Knights, Castles, and Kings: An Introduction to the Middle Ages

Grades 2-5

This packet includes:

HOW TO PREPARE YOUR CLASS FOR THE DISTANCE LEARNING PRESENTATION ........................................ 2

TEACHER INFORMATION GUIDE .......................................................................................................................... 3

PROGRAM OBJECTIVES: ......................................................................................................................................... 3
COMMON CORE STATE STANDARDS APPLICABLE: .................................................................................................. 3
NATIONAL EDUCATION STANDARDS: ..................................................................................................................... 5
PARTIAL LIST OF MUSEUM OBJECTS IN PROGRAM: ............................................................................................. 6
PRIOR TO THE PROGRAM: ..................................................................................................................................... 6
SELECTED VOCABULARY: ...................................................................................................................................... 6

POST-LESSON TEACHING EXTENSIONS: .................................................................................................................. 7
1. Illuminate a favorite manuscript: Reading, Visual Arts ......................................................................................... 7
2. Join a Guild: Social Studies, Visual Arts ............................................................................................................... 7
3. Not Quite Canterbury Tales: Writing .................................................................................................................... 8
4. Positively Medieval: Math .................................................................................................................................... 8
5. A Timeline of Knights, Castles and Kings: Social Sciences .................................................................................... 8

SUGGESTED READING: .......................................................................................................................................... 9
For students ............................................................................................................................................................... 9
For teachers ............................................................................................................................................................... 9

WEBSITES OF INTEREST: ....................................................................................................................................... 9
For teachers ............................................................................................................................................................... 9

GLOSSARY OF MANUSCRIPT TERMS ..................................................................................................................... 10

MANUSCRIPT TEMPLATE ....................................................................................................................................... 11

MANUSCRIPT TEACHER COPY .................................................................................................................................. 12

MEDIEVAL MATH WORKSHEET ............................................................................................................................... 13

THE CLEVELAND MUSEUM OF ART DISTANCE LEARNING EVALUATION FORM ............................................. 14

TIMELINE ................................................................................................................................................................. 16

SELECTED IMAGES: .................................................................................................................................................. 17

IN-PROGRAM ACTIVITY SHEET: MEDIEVAL MATCH UP ..................................................................................... 19

THE NEW ARMOR COURT – THE CLEVELAND MUSEUM OF ART ........................................................................ 24

Teacher note:

Please photocopy the in-program activity sheet for each student. Students should bring pencils and the activity sheet with them to the videoconferencing classroom.
How to Prepare Your Class for the Distance Learning Presentation

Teacher Information will be sent or made available to you prior to the program.

Please familiarize yourself with the materials and discuss them with your class.

Have the Teacher Information Packet (T.I.P.) materials on hand in the classroom, ready for the program. These materials may be used during the videoconference.

Be prepared to facilitate by calling on students yourself during the lesson. Students are sometimes initially shy about responding to questions during a distance learning lesson.

Explain to students that this is an interactive medium and encourage them to ask questions.

Reinforce topics discussed in the program by asking students to complete some of the suggested pre- and post-conference activities in the Teacher Information Packet.

We ask teachers, after the program, to please fill out the Evaluation Form and return it to:
   Dale Hilton/Distance Learning
   The Cleveland Museum of Art
   11150 East Boulevard
   Cleveland, OH 44106

Thank You!
Knights in shining armor, legendary queens, towering castles and fantastic beasts populate the pages of fairy tales and capture our imagination. But where does the fantasy merge with fact? In this program, students will be introduced to noble life in the Middle Ages through arms and armor, courtly and religious objects in the collection of the Cleveland Museum of Art. They will be asked to observe, comment on what they see, question, and draw conclusions about the role of castles, knights and kings in medieval society.

Program Objectives:

Students will learn and understand…

1. The role of a knight in the social structure of Medieval and Renaissance Europe.
2. The distinction between the historical role of a knight and the mythical role.
3. A noble’s arms, armor, and castle served more than a military function.
4. How art objects can define individuals or social groups.

Common Core State Standards Applicable:

*English Language Art & Literacy in History/Social Studies, Science, and Technical Subjects*

2nd Grade:

CCSS.ELA-Literacy.RI.2.5
Know and use various text features (e.g. captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

CCSS.ELA-Literacy.RI.2.7
Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

CCSS.ELA-Literacy.W.2.3
Write narratives in which they recount a well elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.

CCSS.ELA-Literacy.W.2.7
Participate in shared research and writing projects

CCSS.ELA-Literacy.SL.2.1
Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

CCSS.ELA-Literacy.SL.2.2
Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

CCSS.ELA-Literacy.SL.2.3
Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

3rd Grade:
CCSS.ELA-Literacy.RI.3.5
Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
CCSS.ELA-Literacy.W.3.3
Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
CCSS.ELA-Literacy.W.3.7
Conduct short research projects that build knowledge about a topic.
CCSS.ELA-Literacy.SL.3.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others’ ideas and expressing their own clearly.
CCSS.ELA-Literacy.SL.3.3
Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

4th Grade:
CCSS.ELA-Literacy.W.4.3
Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
CCSS.ELA-Literacy.W.4.3
Conduct short research projects that build knowledge through investigation of different aspects of a topic.
CCSS.ELA-Literacy.SL.4.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 4 topics and texts, building on others’ ideas and expressing their own clearly.
CCSS.ELA-Literacy.SL.4.3
Identify the reasons and evidence a speaker provides to support particular points.

