ONE SHEET WONDER-FUL INVESTIGATIONS

Measure it Up – Homes

Suitable for Years 4 - 9

An independent student investigation using estimation, area, perimeter, 2D and 3D shapes. Students will measure the rooms in their own homes and compare them with people from around the world and construct 2D or 3D models.

Measure it Up – People

Suitable for Years 5 – 9

An independent student investigation focusing on problem solving, measurement conversions, large numbers and ratio. Students calculate the length of populations if they were to stand shoulder to shoulder. Compare these lengths converting them into appropriate units.

Average it Out

Suitable for Years 6 – 9

Students engage in an investigation encompassing averages, data display, model creation and information displays. Students will calculate the average amount of space they and others around the world live in, compare it, create a model and display in an easy to read infographic.

***Students will need to complete Measure it Up – Home prior to this investigation. ***

A Shoe In

Suitable for Years 2 - 6

A combined Mathematical, Visual Arts and Technologies investigation around the different types of shoes students, their families and others around the world own and wear.

Tell Me A Story

Suitable for Years 2 - 10

An English, Technologies and Religious Education investigation tasking students with retelling a Caritas story through puppetry. Students engage at their level, creating everything from the script, to the puppet, to the set and recording the show.

Coded

Suitable for Years 3 - 6

HASS, HPE and Religious Education combine for students to investigate a Caritas story through a coded message. Students spend some time researching and presenting a poster reflecting their coded message skills and knowledge gained.

All activities have curriculum links included and can be adjusted according to specific year levels.

Caritas
AUSTRALIA

End poverty
Promote justice
Uphold dignity

MEASURE IT UP - HOMES

Caritas AUSTRALIA — End poverty Promote justice Uphold dignity

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Dollar Street

Imagine the world as a street ordered by income. Everyone lives somewhere on the street. The poorest lives to the left and the richest to the right. Everybody else live somewhere in between.

The Dollar Street website has been set up exactly like this. It is filled with photographs of what life is like for people living all around the world, from the richest to the poorest.

Visit Dollar Street: https://www.gapminder.org/dollar-street

Activities

Use the knowledge you have of your own home, the Caritas Australia Project Compassion website (https://lent.caritas.org.au/) and the Dollar Street website (https://www.gapminder.org/dollar-street) to complete the following activities:

1. Estimate the area and perimeter of each room in your home.

2. Measure and calculate the area and perimeter of each of the rooms in your home. (If you don't have a measuring tape, get creative about how you might be able to make one.)

3. Calculate the overall area of your house by adding the area of each room together.

4. Choose one of the countries from this year's Project Compassion stories and search for that country on Dollar Street.

5. Estimate the area and perimeter of houses you think Shirley, Phany, Sakun and Tawonga might live in based on the pictures you see. You might be able to use the number of people standing in front of homes to help you estimate.

6. Using 2D or 3D models show the different sized houses to scale.

Curriculum Links

Mathematics
Year 4
Compare objects using familiar metric units of area and volume ACMMG290
Select and trial methods for data collection, including survey questions and recording sheets ACMSP095
Year 5
Choose appropriate units of measurement for length, area, volume, capacity and mass ACMMG108
Calculate perimeter and area of rectangles using familiar metric units ACMMG109
Describe and interpret different data sets in context ACMSP120
Year 6
Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers ACMNA123
Interpret secondary data presented in digital media and elsewhere (ACMSP148
Year 7
Identify and investigate issues involving numerical data collected from primary and secondary sources ACMSP169
Year 9
Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources ACMSP228

Suitable for Years 5 - 9

MEASURE IT UP - PEOPLE

Caritas AUSTRALIA — End poverty, Promote justice, Uphold dignity

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Dollar Street

Imagine the world as a street ordered by income. Everyone lives somewhere on the street. The poorest lives to the left and the richest to the right. Everybody else live somewhere in between. The Dollar Street website has been set up exactly like this. It is filled with photographs of what life is like for people living all around the world, from the richest to the poorest.

Use the knowledge you have of your own home, the Caritas Australia Project Compassion website (https://lent.caritas.org.au/), the Dollar Street website (https://www.gapminder.org/dollar-street) and World Population Review (https://worldpopulationreview.com/countries/) to complete the following activities.

1. If the average shoulder width of males is 460mm and the average shoulder width of females is 405mm calculate the following assuming people are standing shoulder to shoulder.
a) How long would a line of 20 people be if there were ten males and ten females?

b) How long, in kilometres, would Australia's population line be if the population was equally split between males and females?

