|  |
| --- |
| STRAND: Number SUBSTRAND: Data (A) + Position (A) STAGE: 3 |
| TERM: | 1 | 2 | 3 | 4 | WEEK: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| AHC-ICON-Aboriginal Torres Strait Islander histories-300dpiAboriginal and Torres Strait Islander histories and cultures | A-ICON-Asia Australias engagement with Asia-300dpiAsia and Australia’s engagement with Asia | S-ICON-Sustainability-300dpiSustainability | CCT-ICON-critical creative thinking-300dpiCritical and creative thinking | EU-ICON-ethical understanding-300dpiEthical understanding | ICT-ICON-300dpiInformation and communication technology capability | IU-ICON-intercultural understanding-300dpiIntercultural understanding | L-ICON-literacy 300dpiLiteracy | N-ICON-numeracy-300dpiNumeracy\* | PSC-ICON-personal social capability-300dpiPersonal and social capability | WE-work and enterprise-300dpiWork and enterprise |
| ***What are we learning to do (WALT):*** Create data displays, including tables, column graphs, line graphs and dot plots, appropriate for the data typeDescribe and interpret data presented in tables, column graphs, line graphs and dot plotsUse a grid reference on a map to describe and locate position Follow a sequence of directions to find a particular location on a map Describe routes using landmarks and directional language |
| ***Adjustment:*** | **Post Assessment Highlighted**  |
| **TEACHING AND LEARNING ACTIVITIES** | **REG** |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| ***What I’m Looking For (WILF):***  | ***What I’m Looking For (WILF):***  | ***What I’m Looking For (WILF):***  | ***What I’m Looking For (WILF):***  | ***What I’m Looking For (WILF):***  |
| **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** |
| **Introduction**

|  |
| --- |
| **Alphabet Hunt** Students predict which letter of the alphabet is most frequently used. They justify their predictions and suggest how they could test their predictions. Possible questions include: ❚ would some letters occur more than others? Why? ❚ which letters would be least likely to occur? Why? ❚ which letter do you write most often? The teacher gives each student a page from a text eg a novel, a newspaper, a school magazine. Each student is allocated a letter to count on the page. The results are collated into a class table, and each student draws a graph to show the results. They then make statements about the results and their predictions eg ‘I knew it would be a vowel, because all words have vowels so I chose A.’ Students could use technology to graph the data. *Variation:* The teacher poses a different scenario: ‘Would the letter frequency change if you used a different piece of literature or factual text?’ or ‘If you picked the “A” volume of the encyclopaedia would that be fair?’ Students discuss their predictions.  |

 | **Introduction** These are the results of a survey. What might the survey be about?

|  |  |
| --- | --- |
| Place | Tally |
| Library | lll |
| Play equipment | This picture shows five tally marks. Tally marks are used as a form of counting and are useful for writing results without having to erase information.This picture shows five tally marks. Tally marks are used as a form of counting and are useful for writing results without having to erase information.ll |
| Under the trees | This picture shows five tally marks. Tally marks are used as a form of counting and are useful for writing results without having to erase information.ll |
| Oval |  lll |

Accept any reasonable suggestions. For example it could be a survey of where the children are playing, or where accidents occurred. | **Introduction** | **Introduction**

|  |
| --- |
|  **The Best Route** Students are given a scaled map of their suburb or a section of a city and are asked to locate two points of interest. On the map, students show the shortest or best route between the two points. Students write a description of the route using grid references, compass directions and the approximate distance travelled. *Variation:* On a large map of the local area, all students plot their home and the route they use to get to school. They then write a description of their route.  |

 | **Introduction****Paper Rounds** In pairs, students are given a street directory of the local area. The teacher gives them the addresses of the places where they will start and finish their paper delivery and students use coordinates to find these places. They design a route for effective delivery of the papers and calculate the distance travelled using the scale. Possible questions include: ❚ how long is your route? ❚ can you devise a shorter route?  |
| **Body**Activity 1 – Surveying the classPose the following problem:What question would you ask the class if you were going to conduct a survey to find out:* the favourite milkshake flavour
* the most popular fruit
* the preferred team game during sport time, etc.

What if your survey included all students in the school and your numbers were large, how could you display the data for large numbers? * Discuss the use of symbols e.g.10 symbols can represent 100.

Draw one car on the whiteboard. One car = 10car=10Draw three more symbols.3 carsWhat number would be represented now?* Change the number of symbols to 4, 8, 11, etc and students determine the matching number.
* Repeat, but change the key so that one symbol equals 5 (or 20) and students determine the numbers for 5 cars. Ask the class what the symbol of a car could represent. List the students' suggestions on the whiteboard.

e.g. * Ways of getting to school.
* Types of cars owned by class families
* The number of cars passing the school in a given time period.

Students suggest other symbols that could be used to represent transport themes. | **Body**Activity 2 – Picture GraphsDisplay a variety of tables, with larger numbers for students to discuss.For exampleThis table records the number of tourist buses visiting a town in one year. Tourist Buses Table* Students will use the information to complete a **picture graph** showing the bus arrivals during the year.
* Before they start discuss the following points:

*What are some advantages of using a picture graph?*What are some disadvantages of using a picture graph?* Because of the large numbers, can we make the task of showing the numbers in a graph easier?
* Would using a symbol, to represent more than one object, make it easier to present the large numbers?

*What number could each symbol represent?* (1 symbol could equal 5 buses, 10 buses). Have students justify their answer.* If one symbol equals 10 buses, how many symbols would need to be shown for each month? Add another column to the table to show the number of symbols that have to be used.
	+ *What if we need to show five buses, what symbol could be used?*

[view and print](http://www.schools.nsw.edu.au/learning/7-12assessments/naplan/teachstrategies/yr2011/images/nn_data_s3c_11_worksheet_1.pdf) | **Body**Students are given this template of **picture graph** to graph the bus arrivals during the year. They use the key because there are a large number of buses to record on the graph. Students draw half a bus for numbers like 15, 25, 35 and 45.Tourist Buses TableEach symbol drawn on the graph represents 10 buses. Half a symbol represents 5 busesWhen students finish their graph, they: * work in pairs and discuss some facts that can be obtained from the graph
* write three questions that could be answered using the information presented in the picture graph.
 | **Body****Distance and Direction** Students use the scale on a map of NSW and the compass rose to find a town eg 300 km NE of Broken Hill, 270 km SW of Ballina. Students are encouraged to create their own cards with distance, direction and starting place on one side and the town on the back. They then swap cards with other students in the class. *Variation:* Students source maps on the Internet and write a new set of cards using direction, distance and starting point. They swap with a partner who locates the town or point of interest.  | **Body****Treasure Island** Students draw a ‘Treasure Island’ map, creating a scale and compass rose, and imposing a grid and coordinates. They write a set of directions, using compass points and grid coordinates, to the location of a hidden treasure on their map. Students exchange maps and follow the directions to find the treasure. They are encouraged to comment on the scale used. *Variation:* Students could reproduce their maps on a computer.  |
| **Conclusion** | **Conclusion** | **Conclusion** | **Conclusion** | **Conclusion** |
| **Resources** | **Resources** | **Resources** | **Resources** | **Resources** |
| **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** |