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| **Lesson Six: Bone and Antler Working** |
| Bone and antler are materials still used today, so in some cases the look and feel of these objects may be familiar. However, the process of making a comb, for example, was a lengthy one and so it tells archaeologists a lot about the people of the period if they were investing time and resources into those objects. This lesson focuses on the antler comb and the bone dice and what these objects can tell us about people in the past. |
| **Curriculum Links - Social Subjects (People, Past Events and Societies)** |
| Experiences and Outcomes | Benchmarks |
| **I can use my knowledge of a historical period to interpret the evidence and present an informed view. SOC 3-01a****I can explain the similarities and differences between the lifestyles, values and attitudes of people in the past by comparing Scotland with a society in Europe or elsewhere.** SOC 3-04a**I can describe the factors contributing to a major social, political or economic change in the past and can assess the impact on people’s lives. SOC 3-05a** | * **Compares a range of primary and secondary sources of evidence, to present at least three valid conclusions about a historical period.**
* **Identifies at least three factors which contributed to a major social, economic or political change in the past.**
* **Provides at least two valid opinions about the impact on people’s lives of a major social economic or social change in the past.**
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| **Wider Curricular links** |
| **Expressive Arts:** I have experimented with a range of media and technologies to create images and objects, using my understanding of their properties. **EXA 3-02a**I can use and combine the visual elements and concepts to convey ideas, thoughts and feelings in expressive and design work. **EXA 3-03a**Through observing and recording, I can create material that shows accuracy of representation. **EXA 3-04a****Technologies (Exploring Uses of Materials):**I can explore the properties and performance of materials before justifying the most appropriate material for a task **TCH 3-10a** |

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| **Learning Objectives** |
| I can compare objects from a past society with similar things we use today. |
| I can identify similarities and differences between life in the past and life today. |

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| **Resources and Suggested Reading** |
| **Required Resources - Supplied in the boxes or from ARCH website** |
| Objects: Bone pin, Bone dice (Box 2), Antler comb (Box 3)Information Sheets: Timeline; Object sheets: Bone Pin, Antler Comb; CT Bone and Antler Working, Other Resources: ARCH Bone and Antler Working Workshop video ([link](http://www.archhighland.org.uk/experimental-archaeology.asp)) |
| **Additional Required Resources** |
| Pillow case (or similar), modern dice (range of sizes if available), Mia game instructions ([link](file:///D%3A%5CDocuments%5CARCH%5CARCH%5CLesson%20Plans%5CCompleted%20Lessons%5CThird%5Cen.wikipedia.org%5Cwiki%5CMia))  |
| **Essential Reading - Information sheets supplied in the box or from ARCH website** |
| Object sheets: Antler Comb (Box 3), Bone Pin, Bone dice (Box 2); CT Bone and Antler Working |
| **Suggested Additional Reading - Information sheets supplied in the box or from ARCH website** |
| When? Iron Age, When? Pictish |

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| **Introduction** | **10 minutes** |
| **What is it?** (10 minutes) | Resources: Objects: Bone pin (Box 2), Antler comb (Box 3)Other Resources: Pillow case (or similar) |
| * This introduction highlights the similarities between modern life and life in prehistoric times by exploring objects such as an antler comb.
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| Before the lesson cover the bone pin and antler comb with a tea towel or pillow case.Ask for a volunteer and have them place their hand under the cloth and describe the object they can feel (remind them to handle it carefully). Even if the volunteer can work out what the object is they are not allowed to tell the rest of the class.You can complete this task in two ways:1. Have the class guess what the object is and call out if they know.
2. Have the class try and draw the object. Reveal the object and see who, if anyone got close to what the actual object looks like. This tends to be enjoyed by most students.

Check that the class recognise the two objects. Ask ***What are they made of?***The pin is made of bone and the comb from deer antler. |

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| **Main** | **40 minutes** |
| **Antler Comb** (10 minutes) | Resources: Object: Antler comb (Box 3)Information Sheets: Timeline |
| * The following activities are discussion based and task the students with trying to think about life in the past based on their own experiences.
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| Display the timeline somewhere obvious in the class. Recap, from a previous lesson, that the comb is a Pictish object. However, ask the class ***What other periods in history did people use bone and antler objects?*** Take suggestions and hopefully it will become apparent that bone and antler were used throughout history.Ask the students ***Why might bone and antler have been used throughout history?***Explain to the class that bone and antler were readily available. Deer shed their antlers every year and bone is available as a natural by-product of hunting. ***Are antler objects used today? Are they functional or decorative?***Show the class the comb again. Ask the class ***What is a comb used for?*** Follow up with the question ***What might this tell us about Pictish people?*** Explain to the students that they need to think like archaeologists when trying to answer the question. Working in pairs, ask them to try and come up with three different things this might have told us about Pictish people.Here are some possible answers:* They were concerned about their appearance (also useful for removing nits).
* Pictish people sometimes took the time to decorate their objects.
* They take a long time to make and need specific tools.
* There was some skill involved in making intricate examples of such objects.
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| **Bone and Antler Working Video** (15 minutes) | Resources: Information Sheets: CT Bone and Antler WorkingOther Resources: ARCH Bone and Antler Working Workshop video ([link](http://www.archhighland.org.uk/experimental-archaeology.asp)) |
| * The following activities make use of the ARCH Bone and Antler Working workshop video and the information sheet in the box.
* This video shows the creation of a bone comb. The time stamps are included to highlight the parts relevant to the activity.
* The time stamps are only there as a guide and the whole video can be watched in one go if that is preferable.
* The audio can be a little difficult to make out but worth persevering with as the craftsperson demonstrating the process is incredibly skilled and produces some beautiful objects.
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| Start the video at **0:16** and pause at **1:14** - a brief example of two types of comb from the Early Historic period.Ask the class ***Which period does this comb [hold up the comb] come from?***It is a typical Pictish comb.Skip to **2:40** and pause at **4:48** - this part explains the construction of the comb. Pause the video and show the students the comb. The demonstrator explained that the comb is made up of “teeth plates” and “side plates” that sandwich the teeth plates.A hole is drilled using a “bow drill” - still used by jewellers today - and then the whole thing is riveted together. All elements are easily visible on the comb itself.As an added task the following questions could be written on the board to be answered after the video is paused at this point.1. ***What is the name of the drill used to make holes in the comb?*** *(Bow drill).*
2. ***How long would a comb take to make?*** *(Eight hours).*
3. ***What do we find on most bone or antler combs?*** *(Decoration).*

