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| **Lesson Two: Technology Through Time** | |
| The following lesson focuses on the progression of technology in the modern world and throughout history. In this lesson the students will be considering what has changed in their lifetime and that of their parents. They will then go on to explore the change in technology from the Mesolithic all the way through to the Vikings. Using these learning points the students will be better placed to understand why modern technology moves so fast and what drives that force of change. | |
| **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.** |
| **Wider Curricular links** | |
| **Technologies (Awareness of Technological Developments; Past, Present and Future):**  I understand how scientific and technological developments have contributed to changes in everyday products. **TCH 3-05a**  (I can investigate how product design and development have been influenced by changing lifestyles.  **TCH 2-05a)** | |

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| **Learning Objectives** |
| I can compare and contrast life today with life in the past. |
| I can discuss how technology has changed over time and make suggestions of reasons for those changes. |

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| **Resources and Suggested Reading** |
| **Required Resources - Supplied in the boxes or from ARCH website** |
| Objects: Selected objects from Box 1, 2 and 3 (see individual activities)  Information Sheets: Timeline. When? Mesolithic, When? Neolithic, When? Bronze Age, When? Iron Age, When? Pictish, When? Early Historic, When? Viking and Norse  Lesson Resources: Object List |
| **Additional Required Resources** |
| Wool, scissors, A3 paper |
| **Essential Reading - Information sheets supplied in the box or from ARCH website** |
| When? Mesolithic, When? Neolithic, When? Bronze Age, When? Iron Age, When? Pictish, When? Early Historic, When? Viking and Norse information sheets |
| **Suggested Additional Reading - Information sheets supplied in the box or from ARCH website** |
| No suggested additional reading |

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| **Introduction** | | **5 minutes** |
| **How Have Things Changed?** (5 minutes) | Resources: None | |
| * This introduction is a simple starter designed to get students thinking about their own lives and how they differ from their parents. * The success of this task will depend on the student’s prior knowledge of technologies in the past. | | |
| As a *think-pair-share* activity ask the students ***What do you have which your parents did not?***They may need some prompting but will hopefully come up with examples such as games consoles, mobile phones, social media etc.  Again, using *think-pair-share* follow up with the question ***Why do things change?***The answers will be varied but in the end the goal is to have the students think that as technology improves, things change over time to respond to people’s needs. | | |

