

## Global Dimension through Design and Technology (KS2)

Exploring pattern and shape (lesson inspired by the design work of people living in the Quirimbas Archipelago, Mozambique)





**WORLD  
AIMS**

## World AIMS Teaching Notes

Subject	Topic	Teaching Set
Design and Technology	Design and Technology (KS2)	KS2 – Yr. 5 and 6 (mixed ability)

**Context:** This is one of a series of lessons created for World AIMS inspired by the design techniques of jewellers living in the Quirimbas Archipelago in Mozambique. This lesson can be used independently of other resources or can be taught as part of a themed day exploring jewellery design with a global dimension. See [\[link\]](#) for the full range of materials available.

### Teaching Notes:

The Quirimbas Archipelago is a string of 32 small islands that stretch for one hundred kilometres off the coast of northern Mozambique. The archipelago is becoming popular with tourists on a luxury budget but for the most part the people of the islands go about their daily business with activities that have sustained the lives of the inhabitants for over a thousand years. Local fishermen cast their nets and lines along hundreds of kilometres of meandering channels and mangrove lagoons and Arab style dhows still wind their way around the coast. Ibo island is one of the larger inhabited islands in the archipelago and is the focus of this pack.

Mozambique is a large and diverse country but the Quirimbas Archipelago has a lot in common with the rest of the country. Mozambique has long been connected with the outside world and Quirimbas inhabitants have been trading with foreign visitors from as early as AD600, when Arab traders established fortified trading posts along the coastline. Via these ports, slaves, gold and ivory were shipped to the Arab world. By the mid- 17th century, after years of resistance the Quirimbas Archipelago was ruled by two Portuguese families and Ibo Island (the main location focused on in this pack) had become the most important trade centre of all the islands. The history of Ibo carries not only the successful and lucrative trading of goods such as textiles and precious minerals but also the exchange of humans as part of the slave trade that continued throughout the 17<sup>th</sup> and 18<sup>th</sup> centuries in this area.

Ibo Island still hosts local silversmiths that remain trading in the now crumbling forts and 17th century mansions. Their trade now relies on tourists from the surrounding luxury resorts. Traditional silversmiths hand craft intricate jewellery using ancient Arab techniques and tools. This jewellery is found no-where else in the world. The jewellery is primarily inspired by the natural world. This lesson draws on that tradition and encourages the students to look at pattern and shape in design.



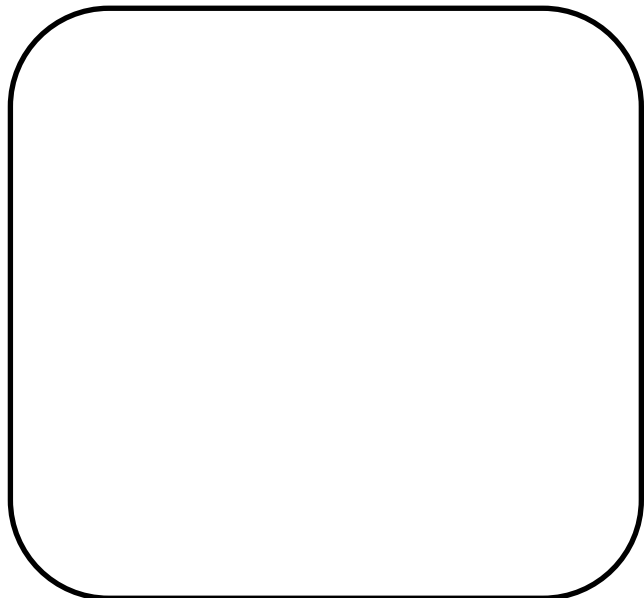
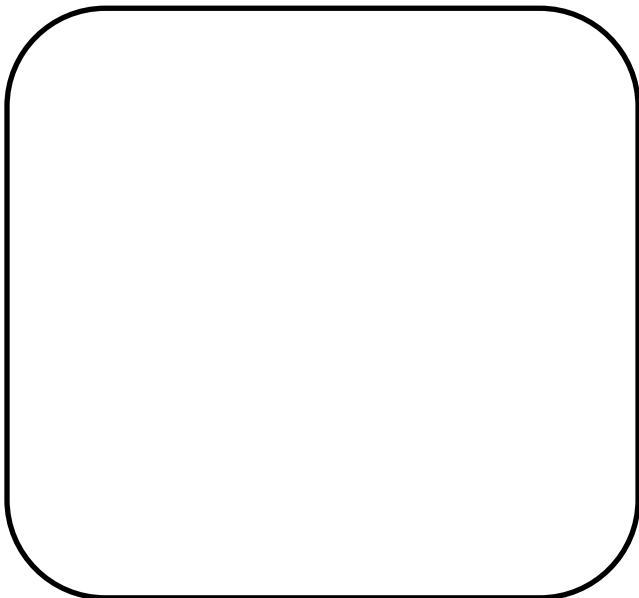
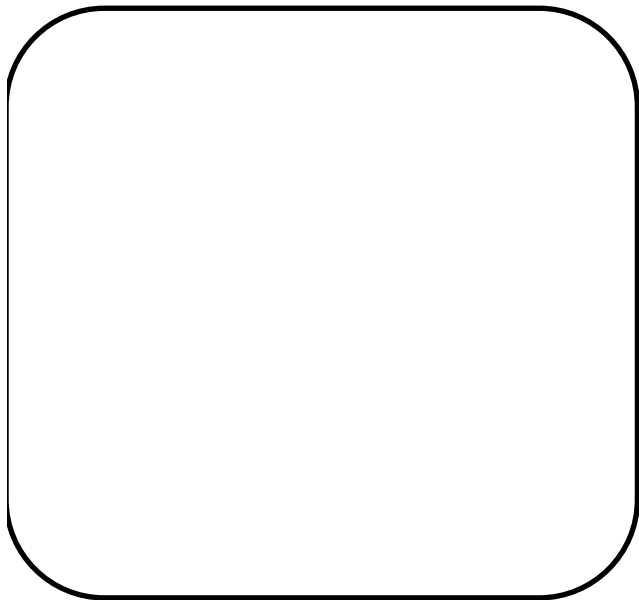
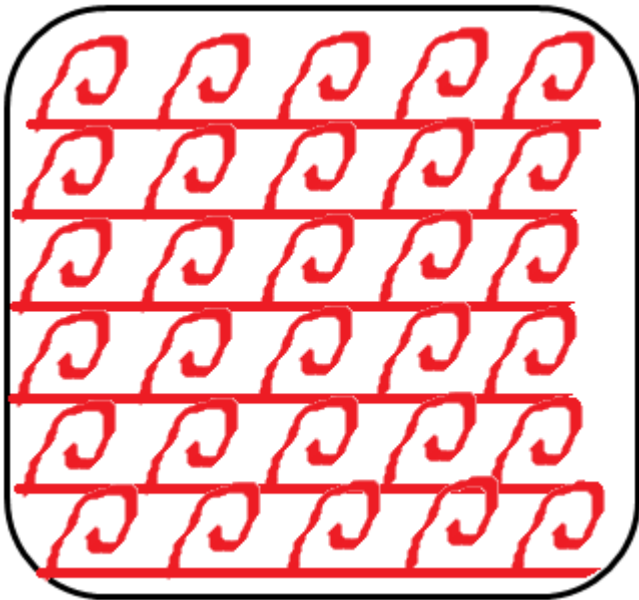
## World AIMS Global Learning Lesson Plan