2. Find out the populations of Shirley, Phany, Sakun, Dominic and Tawonga's countries.

a) Calculate the length of their population lines in kilometres.

b) Compare these lengths. Which is the longest? Shortest?

c) How many times longer is each line compared to the other?

d) Represent these numbers through a scaled down drawing or paper doll model. E.g. if Malawi's population is twice the size of Australia's population then Australia might be represented as one person and Malawi two etc.

e) Compare these lengths to another known measurement fact and write it as a statement. For example: If all Australians stood shoulder to shoulder the line would be long enough to go across Australia x number of times, or around the world x number of times.

Curriculum Links

Mathematics
Year 5
Describe and interpret different data sets in context ACMSP120
Year 6
Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers ACMNA123
Convert between common metric units of length, mass and capacity ACMMG136
Solve problems involving the comparison of lengths and areas using appropriate units ACMMG137
Interpret secondary data presented in digital media and elsewhere (ACMSP148
Year 7
Compare, order, add and subtract integers ACMNA280
Recognise and solve problems involving simple ratios ACMNA173
Identify and investigate issues involving numerical data collected from primary and secondary sources ACMSP169
Year 8
Solve a range of problems involving rates and ratios, with and without digital technologies ACMNA188
Year 9
Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems ACMNA208
Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians ACMSP227

Suitable for Years 5 - 9

AVERAGE IT OUT
Are you above or below average?

 Caritas AUSTRALIA — End poverty, Promote justice, Uphold dignity

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Dollar Street

Imagine the world as a street ordered by income. Everyone lives somewhere on the street. The poorest lives to the left and the richest to the right. Everybody else live somewhere in between.

The Dollar Street website has been set up exactly like this. It is filled with photographs of what life is like for people living all around the world, from the richest to the poorest.

Use the knowledge you have of your own home, the Caritas Australia Project Compassion website (https://lent.caritas.org.au/) and the Dollar Street website (https://www.gapminder.org/dollar-street) to complete the following activities

You will need to complete the calculations from 'Measure It Up – Home' to complete all these tasks.

1. Compare the number of people living in your house to the average number of people living in the house of your chosen country.

2. Calculate how much space each person in your house has based on your area calculations.

3. Calculate how much space each person from your chosen country has based on your estimation of area. Compare the two. Who has the greatest amount of space?

4. Calculate the average area for each person in all the countries represented in Project Compassion stories.

5. Calculate, mean, median and mode.

6. Answer the following questions:
   • Are you above or below average?
   • What is the difference between the highest and the lowest?
   • What happens when you include the results from other countries? Does it increase or decrease the average?
   • Justify your response.

7. Graph your results either on paper or using an online tool.

8. Respond to and record your responses to the following questions:
   a) Which country has the greatest area per person? The least?
   b) Why is this the case?
   c) Write 4 of your own questions (and answers) about your data.
   d) Can the data be represented in different types of graphs effectively? Histogram, pie graph, bar graph, dot plot.
   e) Which is the best type of graph to present your data? Explain your reasoning.

9. Present your findings from this on one page – be creative. You might like to use an infographic tool.

10. Create a diagram or model to scale showing the differences of area per person of at least three different countries.

11. How hard or easy would social distancing be in these countries? What are the challenges? Barriers?

Curriculum links on next page.

AVERAGE IT OUT (Continued)

Curriculum Links

Mathematics

Year 6

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers ACMNA123

Interpret secondary data presented in digital media and elsewhere ACMSP148

Year 7

Construct and compare a range of data displays including stem-and-leaf plots and dot plots ACMSP170

Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data ACMSP171

Describe and interpret data displays using median, mean and range ACMSP172

Year 8

Choose appropriate units of measurement for area and volume and convert from one unit to another ACMMG195

Investigate the effect of individual data values, including outliers, on the mean and median ACMSP207

