Hammer Investigation & Learning Experience

A comprehensive STEAM daily lesson plan designed for Mulberries and Willows early years settings, combining historical exploration with hands-on learning experiences for preschoolers and toddlers.

This engaging lesson plan transforms simple tools into gateways of discovery, where young learners explore the fascinating world of hammers through both morning investigations and afternoon hands-on experiences. Designed specifically for early childhood educators, this comprehensive approach integrates all STEAM disciplines whilst ensuring age-appropriate safety and developmental benefits.

The programme is structured around two distinct sessions: a morning investigation period focusing on historical understanding and tool awareness, followed by afternoon practical experiences tailored separately for preschoolers and toddlers. This dual approach ensures that children first develop conceptual understanding before engaging in physical exploration, maximising both safety and learning outcomes.

Through carefully planned activities, children will discover how hammers have evolved from Stone Age tools to modern implements, whilst developing essential fine motor skills, scientific thinking, and creative expression. The lesson seamlessly weaves together historical knowledge, practical skills, and creative exploration in an environment that celebrates curiosity and hands-on learning.

STEAM Learning Coverage Framework

This comprehensive lesson plan brilliantly integrates all five STEAM disciplines, creating rich learning opportunities that build upon each other throughout the day. Each element has been carefully designed to support early years development whilst maintaining the excitement and wonder that makes learning truly memorable.

Science Discovery

Children explore fundamental physics concepts through forces and motion, discovering how hammers work through applied force. They investigate cause-and-effect relationships by observing what happens when different materials are hammered, whilst developing scientific inquiry skills through careful observation and recording of their discoveries.

Technology Integration

Young learners develop tool recognition skills whilst exploring historical technology through interactive tables and carefully selected YouTube clips. This digital literacy component helps children understand how tools have evolved over time, combining modern technology with historical understanding in an age-appropriate manner.

Engineering Thinking

Problem-solving takes centre stage as children figure out which hammer works best for different materials. They engage in the design process by creating patterns and structures, developing construction skills whilst learning to select appropriate tools for specific tasks through hands-on experimentation.

Artistic Expression

Creative expression flourishes through pattern-making, texture creation in clay and foam, and visual documentation of learning journeys. Children explore how different cultures have historically used hammers, connecting artistic traditions with practical tool use in meaningful and culturally rich ways.

Mathematical Concepts

Mathematics naturally emerges through counting hammer strikes and comparing tool sizes. Children create and recognise patterns whilst developing spatial awareness during hammering activities. Data collection becomes engaging as young learners record their observations and discoveries throughout the experience.

Morning Investigation Session

Building Historical Understanding

The morning investigation session transforms young minds into curious historians and scientists, providing a foundation of knowledge before hands-on exploration begins. This carefully structured 60-minute session creates a perfect balance between digital discovery, collaborative discussion, and vocabulary development.

Children embark on a time-travelling adventure, exploring how hammers have evolved from Stone Age tools to modern marvels. Through interactive table exploration and carefully curated YouTube content, they witness blacksmiths at work, discover different hammer types, and build connections between past and present tool use.

01

Circle Time Introduction

10 minutes exploring "What do we know about hammers?" encouraging prior knowledge sharing

02

Interactive Digital Exploration

10 minutes with YouTube clips showing Stone Age tools, medieval blacksmiths, and modern construction

03

Historical Discussion

10 minutes discussing how hammers have changed over time

04

Hands-on Investigation

15 minutes of small group rotations exploring real tools safely

05

Vocabulary & Recording

15 minutes building language and documenting discoveries

Essential Resources

- Interactive table for digital content
- Various hammers and mallets for safe exploration
- Historical images and investigation sheets
- Sample materials: wood, foam, clay

This investigation phase develops scientific thinking whilst building essential vocabulary including heavy/light, hard/soft, ancient/modern. Children learn to make connections between historical knowledge and present-day applications, setting the stage for meaningful afternoon experiences.

Afternoon Learning Experiences

The afternoon transforms morning discoveries into hands-on adventures, with carefully differentiated experiences for preschoolers and toddlers. These sessions apply theoretical knowledge to practical exploration, ensuring developmental appropriateness whilst maintaining the excitement of real tool use.

Preschooler Experience

Ages 3-5 years | 30-minute focused sessions

Preschoolers engage with child-sized hammers (4-6oz) working with thick cardboard and foam blocks. They create purposeful patterns and structures whilst developing fine motor precision and bilateral coordination. Safety goggles and clear workspace boundaries ensure secure exploration.

- Maximum 4 children with 1 adult
- 3-foot safety radius per child
- Creative construction focus
- Enhanced tool competency development

Toddler Experience

Ages 18 months-3 years | 15-minute gentle sessions

Toddlers explore with lightweight wooden mallets (2-4oz) and colourful soft clay. These shorter sessions focus on sensory exploration, hand-eye coordination, and self-regulation through repetitive, calming actions. Constant supervision ensures safety whilst building confidence.

- 2-3 toddlers maximum group size
- Hand-over-hand initial support
- Sensory regulation benefits
- Improved attention span development

Safety Implementation

Safety remains paramount throughout both experiences. Clear protocols ensure that children can explore confidently whilst developing tool competency. Risk assessments consider developmental stages, with appropriate tool weights and materials selected for each age group.

Structured timing prevents fatigue whilst maintaining engagement. The carefully planned progression from demonstration to independent exploration builds confidence systematically, ensuring positive associations with tool use that will benefit children throughout their learning journey.

Assessment & Future Learning

Comprehensive Documentation Approach

Assessment becomes a celebration of learning through multiple documentation methods that capture the full scope of children's development. Photo sequences reveal progression in fine motor skills, whilst voice recordings preserve those precious moments of historical discovery and vocabulary development.

Individual observation notes track problem-solving approaches and safety awareness, ensuring that each child's unique learning journey is recognised and supported. Group reflection discussions build communication skills whilst reinforcing key concepts discovered throughout the day.

> "Through careful observation and documentation, we capture not just what children create, but how they think, problem-solve, and grow through hands-on exploration."

EYFS Framework Links

- **Physical Development:** Fine motor skills, health and self-care through safe tool use
- **Understanding the World:** Technology exploration, historical awareness, cause and effect relationships
- **Communication & Language:** Rich vocabulary development, speaking and listening skills
- **Mathematics:** Pattern recognition, counting, spatial awareness through practical application

Extending the Learning Journey

- Enhanced construction area provisions with varied tools and materials
- Outdoor learning environment tool exploration opportunities
- Parent sharing sessions to celebrate discoveries and extend learning at home
- Classroom display creation featuring hammer history timeline and children's work

Prepared by Richard Waite, Waite.EYTS | 19th September 2025 | Mulberries and Willows Setting

This comprehensive lesson plan demonstrates how simple tools can become gateways to complex learning, weaving together historical understanding, practical skills, and creative expression. Through careful planning and thoughtful implementation, educators can provide rich, meaningful experiences that honour children's natural curiosity whilst building essential foundations for future learning.