

MATHEMATICS ACHIEVEMENT CHALLENGES - CULTURAL MATHS AWARD

SECTION A: You must complete THREE learning activities from this section.

1. Devise a timeline that shows recording of significant events for a culture of your choice.
2. Write an illustrated account of any aid to mechanical calculation used in early times.
3. Research and report on a famous Mathematician and his/her contribution to mathematics.
4. Research and present information about the part ancient civilisations played in the development of mathematics.
5. Investigate a game which is or was played by people from another culture. Explain how it is, or was played, and the mathematics used
6. Examine and explain how weights and measures have been used by different cultures throughout history. Develop an interesting presentation of your findings.

SECTION B: You must complete THREE learning activities from this section.

1. Create, plan, and budget a meal, from a particular culture, for your class.
2. Plan, cost, and if possible, lay a hangi.
3. Choose two or more cultures. Compare/contrast their number systems, and develop a frieze to communicate your findings.
4. Explore ways time has been measured by people throughout history. Compare and comment on the accuracy of the various devices. Use diagrams and text to report your findings
5. Explore musical rhythms of a country. Invent your own graphic notation to write the beats in a mathematical way. Compose a rhythm which you can perform. Explain the notation, emphasizing the maths behind the system.
6. Invent an original game that reflects aspects of culture of your choice. Formulate the rules and instructions for playing. Teach someone in your class to play the game.

SECTION C - You must complete TWO learning activities from this section.

1. Present a design for a fashion garment for a person your age, which reflects aspects of a culture of your choice, in a historical, modern or futuristic setting. Explain the mathematical ideas in this.
2. Explore and identify geometric designs involving such aspects as rotational geometry, reflection, tessellation, in cultures of New Zealand/Aotearoa. Choose one of the following; Maori, Polynesian, Asian, European. Be aware of the cultural aspects and meanings of these designs. Develop a design that is uniquely yours and reflects your community. Create a display using your designs, and outline the key elements of these.
3. Draw scale plans and construct a model of a building or village from a chosen culture. Choose and use appropriate construction materials.
4. Research a past or present number system which is different from the one used in New Zealand culture, and demonstrate its structure and use. You might consider; characters, bases, calculating devices, number operations.