5th Grade:
CCSS.ELA-Literacy.W.5.3
Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
CCSS.ELA-Literacy.W.5.7
Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
CCSS.ELA-Literacy.SL.5.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others’ ideas and expressing their own clearly.
CCSS.ELA-Literacy.SL.5.3
Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Math- (If using the Positively Medieval! Math worksheet)
2nd Grade:
CCSS.Math.2.OA.1
Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
CCSS.Math.2.OA.2
Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.

**CCSS.Math.2.NBT.4**
Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

**CCSS.Math.2.NBT.5**
Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

**3rd Grade:**
**CCSS.Math.3.OA.3**
Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities

**CCSS.Math.3.MD.6**
Measure areas by counting unit squares

**4th Grade:**
**CCSS.Math.4.OA.2**
Multiply or divide to solve word problems involving multiplicative comparison

**CCSS.Math.4.NBT.4**
Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**CCSS.Math.4.MD.3**
Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

**5th Grade:**
**CCSS.Math.5.NBT.5**
Fluently multiply multi-digit whole numbers using the standard algorithm.

**National Education Standards:**

*For Fine Arts - Visual Arts (grades K-4, 5-8):*

- Understanding and Applying Media, Techniques, and Processes
- Understanding the Visual Arts in Relation to History and Cultures
- Making Connections Between Visual Arts and Other Disciplines

*For Language Arts - English (grades K-12):*

- Reading for Perspective
- Reading for Understanding
- Evaluation Strategies
- Communication Skills
- Communication Strategies
- Applying Knowledge
- Multicultural Understanding

*For Social Sciences – World History (grades 5-12):*
- Era 5: Intensified Hemispheric Interactions, 1000-1500 CE
- Era 6: The Emergence of the First Global Age, 1450-1770

*For Mathematics – Numbers and Operations (grades Pre-K – 2, 3-5):*
- Understand numbers, ways of representing numbers, relationships among numbers, and number systems
- Understand meanings of operations and how they relate to one another
- Compute fluently and make reasonable estimates

**Partial list of Museum Objects in Program:**
- *Chateau de Chaumont Tapestry Set: Youth,* silk and wool, France, c.1500-1510, 1960.176.2
- *Hauberker,* Riveted steel and brass rings, Germany, c.1400-50, 1916.1817
- *Half Armor for Foot Tournament,* Pompeo della Cesa (Italian), Steel, c.1590, 1996.299
- *Hunting Scene Near Hartenfels Castle,* Lucas Cranach the Elder, 1540, c.1963.256
- *Two Handed Sword of the State Guard of Duke Julius of Brunswick and Lüneberg,* 1574, 1916.1508
- *Hours of Queen Isabella the Catholic,* ink, tempera, and gold on vellum, c.1495-1500, 1963.256

**Prior to the Program:**
Ask students to think about what life must have been like 600-800 years ago. What things would be different? What might still be the same? Consider reading a fictional story pertaining to knights or medieval life with your class, such as one of the stories about King Arthur or his knights.

**Selected Vocabulary:**
- **Castle** – a fortified building, used both for defense and as a home for the lord of the surrounding land.
- **Cranequin** – winding mechanism used to pull back the cord of a crossbow in order to fire its bolt, or steel tipped dart.
- **Crossbow** – a short, powerful bow made of wood or steel, which was popular for hunting or warfare.
- **Gargoyle** – a waterspout or decorative ornament in the form of a grotesque human or animal.
- **Gauntlet** – an armored glove in either mitten or fingered form.
- **Hauberker** – a shirt of mail ending between the hip and knee.
- **Illuminated Manuscript** – a handwritten book or document decorated with paintings and drawings, usually ornamented with gold, silver, and brilliant colors.
- **Joust** – a sporting combat between knights mounted on horses.
- **Knight** – a mounted warrior and lord, who was bound by oath to defend his king or overlord from enemies.
- **Mail** – flexible armor made from interlocking metal rings. From the Old French word *maille* (mesh).
- **Medieval** – referring to the Middle Ages in Europe, from the fall of the Roman Empire in the 5th century through the 1400s.
Plate armor - equipment or suit made of overlapping steel plates and worn or carried for protection.

Renaissance – a transitional period of European history following the Middle Ages, in which learning and the arts blossomed. Named after the French term for “rebirth.”

Tapestry - a heavy hand-woven textile used for hangings, curtains, and upholstery.

Two-handed Sword – an extremely large sword (up to 6 feet long) requires both hands for combat on foot.

Tournament – a mock battle held between teams of contestants either mounted or on foot.

Post-lesson Teaching Extensions:

1. Illuminate a favorite manuscript: Reading, Visual Arts

During the Middles Ages, most people could not read. Only very wealthy or scholarly people owned books, which were hand-written and illustrated. While many books were for religious use, there were also books of music, literature, and legends.

Book manufacture involved a number of steps. Pages were made from parchment, a sturdy material produced from treated and cleaned animal skin. Lines were lightly drawn as guides to keep the writing neat (sound familiar?). A quill from a large bird would be used for large text, while a quill from a sparrow might be used for fine writings. Areas were reserved for the illuminations, or illustrations. These might include a border decoration (marginalia), enlargement of the first letter of the text decorated with a scene relating to the topic (historiated initial), or a miniature painting filling either a quarter, half, or a full page.

