show the different climates, legend key, scale and symbols to highlight key sites they have visited Display each student's map around the classroom	- Atlas' - SOSE learning journals - Pencils - A3 paper	- Observation of student's ability to describe where places are in relation to each other as well as give directions

14.	Conclude and	Focus: Summative Assessment Task	- Test booklet	Summative Assessment
	Review	Time: 45 minutes	- Assessment Rubric	(See attached Rubric)
		- Students are to sit a test based on the information that they have	- Pencils	
		investigated during this unit		
		- See Appendix D		
		- Refer to assessment rubric		
15.	Take Action	Focus: Information Session	- SOSE Learning	- Observation of
		Time: 30 minutes	journals	participation with prep
				buddies
		- Students will invite their prep buddies to the classroom in which they		
		will give an information session to their individual prep buddy about out		
		giant world map that has been created in class.		
		- Information students should discuss with their prep buddies includes		
		information such as distinguishing the different countries on the map,		
		explaining what the different maps are showing ie. Whether it is a		
		distribution, climate or weather map.		
16.	Reflect On	Focus: What did we learn?	- Word Wall	- Collection of SOSE
		Time: 30 minutes	- SOSE learning	learning journals
		- The teacher and students reflect on their glossary of key terms that	journals	- Feedback to individual
		they have produced over the unit. As a class they discuss the types of		work
		maps they learnt about and other maps that they would like to		
		investigate in the future.		
		- Students reflect on their knew knowledge by writing a final journal		
		entry on what they now know about maps, how this information is		
		relevant to them and what impact it has on people's everyday lives.		
		Their final journal entry should include illustrations of weather, climate		
		zone and distribution maps.		

Assessment Rubric

Criteria	Α	В	С	D	E
KnowledgeTypes of mapsSpecific features	Student accurately identifies all three types of maps.	Student accurately identifies two types of map.	Student accurately identifies one type of map.	Student attempts to accurately identify the type of maps.	Student does not accurately identify any maps.
	Student matches all images of specific map features to the correct terminology.	Student matches most of the images of specific map features to the correct terminology.	Student matches some of the images of specific map features to the correct terminology.	Student matches few of the images of specific map features to the correct terminology.	Student matches none of the images of specific map features to the correct terminology.
Attitudes To learning	Student has answered all questions and has responded in neat, legible writing.	Student has answered most questions and has responded in legible writing.	Student has attempted some questions and has responded in acceptable writing.	Student has attempted few questions and has responded in untidy writing.	Student does not attempt any of the questions.
Skills • Interpreting data	Student accurately answers all of the questions based on interpreting the data the climate zone map is conveying.	Student accurately answers most of the questions based on interpreting the data the climate zone map is conveying.	Student accurately answers some of the questions based on interpreting the data the climate zone map is conveying.	Student accurately answers few of the questions based on interpreting the data the climate zone map is conveying	Student accurately answers none of the questions based on interpreting the data the climate zone map is conveying
ProcessesCreating map	Student creates a distribution map based on the data provided with all of the key information accurately presented.	Student creates a distribution map based on the data provided with most of the key information accurately presented.	Student creates a distribution map based on the data provided with some of the key information accurately presented.	Student creates a weather or climate zone map based on the data provided with little of the key information accurately presented.	Student does not create a map.

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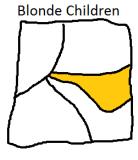
Appendix A

Creating distributive maps:

Background Information: The class is a country and the masking tape areas are the different states. Separate students into hair colour groups throughout the classroom. Write the amount of children with each separate hair colour in a table on the whiteboard

- 1. Use masking tape to create at least 5 different areas within the classroom
- 2. Draw a rough outline of the class on the whiteboard including the masking tape borders
- 3. A thematic distribution map is the first map the students will make. This map is drawn so that only one single feature is exposed(It will be easier to place all students with the same hair colour into one state).
- 4. The students copy the classroom outline and borders and colour in the section where there hair colour lies. They will need to make a legend and title
- 5. Students can also colour in the other range of hair colours using a legend again
- 6. Students are then asked to move around the classroom
- 7. Once stopped the next distributive map the children will learn about is the statistical map. This map shades areas of the classroom to represent the number of students in each state with the same hair colour
- 8. Children will be guided through this activity by the teacher
- 9. The last distribution map is a dot map
- 10. This map shows dots that represent a numerical value of how many students from a particular hair colour may be found within the classroom(country)
- 11. This can be done on a large scale(100 times bigger) to show the difference

Types of hair colour







Blonde:
Brown:
Red:
Black:
White:

Appendix B

<u>Different Types of Maps - Worksheet</u>

Rotatior	n Folder 1
1.	What type of map is provided?
2.	When would this map be used?
3.	What are the key features of this map?
	1 Folder 2 What type of map is provided?
2.	When would this map be used?
3.	What are the key features of this map?

	n Folder 3 What type of map is provided?
2.	When would this map be used?
3.	What are the key features of this map?

<u>Different Types of Maps - Worksheet Answers</u>

Rotation Folder 1 - Distribution

- **1.** What type of map is provided?
 - Distribution Map
- **2.** When would this map be used?
 - To show a visual representation for different types of data.
- **3.** What are the key features of this type of map?
 - Represents information for a specific subject, showing what the subject is, where it is and how often it occurs.

Rotation Folder 2 - Climate

- **1.** What type of map is provided?
 - Climate Map
- **2.** When would this map be used?
 - To show a visual representation of varied temperature.
- **3.** What are the key features of this type of map?
 - Represents information for a specific temperature, showing what the temperature is, where it is and how often it occurs.

Rotation Folder 3 - Weather

- **1.** What type of map is provided?
 - Weather Map
- **2.** When would this map be used?
 - To show what the weather system may be doing in different parts of the world.
- **3.** What are the key features of this type of map?
 - Information shows wind movement, high and low pressure and has the use of an eight-point compass.

Appendix C

Mystery Travelling:

- 1. Begin by writing a starting point on a separate piece of piece of paper(e.g. Brisbane)
- 2. Give directions using the scale and the 8 point compass
- 3. You must give at least 15 directions (e.g. Go 400km North, go 200km South East)
- 4. You must end up in one of the cities located on the map(write this down on a separate piece of paper)
- 5. Swap your direction s with a partner and see if they end up in the same place you did