Year 9

Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians ACMSP227

Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources ACMSP228

A SHOE IN

**End poverty
Promote justice
Uphold dignity**

1. Count how many pairs of shoes you and your family each own. Draw a graph to represent this.

2. Shine a pair of shoes. If you don't know how, ask someone in your family to teach you or watch a YouTube clip.

3. Look at the photos in the story books – linked in student version

4. Create one or multiple drawings or representations of the shoes that you see including your own.

5. Have a go at making a pair of shoes like Shirley.

Curriculum Links

Mathematics
Year 2
Identify a question of interest based on one categorical variable. Gather data relevant to the question ACMSP048
Collect, check and classify data ACMSP049
Create displays of data using lists, table and picture graphs and interpret them ACMSP050
Year 3
Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording ACMSP068
Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies ACMSP069
Interpret and compare data displays ACMSP070
Year 4
Select and trial methods for data collection, including survey questions and recording sheets ACMSP095
Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values ACMSP096
Year 5
Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies ACMSP119
Describe and interpret different data sets in context ACMSP120
Visual Arts
F-Year 2
Explore ideas, experiences, observations and imagination to create visual artworks and design, including considering ideas in artworks by Aboriginal and Torres

Strait Islander artists ACAVAM106
Create and display artworks to communicate ideas to an audience (ACAVAM108
Year 3 and 4
Use materials, techniques and processes to explore visual conventions when making artworks (ACAVAM111
Present artworks and describe how they have used visual conventions to represent their ideas (ACAVAM112
Year 5 and 6
Develop and apply techniques and processes when making their artworks (ACAVAM115
Technologies
F – Year 2
Generate, develop and record design ideas through describing, drawing and modelling (ACTDEP006
Use materials, components, tools, equipment and techniques to safely make designed solutions (ACTDEP007
Year 3 and 4
Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques (ACTDEP015
Select and use materials, components, tools, equipment and techniques and use safe work practices to make designed solutions (ACTDEP016
Year 5 and 6
Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025
Select appropriate materials, components, tools, equipment and techniques and apply safe procedures to make designed solutions (ACTDEP026

Suitable for Years 2 - 6

TELL ME A STORY

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1. **Find** a story of someone you find interesting on the Caritas website: www.caritas.org.au . (This year's Project Compassions stories might be a good place to start https://lent.caritas.org.au/)

2. Plan: Write or draw a plan for a puppet show based on the story. Think about:

• Who is your intended audience?

• How you might like to share the story. Will you retell the story, tell it from a different person's perspective, relate the story to one of the Catholic Social Teachings, explain the theme of the story? You are free to choose the angle of the story.

• What materials you will need to create the show from beginning to end?

• What do you need to know more about in order to get your message across?

• How you can break the task down into smaller pieces?

• Place each of the steps into a working order.

3. Create: Write a script.

• Write a short synopsis of your show, giving the potential audience an idea of what the show is about.

• Make the puppet or puppets needed. They might be sock, stick, shadow, marionette or another of your choice.

4. Perform: Perform your puppet show. You might be able to film it!

5. Reflect: Reflect on the following questions and present your responses in a medium of your choice (written, voice or video recorded, tweets to name a few options)

• What new information did I learn?

• What was the easiest thing about the task?

• What were my roadblocks?

• How did I overcome these roadblocks?

• What would I do differently next time, if given the chance?

Curriculum Links

English
Year 2
Create events and characters using different media that develop key events and characters from literary texts ACELT1593

Create short imaginative, informative and persuasive texts using growing knowledge of text structures and language features for familiar and some less familiar audiences, selecting print and multimodal elements appropriate to the audience and purpose ACELY1671

Year 3
Create imaginative texts based on characters, settings and events from students' own and other cultures using visual features, for example perspective, distance and angle ACELT1601

Plan, draft and publish imaginative, informative and persuasive texts demonstrating increasing control over text structures and language features and selecting print, and multimodal elements appropriate to the audience and purpose ACELY1682

Year 4
Plan, draft and publish imaginative, informative and persuasive texts containing key information and supporting details for a widening range of audiences, demonstrating increasing control over text structures and language features ACELY1694

Year 5
Create literary texts using realistic and fantasy settings and characters that draw on the worlds represented in texts students have experienced ACELT1612

Plan, draft and publish imaginative, informative and persuasive print and multimodal texts, choosing text structures, language features, images and sound appropriate to purpose and audience ACELY1704

Curriculum links continued on the next page.