Students should bring a favorite poem or story to class which they will use for their illuminated manuscript. Explain how books were made before the invention of the printing press. Ask students to think about a picture they could draw to illustrate the beginning of their story. Using photocopies of the manuscript template made on heavy paper stock, students can write the beginning of their story in cursive, and then illustrate it in the spaces provided.

Materials needed: manuscript illumination instructions, manuscript template, 8 ½” x 11” heavy manila tag paper or cover stock, pencils, fine black markers, tempera paints, brushes, gold paint markers.

2. Join a Guild: Social Studies, Visual Arts

During our distance learning program, students were introduced to arms and armor, tapestries, illuminated manuscripts and other artifacts which would have been part of a noble’s life in the Middle Ages. Besides offering us a glimpse at a glorious past, the reason each of these objects is now part of a museum collection is their superb craftsmanship. Making a suit of armor, an illuminated manuscript, or tapestry was a labor-intensive, time-consuming process that required the skills of a number of craftsmen. If a craftsman lived in a city, he may have been part of a guild – an association of people who practiced a common trade. Guilds played an important role in training from apprentice to master, ensuring work standards and regulating wages.

Divide the class into small groups and assign each group a guild: armorers, swordsmiths, weavers, masons, parchment makers, painters. Have each group research and report on what life would have been like for a tradesperson in the Middle Ages: what city they might have lived in, materials or tools they might have worked with, what type of work they would have produced. Each guild can create a sign which shows either the tools of their craft or finished product (remember, most could not read so a good “visual” would be very important). Finished signs could be hung in the classroom for a medieval feast day celebration.

Materials needed: paper, pencils, access to library or internet, posterboard, scissors, tempera paints, brushes.
3. Not Quite Canterbury Tales: Writing

One of the great pieces of medieval literature is *The Canterbury Tales*, written by Geoffrey Chaucer in the 14th century. Chaucer, a courtier and knight as well as an author and poet, wrote this entertaining collection of stories from the diverse viewpoints of a group of travelers as they journey together on a pilgrimage to Canterbury, England. At the beginning of the pilgrimage, each traveler is commanded by the tavern’s host to tell two tales on the way to Canterbury and two on the way back. The traveler who tells the best tale will be rewarded with a free meal at the end of their pilgrimage. Included in the journey are a range of noble and common medieval characters such as the knight, the squire, the cook, the man of law, the monk, the physician, the merchant, the miller, and wife of Bath.

Make your own collection of “Canterbury” tales by assigning each student a character, whose viewpoint they should use to write a fictional tale. It can be humorous or serious. If desired, characters could be from a medieval or a modern setting. When all tales are written, they can be bound together in a book for classroom reading. Either the teacher (as the host) or the class can vote on the most entertaining tale.

**Materials needed:** paper, pencils.

4. Positively Medieval: Math

The adding machine, forerunner to the calculator wasn’t invented until the 17th century, so good math skills were extremely important for craftsmen of the Middle Ages. Make photocopies of the enclosed sheet for students to complete. The answer key can be used to check results.

**Answer Key for Positively Medieval! Math worksheet:**

2) 173 days
3) > month, < year
4) 16 days
5) 40 inches
5) 59 pounds
6) 250,000
7) 60 seconds or 1 minute
8) 72 solidi

*CHALLENGE ME!* - 23,009 days

**Materials needed:** photocopies of the Positively Medieval! Math worksheet, pencils, erasers, rulers.

5. A Timeline of Knights, Castles and Kings: Social Sciences

The European Middle Ages and Renaissance witnessed the birth, flowering, and decline of knights and castles, yet our fascination with the achievements of this period continues to this day. Make photocopies of the enclosed timeline for students to complete.

**Materials needed:** photocopies of the timeline worksheet, pencils.
Suggested Reading:

For students...


For teachers...


Websites of Interest:

For students...

- Explore the [Arms and Armor collection](http://www.castles-of-britain.com/castlelearningcenter.htm) of the Cleveland Museum of Art online!

- Castles of Britain Castle Learning Center: for students, writers, and enthusiasts of all ages to explore castles and to stimulate their creativity. : [http://www.castles-of-britain.com/castlelearningcenter.htm](http://www.castles-of-britain.com/castlelearningcenter.htm)

For teachers...

- *The Glory of the Painted Page: Manuscript Illuminations from the Permanent Collection* – a previous exhibition at the Cleveland Museum of Art

- The Metropolitan Museum of Art. Search their online collection of arms and armor, or Medieval art at the Cloisters. [http://www.metmuseum.org](http://www.metmuseum.org)

Glossary of Manuscript Terms

**Book of hours** - A prayer book intended for lay use in private or family devotions. Books of hours typically contain a compendium of prayers and devotions dedicated to the Virgin Mary and recited or sung at the canonical "hours" (eight set times during the day). To this core were appended other elements such as a calendar, penitential psalms, litanies, suffrages, etc. Elaborate versions contain a full cycle of miniatures as well as involved marginal decorations. Books of hours form the most popular and abundant of all surviving medieval manuscripts.

**Codex** - Another term for all handwritten books (manuscripts) on individual leaves of vellum that can be turned and read in succession. Succeeded the scroll as the main support for handwritten script in Western Europe.

**Drollery** - Also *grotesque*. Animal and human hybrids that inhabit the initials and foliate borders of Gothic manuscript leaves.