Skip to **7:08** - explain to the students that this part of the video demonstrates the work involved in drilling the comb. It is also worth pointing out the wooden clamp he is using to hold the comb in place. Play to the end of the video. There are a lot of processes going on in this section of video but it shows the students just how long it takes to produce a small comb.Finally ask the students ***How long do you think it took to drill each hole for the rivets?***At the same time show them the comb and each rivet involved (which had to be drilled on both the front and back side plates). Give as many students a guess as you have time for and reveal the answer. Each hole took around fifteen minutes to create using the bow drill and that is only to get through one side. Each back plate needs multiple holes all carefully lined up. Therefore it was not a quick process especially when compared to modern tools. |
| **Bone Dice** (10 minutes) | Resources: Objects: Bone dice (Box 2)Other Resources: Pillow case (or similar), modern dice (a range of sizes would provide a good contrast but a standard D6 will work just as well), Mia instructions ([link](https://en.wikipedia.org/wiki/Mia_%28game%29))  |
| * The dice are a great way of connecting the class with people in the past (they are probably my favourite object) because they are so recognisable.
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| Once again, hide the Viking Age dice (the cube dice) under a tea-towel, pillow case or something similar. Have a student come out and describe the object to the class. Reiterate that if they know what the object is they are not allowed to tell the rest of the class.Have the other students guess what the object might be. Reveal the dice when they have guessed.Split the class into two groups. Give each group one of the bone dice and some modern dice to compare. Ask the class ***Can you spot any differences between the bone die and the modern die?***There are some differences, the decoration for example, but on the whole they are recognisably dice that all the students should be familiar with. As a *think-pair-share* exercise ask the students ***What do these dice tell us about people living in the past?***They were making objects for entertainment and probably played games similar to what we do now. Show the class the rectangular Iron Age die. Ask ***What do you think this object is?*** and ***What interesting observations can you make?*** It is a die, just a different type. However, there is no number one or two and it is rectangular.Pass the die around so everyone has the chance to see it. As a *think-pair-share* exercise, ask the class ***How would you use it?*** Explain to the class that the die doesn’t role like the dice we are used to. Have some pairs share their answers. Finally explain that the die would most likely have been thrown onto sand, fabric or some other soft surface which would allow the die to settle. However, archaeologists are not exactly sure how they were used.*OPTIONAL: At this point students may enjoy playing a brief dice game. The instructions to a dice game called Mia can be found from the link listed in Resources. However, you can choose a different game if you wish. It is possible that games like Mia were played during the Viking era.*  |
| **Using Bone and Antler** (5 minutes) | Resources: Objects: Bone pin, Bone dice (Box 2), Antler comb (Box 3)Information Sheets: Timeline |
| * The final activity is simply to reinforce the common nature of the material, its continual use throughout history and how similar people in the past are to us!
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| Display the timeline and place the bone pin, bone dice and antler comb on it at the following time periods: The pin is from the late Iron Age, and the early Historic period (early centuries AD), while the antler comb dates from later Pictish period, probably around 600 – 800 AD. The dice are from the Viking Period, c. 800-1000 AD. Explain to the class that other bone objects are found all throughout history, dating from the Mesolithic period onwards.Finally ask the students ***Why do we find so many bone objects?***The answer is simply because the materials were so easy to find and make use of. Explain that as tools have improved so too have the objects created, to the point that bone and antler are still used to create objects today. Coastal communities would often make use of bones from whales and dolphins (especially in areas without much wood). |

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| **Plenary** | **10 minutes** |
| **What Else is the Same?** (5 minutes) | Resources: None |
| * Finishing with this activity tasks the students with thinking about their lives and how they compare to people in the past.
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| In pairs ask the students to create a list of any objects they use at home that Pictish people may have used as well (the comb is a good example). This can be simply discussed with their pairs or written down on some slips of scrap paper or whiteboards.Discuss the answers. It should stimulate some awareness of the change in technology over time. |
| **People in the Past** (5 minutes) | Resources: None |
| * Finally the class are asked to reflect on what they have learnt about people living in the past.
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| Ask the class to answer this question ***What have we learnt about people in the past?***Give them time to think in silence and then collate the answers as a class. |
| **Total Lesson Time: 1 hour** |
| **Teaching notes** |
| 1. The technique of giving the specific information to listen out for before reading a passage or entering into a lengthy explanation will allow students with language difficulties greater access to the learning you are intending to impart.
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| **Links and Further Information** |
| ARCH Experimental Archaeology Project: [www.archhighland.org.uk/experimental-archaeology.asp](http://www.archhighland.org.uk/experimental-archaeology.asp) has a video of antler and bone working, and a blog with links to various Iron Age and Pictish objects made of bone from Scotland.Mia (dice game) https://[en.wikipedia.org/wiki/Mia\_(game)](https://en.wikipedia.org/wiki/Mia_%28game%29) |

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