<b>Subject:</b> Design and Technology	<b>Topic:</b> Global citizenship through design and technology: Thinking about shape and design	<b>Age group</b> Years 5-6 (KS2)
<b>Context</b> Part two of three lessons based on the jewellery makers of the Quirimbas Archipelago in Mozambique. Drawing on cross-curricular links with Geography and Art and Design.		
<b>Learning Objectives</b> <ul style="list-style-type: none"> <li>Pupils will learn how to communicate design ideas in different ways as these develop.</li> </ul>		
<b>Learning Outcomes</b> <ul style="list-style-type: none"> <li>All students will be able to create four simple patterns.</li> </ul>		
<b>Skills / Literacy / Numeracy / ICT foci</b> Link to Numeracy: Recognise pattern	<b>Key Words</b> Pattern, design, natural, repeating pattern, plan.	
<b>Starter</b> Using counters/shapes/other objects ask students to quickly come up with a repeating pattern at their desks. Students to then look around the class at the different patterns that have been created. As a whole class define what a repeating pattern is.		<b>Time</b> 10 minutes
<b>Activity 1</b> Using the attached information sheets about the way jewellery is designed in the Quirimbas Archipelago ask students to describe the process in small groups. What was interesting to them? Explain to class that the designers often use repeating pattern in the creation of jewellery. Students to produce written evidence in their books that they understand the process used. (It may be useful to have some visual examples of other repeating patterns used in decoration around the world)		20 minutes
<b>Activity 2</b> Using their knowledge of repeating patterns and the prior reading about the jewellers of the Quirimbas Archipelago ask students to design four different repeating designs that could be used when making jewellery out of fine wire. Again-visual examples will be needed by some students. This could be used if you go on to complete Lesson 3 in this series. Students could also be asked to say where they also see repeating patterns in D&T-eg buildings, windows etc		20 minutes
<b>Plenary</b> Students to choose the best pattern of their four for creating a piece of jewellery. Why would this be a suitable pattern. Students to share their decisions in pairs.		5-10 minutes
<b>Next Lesson(s)/Workshops/Homework</b> This can be linked to other Methodist Schools lessons. Visit <a href="http://www.methodistschools.org.uk">www.methodistschools.org.uk</a> to download. <ul style="list-style-type: none"> <li>Creating Jewellery with a Global Twist</li> </ul>		
<b>Resources</b> Visit the Methodist Schools website to download additional resources including: <ul style="list-style-type: none"> <li>Quirimbas Archipelago photo pack</li> <li>Quirimbas Archipelago and Ibo Island information pack</li> </ul>		

# Worksheet



Many of the necklaces and bracelets on Ibo Island use repeating patterns (see right). We can see repeating patterns in many situations. The pattern on the left comes from a museum roof design (see left). How many different repeating patterns can you think of? Use the boxes below to come up with some ideas.



## The traditional Ibo Island silversmith techniques and processes



We started with an old silver spoon from Scotland. Here is the spoon on the workbench.



The spoon is weighed so that the silversmiths know how much metal they are working with..



The spoon is then cut up and goes through a process of heating and melting so its shape begins to change.



A torch with a hot flame is used to melt the silver. We decide the silver will be shaped into a decorative turtle.

It takes about 30 minutes to get the turtle into the right shape. It is heated and then shaped with a small hammer repeatedly until it is formed into the shape of a turtle's shell.



The decorative features of the turtle's shell are added using a chisel and small, sharp engraving tools.



Legs and a head are made out of silver pieces and these are then coated with soldering fluid.



The turtle is placed back under the flame and the legs and head are carefully joined using the solder.



The turtle is then taken and placed in a pot of water over a small fire to be cleaned.



In between washes in the pot the silver turtle is polished and buffed to a shine using sand and a cloth.



Here the finished turtle is then bent gently into shape so it can stand up on its feet.



Silver is a very malleable metal and so you can make lots of great things with it – not just turtles!