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| **Main** | | | **45 minutes** |
| **Wool Timeline** (10 minutes) | Resources:  Objects from Box 1, 2 and 3  Information Sheets: Timeline  Lesson Resources: Object List  Other Resources: wool, scissors, paper | | |
| * Having completed a timeline in the previous lesson, this task takes that prior learning and expands upon it. * Some preparation is needed with this task. | | | |
| Clear the tables to the side to leave a large space in the middle of the room. Lay the timeline across the floor.  As a recap, select the following objects from Box 1, 2 and 3 and, working in pairs, have the students place them where they think they belong on the timeline (please keep the smaller objects in their boxes to protect them from damage):  **Box 1:** Stone/Flint axes, leaf shaped arrowhead, scraper, carved stone ball, barbed and tanged arrowheads, bronze axe, beaker pot.  **Box 2:** Cordage, woven belt, wooden spoon and bowl, bronze sword, bone pin, bronze sickle, bronze sunflower pin.  **Box 3:** Antler comb, Viking ring money and Arabic coins, replica silver coins.  You don’t have to use all the above objects but they give a general flavour of what is in the boxes. Once the pairs have placed the objects on the timeline discuss and alter the placement as necessary (the students are aiming to place the objects in the correct era).  Photocopy or download the Object list supplied in the box, (the list could also be displayed on the board to save paper) and hand them to the students.  It is best to premeasure and cut the lengths of wool or string needed for this activity to be the same length as the timeline.  The idea is for the students to cut their length of wool to match the time period that their object was from (i.e. if their object was used between 4000 BC and 2500BC, then they need their wool to stretch between those dates). There is a timeline in each box so if you have a large class and need more than one you can use all three.  When the students have measured and cut their length of wool have them arrange the objects below the timeline with the oldest objects towards the top and the younger objects towards the bottom.  If the students place their object at the early end of the period they were used and stretch the wool along the length of the timeline it will give a visual representation of when each object was used throughout history.  Ask the class ***Is there anything interesting you notice?***Let the class share their answers and discuss.  Highlight the objects that were, and still are, used throughout history - the wooden objects are a good example. | | | |
| **Changing Technology** (15 minutes) | | Resources:  Objects: stone axes, bronze flat axes (Box 1), socketed axe (Box 2)  Other resources: paper | |
| * This is where the class starts to explore how technology changes through time. * Using the technological changes the students themselves have experienced should make it easier for them to relate to the changes in the past. | | | |
| Ask the class ***What do you use to listen to music?***Write their answers on the board.  Follow up with the question ***Does anyone own any CDs?***And finally ***Does anyone own any vinyl records?*** While one or two students (or their parents) may own some vinyl records some students may not know what they are. You could always show a picture on the board of a vinyl record.  As a *think-pair-share* task ask the class to come up with as many things as possible that were different in the past.  Arrange the class into small groups of three and four. Display the following technological areas on the board: Cooking, transport and computing.  Assign an area to each group and ask them to think of all the ways these areas have changed through history (for example we have progressed from horse and cart to electric cars).  Give each group a sheet of paper with their technological area written on it and assign a scribe to each group to record ideas on the sheet.  After a set amount of time (about two minutes) have the groups move around the room to the next table (leaving their piece of paper).  The groups now read through what is written on the new sheet in front of them and add to it. Once again, move the groups to another table after a set amount of time and repeat. This should mean that each group will contribute to all three areas.  Ask the class ***Why do these things change over time?***  Take the stone axes, bronze flat axes and the bronze socketed axe (it is worth noting that the socketed axe is a very sophisticated design, more sophisticated than modern axes which are similar to the bronze flat axe as hafting materials have improved significantly) and show them to the class.  Ask ***What has changed about these axes?***Material used and shape. Ask ***Why did these objects change?***Improving technology.  Explain that although technology moves very quickly today, that doesn’t mean things stood still in prehistory.  As a *think-pair-share* exercise ask the class ***What reasons might explain why technology improves so quickly in modern times?*** Classes tend to give an interesting range of answers to this question but essentially communication and computing have made a big difference to the pace of technological change.  However, there are many other reasons too - large scale warfare being one of them, as technological progress always speeds up as a result of wars. | | | |
| **Timeline Infographics** (20 minutes) | | Information Sheets: When? Mesolithic, When? Neolithic, When? Bronze Age, When? Iron Age, When? Pictish, When? Early Historic, When? Viking and Norse  Other resources: A3 paper | |
| * This task is a great way of sharing a vast amount of information across the whole class quickly. * If the class has never created an infographic before, it is worth showing them some images from the internet to get them started. * Mixed ability groups will provide support for the less able readers in the class. | | | |
| Divide the class into seven, mixed ability groups. Hand each group an information sheet relating to a different historic period represented by the boxes. They are: Mesolithic, Neolithic, Bronze Age, Iron Age, Pictish, Early Historic and Vikings.  Each of those periods has objects that relate to it in the boxes. Explain to the class that they are going to produce an infographic. Similar to a normal group poster, however they must not use paragraphs of writing, rather, they need to rely on images to interpret the information they have been given.  Each group is to read through their information sheet and pick out at least five pieces of information they would like to share. One has to be the time period the information sheet refers to (both the name and the dates).  Using a large piece of paper, the students are to show these pieces of information through labels and images. They are also to include which objects from the boxes are from the time period they are studying - either as a drawing or through labelling. Finally, the students are to present their infographic to the other groups summarising the five (or more) pieces of information they have chosen to include. (1) | | | |

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| **Plenary** | | **10 minutes** |
| **The Future** (5 minutes) | Resources: None | |
| * This plenary task simply extends the students thinking into the changes that may be coming in their own lives, further reinforcing the idea of continuous change. | | |
| Write the word **transport** on the board and quickly recap the changes that have taken place over time.  Ask as a *think-pair-share* activity ***What do you think transport will be like in the future?*** Share their responses with the rest of the class.  Repeat with both **cooking** and **computing**. | | |
| **Would They Know?** (5 minutes) | Resources: None | |
| * Finally, we relate the students’ modern lifestyle back to that of people in the past. | | |
| As a *think-pair-share* task, ask the class to come up with five objects from home or school that they think people from the past would recognise (i.e. a comb, a knife, a bowl etc.).  Collate the answers as a class. Discuss ***Why are these objects still recognisable?*** | | |
| **Total Lesson Time: 1 hour** | | |
| **Teaching notes** | | |
| 1. This task could easily be completed as a co-operative learning lesson. For it to conform to expectations of co-operative learning you would simply need to add a few extra elements to the task. When the group is set you would need to allow them a moment to get their voice on the table through a quick question such as what is your favourite food (if students contribute early to group work they are more likely to contribute throughout the task). Next the groups will need a social goal to go along with the academic goal of completing the infographic. Finally each member of the group would need a responsibility within the group. These could be: Reader, Timekeeper, Manager (responsible for ensuring all have a job), stationary manager etc. As long as all have a sensible role within the group they can be anything that makes sense to you.   For those unfamiliar with co-operative learning, it is worth exploring as it is a way of heightening engagement with learners of all abilities especially when using group work in a lesson. | | |
| **Links and Further Information** | | |
| ARCH Experimental Archaeology Project:  <http://www.archhighland.org.uk/experimental-archaeology.asp> has videos and further resources relating to different technologies. | | |

This Lesson Plan was written by Dave Peers as part of the Experimental Archaeology: Learning about Craft and Technology in the Past project, funded by Historic Environment Scotland and the Heritage Lottery Fund (now National Lottery Heritage Fund). ©ARCH.