Suitable for Years 2 - 10

TELL ME A STORY Continued

ENGLISH continued
Year 6
Create literary texts that adapt or combine aspects of texts students have experienced in innovative ways ACELT1618
Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and audience ACELY1714

Year 7
Plan, draft and publish imaginative, informative and persuasive texts, selecting aspects of subject matter and particular language, visual, and audio features to convey information and ideas ACELY1725

Year 8
Create literary texts that draw upon text structures and language features of other texts for particular purposes and effects ACELT1632
Create imaginative, informative and persuasive texts that raise issues, report events and advance opinions, using deliberate language and textual choices, and including digital elements as appropriate ACELY1736

Year 9
Create literary texts, including hybrid texts, that innovate on aspects of other texts, for example by using parody, allusion and appropriation ACELT1773
Create imaginative, informative and persuasive texts that present a point of view and advance or illustrate arguments, including texts that integrate visual, print and/or audio features ACELY1746

Year 10
Create literary texts that reflect an emerging sense of personal style and evaluate the effectiveness of these texts ACELT1814
Create sustained texts, including texts that combine specific digital or media content, for imaginative, informative, or persuasive purposes that reflect upon challenging and complex issues ACELY1756

Technologies
Year 3 and 4
Critique needs or opportunities for designing and explore and test a variety of materials, components, tools and equipment and the techniques needed to produce designed solutions ACTDEP014
Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques ACTDEP015
Select and use materials, components, tools, equipment and techniques and use safe work practices to make designed solutions ACTDEP016
Plan a sequence of production steps when making designed solutions individually and collaboratively ACTDEP018

Year 5 and 6
Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions ACTDEP024
Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques ACTDEP025
Select appropriate materials, components, tools, equipment and techniques and apply safe procedures to make designed solutions ACTDEP026
Develop project plans that include consideration of resources when making designed solutions individually and collaboratively ACTDEP028

Year 7 and 8
Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas ACTDEP035
Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques ACTDEP036
Select and justify choices of materials, components, tools, equipment and techniques to effectively and safely make designed solutions ACTDEP037
Use project management processes when working individually and collaboratively to coordinate production of designed solutions ACTDEP039

Year 9 and 10
Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas ACTDEP048
Develop, modify and communicate design ideas by applying design thinking, creativity, innovation and enterprise skills of increasing sophistication ACTDEP049
Work flexibly to effectively and safely test, select, justify and use appropriate technologies and processes to make designed solutions ACTDEP050

CODED

Caritas AUSTRALIA
**End poverty
Promote justice
Uphold dignity**

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You have found the following message? ... .-. .-.. . -.-- / .. ... / .- -- .- --.. .. -. -. --. -.-.—
Whatever could it mean?

 1. Use the links and tasks below to help unlock the message find out what it means.
https://www.youtube.com/watch?v=ORIDAmGf_yQ
https://www.youtube.com/watch?v=_IlZrZ9N4ig
When you find out what system the code is using, use a Google search to help you decipher the code.
You may even be able to find a translator!

2. When you have unlocked the code, complete the following tasks and questions.
a) Write down any questions you have before moving on. What do you want to know?
b) Visit the Caritas website to search for more information about the message. https://lent.caritas.org.au/
c) Using the Passport Hub https://www.caritas.org.au/pc2020-interactive-workbooks/pc20---passport-hub---middle-primary
   • Watch the relevant video to find out which country this person comes from.

   • Record five facts about the country – if you cannot find five, try doing some further research.
   • What job does the person in the video have?
   • How did they get it?
   • What were some of the challenges they had to overcome?
d) Create a poster responding to the message, add some of the coding you learnt about.
e) Share your poster and your knowledge with others.

3. Digging Deeper
• What is bullying?
• What is discrimination?
• Create an action plan for communities like you learnt about to help combat bullying and discrimination.

Curriculum Links

HASS
Year 3
The location of Australia's neighbouring countries and the diverse characteristics of their places ACHASSK067
The similarities and differences between places in terms of their type of settlement, demographic characteristics and the lives of the people who live there, and people's perceptions of these places ACHASSK069

Year 5
Locate and collect relevant information and data from primary sources and secondary sources ACHASSI095
How people with shared beliefs and values work together to achieve a civic goal ACHASSK118

Year 6
Locate and collect relevant information and data from primary sources and secondary sources ACHASSI123
Differences in the economic, demographic and social characteristics of countries across the world (ACHASSK139

HPE
Year 3 and 4
Describe how respect, empathy and valuing diversity can positively influence relationships ACPPS037

Year 5 and 6
Examine the influence of emotional responses on behaviour and relationships ACPPS056
Identify how valuing diversity positively influences the wellbeing of the community ACPPS060

Suitable for Years 2 - 10