**Historiated initial** - An enlarged initial containing individual figures or groups that interact; they often form narrative scenes that illustrate or refer to the text they introduce.

**Illuminated** - Decorated with paintings and drawings, usually ornamented with gold, silver, and brilliant colors.

**Illuminator** - The decorator or painter of a vellum codex.

**Initial** - An emphasized letter at the beginning of a text; used in medieval manuscripts to form breaks within a text and to prioritize the components of the text by drawing the attention of the reader; a purely medieval invention and often lavishly decorated. See also *historiated initial*.

**Manuscript** - A handwritten book or document.

**Miniature** - A picture, frequently narrative, used as illustration in a manuscript (from Latin *minium*, a red pigment used in manuscript painting).

**Parchment** - The skin of animals (cattle, sheep, or goats) used as manuscript leaves, prepared by soaking and stretching. See also *vellum*, with which it is often used interchangeably.

**Vellum** - Another term for animal skin in general and often used interchangeably with parchment. Also used to refer specifically to prepared calfskin, a thinner and finer support used for leaves in smaller manuscripts like books of hours, psalters, and octavo Bibles.
After choosing a favorite book or poem for their manuscript, students can use this space for sketching, then painting a picture which describes the beginning of the story.

Another option is to sketch the outline of the first letter of the first word (the T in The) to fill this box, draw or paint the inside of the letter with a design, then to draw or paint a picture around the outside of the letter to fill the picture space.

The (or _he) beginning of the story is written in script here, then continues on each ruled line.

A spot for a border decoration
Positively Medieval! Math

*In the days of knights and castles......*

1. A weaver sometimes spent an entire workday creating a 1 inch x 1 inch square. The Time tapestry at the Museum is 133 inches high and 173 inches wide.

2. How many days would it have taken the weaver to finish a row 1 inch high and 173 inches wide?

3. Is that < or > one month? _________  Is that < or > one year? _________

4. How many days did it take to complete a 4 inch by 4 inch area?
   Show your work here......

5. *Oops!* The duke has decided he wants a square tapestry to fit his dining hall. How many inches need to be removed from the width of the *Time* tapestry to make it fit?

**Challenge me!** At the rate of 1 square inch a day, how many days would it take a weaver to complete the entire *Time* tapestry? *(it’s OK to use a calculator)*

---

**Good Knight!**

5. The average mail suit weighed about 25 pounds, while a typical suit of plate armor weighed 55 pounds. The weight for the Museum’s plate armor for man and horse weigh a total of 114 pounds. How much would only the horse’s armor weigh?

6. A hauberk might contain as many as two hundred fifty thousand rings of mail. Write the number. ________________

7. The velocity (speed) of a bolt shot from a crossbow was up to 4 times faster than a longbow. If a crossbow’s bolt could hit a target in 15 seconds, how long would it take a longbow’s arrow to hit the same target?

8. Knights were obligated to own armor and horses as part of their duty to defend their lord or king. In 1066, the cost of a mail shirt was 12 *solidi*, or about the cost of a war horse. If a knight owned two mail shirts and four war horses, how much did it cost him to purchase those items?
The Cleveland Museum of Art Distance Learning Evaluation Form

Your Name________________________________________________________

Your School_____________________________________________________________

School Address (with zip code) _____________________________________________

E-mail Address __________________________________________________________

Grade/Class of students (e.g. 10th grade French) ______________________________

Program Title ___________________________________________________________

Program Date ___________________________________________________________

Thank you so much for your participation in our distance learning program. We would appreciate your response to these questions by circling the appropriate answer and returning the survey. Please Mail or Fax to Dale Hilton at 216-707-6679

5= Strongly Agree  4= Agree  3= Neither Agree nor Disagree
2= Disagree  1= Strongly Disagree

1. The teacher information packet was helpful for preparing my class and me for the distance learning lesson.
   5  4  3  2  1

2. The teaching style of the on-camera instructor was interesting, engaging and fostered interaction.
   5  4  3  2  1

3. The Teacher Information Packet was helpful in providing interdisciplinary extension activities that I did use or plan to use.
   5  4  3  2  1

4. The distance learning lesson successfully taught its objectives.
   5  4  3  2  1

5. The distance learning lesson was not interrupted by technical difficulties.
   5  4  3  2  1

6. The pre-requisites the distance learning lesson and extensions are aligned with The National Education standards.
   5  4  3  2  1

7. I plan to register for another distance learning lesson.
   (circle one)
   Yes  No
   If no, why?____________________________________________________________

8. I would like more information about The Cleveland Museum of Art’s Teacher Resource Center.
   (circle one)
   Yes  No

9. Why did you choose The Cleveland Museum of Art Distance Learning?
   (circle one)
a.) Price Point  
b.) Quality of lessons  
c.) Selection of lessons  
d.) Ease of working with CMA  
e.) Other  

10. How did you hear about The Cleveland Museum of Art Distance Learning program?  
(circle all that apply)  

a.) CMA inservice  
b.) CILC  
c.) TWICE  
d.) Conference  
e.) Brochure  
f.) The Cleveland Museum of Art website  
g.) The Teacher Resource Center  
h.) Other  

11. Do you have any additional comments about the distance learning lesson?  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

Please return the completed teacher evaluation form to:  

Dale Hilton/Distance Learning  
The Cleveland Museum of Art  
11150 East Boulevard  
Cleveland, OH 44106  

