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|  | **HOW DID AMMONITES MOVE?** | | |
| This section focuses on some of the KS2 science content taught through the context of the Jurassic Coast. It links with the history work about Mary Anning and the work in Fossil Detectives. | | | |
| **Key Stage 2** | **Timing: 2 Lessons** | **Science, PE, Art and Design** | |
| **ACTIVITY** | | **LEARNING OUTCOMES** | **RESOURCES** |
| **Jurassic Imagination**  Give out the pictures of Jurassic fossils (if you have access to real examples, give these out too). Ask the pupils to sketch what they think one of these creatures might have looked like when it was alive.  **Bodies at work**  Make the link between fossilised hard and soft parts, the skeleton and muscles in human bodies and the exoskeleton you see in insects. Ask pupils to compare a picture of a human skeleton with a picture of a fossilised fish skeleton – what are the similarities and differences? (Worksheet 2)  Explain that the different parts have different jobs: the skeleton supports and protects the body and helps it to move; the muscles expand and contract to move the skeleton. Ask pupils to stand and gently move one forearm up and down. While feeling the muscles in their arm. Give them 1 minute to discuss in groups what they think the muscle is doing. Pull ideas together and summarise what the skeleton and muscles do.  **Ammonites on the move**  Now look more closely at the ammonite fossil and information about it. Ask the pupils to work out how they think this creature might be supported and protected? How might it move? Inside the Ammonite, there were numerous body chambers which the animal would have pumped air into and out of. This would have helped it to move up and down through the water column. To travel quickly (away from predators) ammonites moved by jet propulsion, expelling water through a funnel-like opening to propel themselves in the opposite direction. In a PE lesson explore how your muscles help you move. What muscles would you need to move like an Ammonite? In what direction would you be facing? | | * Express simple views and opinions * Respond to simple questions * Make simple observations * Select basic but appropriate information * Use simple scientific vocabulary * Describe observations * Compare and contrast * Reason * Communicate views and opinions appropriately * Make simple explanations for observations * Demonstrate understanding through explanation * Make links and identify relationships between observations and outcomes * Use appropriate scientific language | Worksheet 1: Jurassic Fossils  Worksheet 2: Human and Fish skeleton  Worksheet 3: Ammonites and their internal structure  [Video 1: Nautilus swimming in ocean](https://www.youtube.com/watch?v=hcyzr3zJol4)  [Facts about Ammonites](http://www.bgs.ac.uk/discoveringGeology/time/Fossilfocus/ammonite.html) from British Geological Survey |

**Worksheet 1: Jurassic Fossils**

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| **Archaeopteryx**  Archaeopteryx_lithographica_(Eichstätter_Specimen)  © H.Raab (CC-BY-2.0.) |
| **Diplodocus skeleton**  http://i2.cdn.turner.com/cnnnext/dam/assets/150129132013-diplodocus-skeleton-1-super-169.jpg |

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| **Gryphea**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Molluscs/Bivalves/L.1973.14-15.jpg | **Belemnite**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Molluscs/Cephalopods/Belemnites/BRPMG1166.jpg |
| **Iguanodon footprints from Portland**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Trace_fossils/DCM_G.00126.jpg | |

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| **Trace fossil of a leaf**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Wood_and_plants/SWNTB.1992.56-lowres.jpg |
| **Brachiopods (Sea shells)**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Brachiopods/BRPMG8461-8459.jpg |
| **Bivalves (Sea shells)**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Molluscs/Bivalves/DCM_G.09920.jpg |

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| **Fossil fish from the Jurassic Coast**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Vertebrates/Fish/L.2013.11.jpg |
| **Crinoid fossil (Sea lily) from the Jurassic Coast**  Crinoid |

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| **Fossilised Fern**  **Pecopteris_arborescens** |
| **Ichthyosaur**  http://jurassiccoast.org/fossilfinder/wp-content/themes/fossilfinder/images/fossils-database/Vertebrates/Reptiles/Ichthyosaurs/L.2006.72.jpg |

**Worksheet 2: Human and Fish skeleton**

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| mv1bA Jurassic fish from China |
| A human skeletonskeleton |

**Worksheet 3: Ammonites and their internal structure**

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