Or fax to Dale Hilton at 216-707-6679
A Timeline of Knights, Castles and Kings

Draw a line from the dates listed below to their location on the timeline

768  Charlemagne is crowned Holy Roman Emperor

1492  Columbus’s first voyage to the New World

1200-1300  Stone castles are becoming common

1096  First Crusade to the Holy Land

1250  Jousting is becoming a popular sport at the tournament

1138  History of the Kings of Britain is written; includes King Arthur

1350-1400  Plate armor is developed

1066  Duke William of Normandy conquers England

1500  Time Tapestry at the Museum is woven

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Knights, Castles and Kings: An introduction to the Middle Ages
The Cleveland Museum of Art

Selected Images:

*Hours of Queen Isabella the Catholic, Queen of Spain*, c. 1495-1500. Alexander Bening and associates, (Flemish, c. 1444-1519)
Ink, tempera, and gold on vellum
1963.256

*Armor for Man and Horse with Völs-Colonna Arms*, c. 1575
North Italy, 16th century
Steel
1964.88
Chateau de Chaumont Tapestry Set: Youth, c. 1500-1510
France, Lyon(?), early 16th century
Silk and wool; tapestry weave
1960.176.2
Knights, Castles and Kings: An introduction to the Middle Ages
The Cleveland Museum of Art

Draw a line from each word to the picture it identifies.

Gargoyle
Chain mail
Crossbow
Illuminated manuscript
Gauntlet
Cranequin

How many of these objects listed on the left can you find in Cranach’s painting *Hunting Scene Near Hartenfels Castle*? Circle them during the program!

Can you find these objects too?
castle  Electress Sibyll  boar
armor  sword  bear  stag
Elector Johann Frederick  dog
What was a knight?

The term knight comes from the Old English eahhæl, or soldier. Above all the knight was a fighting man. But he also held a small estate, called a manor, from which he oversaw the life of a neighboring village or two. The manor was a gift from a more powerful lord, who, in turn, held vast estates from the king. In this social system, called feudalism, all land was held in return for military service.

A knight was required to spend part of his manor’s income on equipping himself for battle: a suit of armor, a sword, and a lance, and at least two well-trained war horses. In fact, so essential was a horse to knighthood, that both the French word for knight (chevalier) and the English term for the knight’s honor code, the code of chivalry, come from the French word for horse—cheval.

How should a knight behave according to the rules of chivalry?

It wasn’t an easy code to follow! On the battlefield he was supposed to be fierce, courageous, and victorious. Yet the Church told him to be merciful and to refrain from fighting other Christians. He was honor bound to be a loyal subject of his king, but at the same time, he had to obey the orders of the baron from whom he held his manor. Finally, at the end of a hard day’s fighting, a knight was supposed to settle down and entertain the fancies of his ladylove. He therefore needed to know poetry, music, and tales of derring-do. Not least, he had to compete for his lady’s honor and favor at the tournaments.

Knights, with the Church’s blessing, were expected to fight for the defense of Christendom. The First and Second Crusades were thus perhaps the greatest acts of chivalry. Christian knights, promised entry to heaven, fought the Muslims for control of the cities of the Holy Land. Unfortunately, the other seven crusades were fought for less lofty ideals. In 1204 the Crusaders seized Constantinople, the gold-filled capital of the Byzantine Empire, their Christian ally.

How did one become a knight?

The would-be knight, usually the son of a knight, had to undergo many years of training. Beginning at age six or seven, he was a page. For about seven years he served his lord and lady in their castle, receiving, in return, a smattering of learning and religion. When a teenager, the boy rose to the level of squire. In this position he learned how to dress his lord in armor, wield a sword, and ride in tournaments. Her ladyship instructed the squire in the finer points of courtly love. Finally, when about 21, the squire could petition to be knighted by the king.

A quicker way to become a knight was to distinguish oneself on the battlefield and to be knighted on the spot by the king or one of his commanders. The simple ceremony of dubbing—tapping the knight on the shoulders with the point of a sword—is still used by the Queen of England in conferring knighthood, although today it is for distinguished persons in diverse fields.
Knights, Castles and Kings: An introduction to the Middle Ages
The Cleveland Museum of Art

Who were armor?
The knight did, of course, but the foot soldier could too. King Harold of England, wearing a hauberk, a tunic of chain mail, fought the Battle of Hastings in 1066 on foot. Foot soldiers usually wore just a helmet and breastplate for protection, rather than full suits of armor.

Horses too wore armor.
Steel plates covered a horse's head and body. Chain mail around the neck permitted free movement. Some very ingenious full suits of armor added protection for the horse's legs as well, but they were rarely used because the knight had to strike a balance between protecting his expensive and well-trained horse, and retaining its speed and agility.

The armor looks small; were people shorter in the Middle Ages?
No, not really. Charlemagne, Holy Roman Emperor between 800 and 817, was over six feet tall. Medieval Europians were nearly as tall as modern Europeans. Americans, on average, have always been a little taller.

The rather small looking suits of armor are like the small sizes left over in a modern-day clothing sale. Unwanted, unborn, and unappreciated, they have survived to enter museum collections. Damaged suits, however, were melted down and made into other things (like plowshares and razor blades).

Who made armor?
In the beginning, simple forms of arms and armor were made by the local blacksmith at his forge. But by the late 13th century, specialist craftsmen had entered the field. There were 100 hauberk-makers in Milan by the mid-14th century. By the end of that century, regulations governed the making of plate armor throughout Europe. Typical of these were the guild rules of Augsburg, Germany. To become a master armorer, you had to have served for four years as an apprentice (trained), and for another four as a journeyman (paid craftsman). Only then could you establish your own foundry. However, the last four years were waived if you married the widow of a master armorer!

How was armor made?
Chain mail
There were a number of ways of making the rings for a hauberk. One method was to punch, or stamp, the ring out of a sheet of metal. This produced rather flat looking rings. A rounded look indicates that a thick wire was used. A quick way to make lots of rings was to coil the wire around a rod, and then to cut along its length, creating many open rings. These were riveted closed once the whole hauberk had been laid out according to a pattern, much like a knitting pattern. Indeed, the English word “mail” comes from the French term maille, meaning “stitch.” If you look carefully at the Museum’s chain mail, you will see examples of both techniques as well as the thousands of small rivets that close the rings of a hauberk.

Plate armor
To make plate armor, metal sheets, or billets, were purchased from a foundry and cut into roughly the correct shape and size for a specific piece of armor. The piece was then heated in a forge until red hot, allowing it to be easily hammered and beaten into shape over a metal form. An armorer had at least five different metal forms, one each for making arm and leg defenses, breastplates, and helmets (along with their crests and visors).

Once the suit had been forged, it was assembled; every joint was carefully checked to ensure a proper fit. The suit had to allow the knight to move his limbs with ease but also keep every part of him protected. The pieces were filed down until they fit perfectly. The armor was then passed to a millman, who polished the surface and smoothed any dents. Following this, the armorer reassembled the suit, adding straps, buckles, and padding.
How heavy was a suit of armor?

The average suit of armor weighed between 45 and 50 pounds, but was not as cumbersome as you might imagine. In fact, it weighed no more than the modern soldier's backpack, and, like today's soldier, the medieval knight had to be able to run, jump, and lie down in his armor. If necessary, a knight could dress himself in armor and vault onto his horse. Of course, he preferred to call upon his squire for help! A fully armored knight could even ford rivers if he were careful. The unfortunate Frederick Barbarossa, the Holy Roman Emperor, was not so careful: he drowned on his way to the Third Crusade in 1190.

How did a knight see with his helmet on?

Most helmets have long, narrow slits, or "eyeholes," that one can see through. Just as one can see a room through a keyhole if you place your eye against the lock, so also the knight could gain a good view of the battlefield through these slits.

Think how hot it could get inside a helmet during a fierce battle! In an attempt to be as comfortable as possible, knights delayed putting on their helmets until they rode out onto the battlefield. Their helmets were fitted with visors, lugged metal guards, that were lowered to protect the face during the fight. When the knight was out of danger, the visor could be raised to admit cooling breezes.

How was armor decorated?

The most common form of decoration consisted of lines incised into the metal plate. To achieve this, one could engrave, or scratch, the design into the armor using a chisel-like implement called a burin. A second method was called "arching," in which all the hard work is done by acid. The artist simply covered the piece in wax, or some other acid-resistant substance, and drew the design through it, revealing areas of the metal beneath as he went along. The design was eaten into the unprotected metal while it set in an acid bath.

An "embossed" suit is one in which the decoration has been stamped into the metal from behind. This produces a wonderfully sculptural effect, allowing the decoration to stand out and catch the light. However, the stamping weakens the armor, so one usually only finds this method used on fancy parade armor.

In the 16th century, French noblemen wore suits of gold. Very cheap! The glider could either glue tissue-thin sheets of gold to the armor with a varnish, or apply a mixture of mercury and gold to the metal and heat it; the mercury evaporated, leaving the gold bonded to the armor.

By heating metal to about 622°F and then immediately immersing it in cold water, armor could be tinted blue. To cut a particularly dashing figure, the Emperor Maximilian had a "blazed" suit decorated with gold.

How long did it take to make a suit of armor, and was it expensive?

It depended on how many people the armorer had working for him, and just how lavish the suit of armor was to be. Munitions armor was relatively quick to produce, since it was not made-to-measure and was seldom decorated. In the mid-16th century, Anton Pellenhauser of Augsburg, Germany, was commissioned to produce 600 suits in twelve weeks. He cheated by buying 300 from neighboring Nuremberg. Clearly, ready-made armor could be easily purchased in huge lots. In 1539, fearing a French invasion of England, Henry VIII bought 1200 suits from Cologne and 2700 from Antwerp.

It probably took about two months to forge a tailored suit of armor. If the armor was to be beautifully decorated with etched and gilded designs, the production time doubled. The fancier, more expensive armor was worn only at tournaments, where it was less likely to get damaged.

Hans Seusenhofen's accounts of 1527 provide us with a relative scale for the price of different types of armor. He charged 70 florins for etched tournament armor, 60 florins for battle armor, and 25 for a half-suit.
How did one tell friend from foe on the battlefield?

In the days before armies wore uniforms, foot soldiers often added an identifying color to their clothes. The English royal house of Plantagenet, which reigned during the Middle Ages, got its name from the spring of the brook, or genes, plant that its supporters wore in their caps.

It was impossible to identify a knight in full armor with his helmet on. During the Battle of Hastings, in 1066, the Normans almost abandoned the field because a rumor spread that Duke William had been killed. He had to remove his helmet and show his face before he could rouse his troops on to victory and the conquest of England.

The armor-clad knight was identifiable by his coat of arms painted on his shield and sometimes embazoned on his surcoat. Covered in mud, splattered with blood, and battered in the fray, however, the emblems would have been difficult to identify. Such designs were far more visible in the tournament parade. There, a knight's heraldic arms—comprising colored shapes, patterns, and animals—were easily admired. There too, one could enjoy the witty, "coating" arms, which played upon the knight's name. Thus, Sir Roger de Trumpington had trumpets on his coat of arms.

Could any weapon pierce armor?

The armorer and weapon smiths were always in competition with each other; the first strove to forge the impenetrable suit, while the second sought to pierce with new weapons.

Chain mail, with its tight, interlocking links, was invented to protect a knight against the broad blades of edge weapons, such as swords, pikes, and daggers. Weaponsmiths responded by developing the long bow and the crossbow, which could fire either finely tipped arrowheads, to go through the links, or broad-headed bolts, which could split the iron links apart. So effective was the crossbow that in 1389 the pope attempted to ban its use against fellow Christians. Armorer met the challenge by adding metal plates to the hauberk, which led to the development of the full suit of plate armor.

A knight was almost invulnerable in his suit of armor. However, weapons such as maces and lances could unseat him or wear him down under their constant battering. The advent in the early 1500s of firearms that could project bullets with sufficient velocity to pierce steel brought about the end of "the knight in shining armor."

Made possible by a generous grant from The Cleveland Electric Illuminating Company, a Cuyahoga Energy Company.
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The Cleveland Museum of Art

The New Armor Court – The Cleveland Museum of Art

Armor Court

On June 6, 1916, Cleveland’s art museum opened its doors for the first time, revealing among its newly acquired treasures a breathtaking installation of European arms and armor resplendent with colorful regimental banners and a set of magnificent 17th-century Flemish tapestries. Most of the collection of arms and armor was presented to the museum by Mr. and Mrs. John L. Severance; the tapestries were presented by Elisabeth Severance Allen Prentiss as a memorial to her first husband. The design around you honors the original concept of the Armor Court as conceived by the museum’s first director, Frederic Allen Whiting, whose 1916 display of arms and armor provided several generations of Clevelanders with a first glimpse into the visual arts of the Middle Ages and the Renaissance.

Glossary of Arms and Armor

Aketon (or haqueton)
A heavily padded garment worn under mail.

Appliqué
A decoration or an ornament made by cutting pieces of one material and applying them to the surface of another.

Armet
A helmet that completely encases the head with hinged, movable cheekpieces overlapping on the chin, and a visor; replaced by the close helmet in the 1500s.

Barbute
A tall open helmet of Italian origin, often with a pointed apex (later rounded), cheeks, and a small face-opening; used from about 1350 to 1500.

Bardiche
A pole axe with a long curved blade, the lower extremity joining the staff; principally used in northeastern Europe.

Battle axe
A percussion weapon usually wielded by infantrymen; popular with Germanic and Anglo-Saxon armies from the 700s through the 1000s. Later versions could pierce plate armor.

Bayonette
A specialized stabbing weapon, fitted to the barrel of a firearm; used on the battlefield and occasionally in hunting.

Bevor
An element of plate for the defense of the lower face and throat; can be a separate piece worn with a helmet such as the sallet, or a piece attached to a close helmet.

Bill
A staff weapon popular with English and Italian infantrymen of the 1400s, with an asymmetrical head usually with a spike, and a curved cutting hook in front, balanced by a short spike in the back.

Blackened steel
Plate armor that has been darkened by either painting or heating its surface areas, or merely leaving them dark from the forging process; served as a form of rustproofing and provided decorative interest.

Bluing
The process of applying heat to metal to achieve a deep blue color.

Brandistock
A staff weapon consisting of a tubular shaft that concealed either a single blade or a set of three blades within an aperture; the blades were released and locked with a catch, by jerking the weapon forward; widely used from the 1500s through the 1800s, both in civilian and military versions.
Knights, Castles and Kings: An introduction to the Middle Ages
The Cleveland Museum of Art

Breech
The rear end of a cannon or gun barrel, usually the point of ignition.

Brigandine
A type of armored sleeveless jacket used by infantry throughout the 1400s and until the mid-1500s; consists of numerous small overlapping plates of metal attached with rivets to the back of a cloth support.

Buffe
A separate, usually detachable, element of plate armor that was worn with an open helmet to protect the face and throat.

Burgonet
A light, open helmet used by cavalry in the 1500s and 1600s; characterized by a peak, a fall over the eyes, and hinged earpieces; sometimes worn with a buffe.

Butt-cap
A metal mount attached to the end of the stock (the butt) of a firearm; frequently highly decorative.

Cabasset
A light, open headpiece with a conical or almond-shaped apex and a small brim; generally used by infantry.

Cavalry
Troops trained to fight on horseback.

Chanfron
The plate headpiece for a horse, introduced in the 1300s. The complete chanfron is fitted with cheekpieces and a crestpiece.

Chasing
A variation of the engraving process in which a hammer is used to drive a cutting tool into an object’s surface.

Chiseling
A decorative technique involving the use of chisels, awls, and other tools to gouge and pierce a design into a metal surface.

Close helmet
A helmet fitted with a visor and bevor completely encasing the head. It has no cheekpieces and all of its elements function from a common set of pivots at the temples.

Cock
The arm pivoted to the lock-plate of a firearm; it held either the match, pyrits, or flint, the action of which ignited the charge.

Consèque
A staff weapon, the head of which forms two fork-like blades like a trident.

Cranequin
A crossbow winder consisting of a ratchet, a claw to grasp the cord, and a handle used to wind the crossbow in order to fire its bolt.

Cuirass
A combination of breast and backplates.

Damascening
The decorative technique of inlaying gold and silver into grooves gouged out of a metal surface; a favored technique for the decoration of sword hilts.

Embassing
The decoration of metal plate by hammering it from the inside.

Engraving
The application of ornament to metal by cutting the pattern directly into the surface with special tools such as the burin and graver.

Etching
A decorative technique that consists of applying an acid-resistant substance (like varnish) to metal, tracing a design through the substance into the metal, then applying acid, which “bits” into the exposed metal surfaces leaving a permanent pattern; etched surfaces may also be blackened or gilded after the varnish is removed.

Fluting
A form of ornamentation involving the hammering of armor plates with parallel grooves and ridges; characteristic feature of “Maximilian” style armor; it also provided strength and stability.

Garniture
A complete armor with related or exchange pieces, especially its double pieces used to convert the basic unit to sporting and various field uses.

Gauntlet
An armored glove fashioned of mail, of mail and plate, or of laminated plates, in either mitten or fingered forms.

Gilding
The art or process of applying gilt (or a paint containing or simulating gold) to a surface.

Glaive
A staff weapon with a long cleaver-like or scythe-shaped blade.

Glancing surfaces
A smooth, highly polished surface of armor plate, contoured in such a way as to deflect the impact of a weapon.

Gorget
Also referred to as a “collar,” the gorget was an armor element that provided defense for the neck, throat, and upper part of the chest. It normally consisted of two parts, front and back, joined by a hinge on the left shoulder and fastened with a stud on the right.

Haft
The handle, usually of wood, of a family of weapons that include pole arms, maces, and axes.

Halberd
A staff weapon combining an axe head balanced with a spike and a hook-like fluke; carried by infantry.
Knights, Castles and Kings: An introduction to the Middle Ages
The Cleveland Museum of Art

**Hand-and-a-half sword**
Also known as the "bastard" sword, a large sword with a double-edged blade and a grip long enough to accommodate both hands in wielding it.

**Hauberon (or aketon)**
A heavily padded garment worn under mail.

**Hauberker**
A shirt of mail extending below the knees.

**Hilt**
The part of a sword or dagger that comprises of the guard, the grip or handle, and the pommel.

**Incising**
A technique that involves the cutting, engraving or carving of a pattern (including marks and inscriptions) into the surface of armor or weaponry.

**Infantry**
Troops trained to fight on foot.

**Linstock**
A staff for holding the lighted match used for firing a cannon; sometimes combined with a spearhead at center for self-defense and often very decorative.

**Mace**
A heavy club with a spiked metal head, used to crush armor.

**Mail (or chain mail)**
Flexible armor fashioned from interlocking rings; commonly used throughout Europe until the 1300s, when it was replaced by plate armor.

**Morion**
An open helmet with a tall comb and a curved brim peaking in front and behind.

**Pan cover**
A plate covering the priming pan of a firearm, which keeps moisture and sparks away from the gunpowder.

**Partisan**
A staff weapon with a symmetrical double-edged central blade, often highly decorated.

**Pauldron**
A plate defense for the shoulder and upper arm.

**Petronel**
A type of long gun with a down-curved butt that is held against the chest.

**Pillow sword**
A sword hung at the head of a bed.

**Pommel**
The spherical knob serving as a counterweight on the hilt end of a sword; often highly ornate.

**Priming powder**
A fine powder used for "priming" the pan of an early firearm; when ignited, it in turn ignited the main charge in the gun's barrel.

**Punching**
Using a punch or awl and a hammer to apply marks or decoration composed of numerous fine dots.

**Quillons**
The cross bar on the hilt of a sword.

**Ricasso**
The rectangular part of a sword blade nearest the hilt but preceding the edge. It is usually thickened and blunted permitting a finger to be curled around it for a more secure grip.

**Rondache**
A circular shield carried on foot during the 1500s.

**Russetting**
A coloring process in which a mildly corrosive substance gives a metal surface a brownish finish; it also makes the metal somewhat resistant to rust.

**Sallet**
A light, semi-open helmet, sometimes fitted with a visor; sometimes open-faced, and sometimes with a vision slit in front. Features a rounded skull with a long drawn out tail.

**Scabbard**
A casing for swords and daggers that protects their blades and enables the weapons to be carried.

**Snaphance**
An early form for flintlock ignition in which the firearms's pan cover and spark-producing steel are separate elements.

**Spanner**
A specialized wrench used to "span," or wind, wheel-lock ignitions; a charging-spanner includes a screwdriver head and a small powder flask for priming powder.

**Stock**
The shaped wooden support on which the barrel and lock of a firearm are mounted; the forward part is known as the fore-end, and the other end (which is placed against the shoulder when firing) is called the butt.

Cover: Close Helmet, North Italy, Brescia(?), about 1575, etched steel with brass rivets
Gift of Mr. and Mrs. John L. Severance 19/6.1816.a
Gothic Plate Armor Illustration: Carolyn K. Lewis