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Part 1

Politics
Introduction – The World of 1521

Welcome to our world – a place where Henry, eighth to bear that name reigns over England along with his beloved wife Catherine and the Renaissance is in full bloom!

Scarborough Renaissance Festival takes place in the imagined space of the fairgrounds of the town of Scarborough, in York County in the North of England. Around this actual site is the rest of our imagined version of the real town, along with its castle, port and the North and South Bays. It is our home, and we hope that you will find it as magical as do we.

While the world of Scarborough takes place in 1521, much of the material in this book references events and people from the entire Tudor period that spanned from 1585 when Henry’s father, Henry VII, was crowned to the end of the reign of Henry’s daughter, Elizabeth I. This material is presented so that you have a complete understanding of the period, but – obviously – when you are at the festival, you will not encounter any of the characters that would not have been alive or in power outside of 1521. Similarly, if you bring up events that happened after 1521 to characters that you may encounter, you will likely be met with puzzled expressions or might even be accused of being mad!

We hope that you find the resources in this packet interesting and helpful in understanding this fascinating period of history.

Happy reading!

The Staff of Scarborough Renaissance Festival
Important Dates of the Renaissance

1348  The Plague, known as the Black Death, arrives in Europe
1429  Joan of Arc leads the French to break the English siege of Orleans
      Charles VII crowned the King of France
1431  Joan of Arc burned as a witch by the English at Rouen, France
1438  Incan Empire established in Peru
1453  Series of French victories returns almost all the previous English land gains to France
1478  The Spanish Inquisition begins its persecution of Jews, Muslims, and Christian heretics
1485  End of the War of the Roses, Henry Tudor defeats Richard III and claims the throne as Henry VII
1486  Henry VII (Tudor) marries Elizabeth of York uniting the houses of York and Lancaster
1488  Bartholomew Diaz sails around Cape of Good Hope, South Africa for the very first time
1491  Birth of Henry VIII, June 28
1492  Christopher Columbus reaches the West Indies, first European to reach the Americas since the Vikings
1498  Vasco de Gama reaches India by sea
1501  Marriage of Arthur, Prince of Wales, to Catherine of Aragon in October
1502  Margaret, daughter of Henry VII, marries James IV of Scotland.
      Death of Arthur, Prince of Wales in March
      All books challenging Papal authority are ordered burned
1509  Death of Henry VII
      Henry VIII becomes king
      Catherine of Aragon marries Henry VIII and is crowned Queen
1513  Battle of Flodden Field (fought at Flodden Edge, Northumberland) in which invading Scots are defeated by the
      English under their commander; 70 year old Thomas Howard, Earl of Surrey
      James IV of Scotland is killed
      Ponce de Leon reaches Florida
1515  Thomas Wolsey, Archbishop of York, is made Lord Chancellor of England and Cardinal
      Death of Louis XII, Francois I ascends the French throne
1516  Birth of Mary, later Queen of England, to Henry VIII and Catherine of Aragon
1517  The Protestant Reformation begins; Martin Luther nails his “95 Theses” against the Catholic practice of selling
      indulgences, on the church door at Wittenberg
1520  Field of Cloth of Gold: Francis I of France meets Henry VIII but fails to gain his support against Holy Roman
      Emperor, Charles V
1521  Henry VIII receives the title “Defender of the True Faith” from Pope Leo X for his opposition to
      Martin Luther
      Portuguese under Ferdinand Magellan is the first to sail around the world through the Strait of Magellan
1523  English invasion of France
1524  Secret peace talks between England and France
      Turkeys from the South Americas are eaten for the first time in the English Court
1528  Plague in England
      Start of Reformation in Scotland
1529  Henry VIII dismisses Lord Chancellor Thomas Wolsey for failing to obtain the Pope’s consent to his divorce
      from Catherine of Aragon
      Sir Thomas More appointed Lord Chancellor
      Henry VIII summons the “Reformation Parliament” and begins to cut ties with the Church of Rome
1530  Thomas Wolsey dies
1531  Convocation recognizes Henry VIII as the Head of the Church of England ‘as far as the law of God allows’
      Henry VIII separates from Catherine of Aragon
      First appearance of the “great comet” (Haley’s)
1532  Sir Thomas More resigns over the question of Henry VIII’s divorce
1533  Henry VIII secretly marries Anne Boleyn and is excommunicated by Pope Clement VII
      Thomas Cranmer appointed Archbishop of Canterbury
      Anne Boleyn gives birth to Elizabeth later Queen of England
      English Parliament extinguishes Papal authority in England
1534 Act of Supremacy: Henry VIII declared Supreme head of the Church of England
1535 Sir Thomas More is beheaded in Tower of London for failing to take the Oath of Supremacy
1536 Anne Boleyn is beheaded, after being found guilty of treason
Catherine of Aragon dies
Henry VIII marries Jane Seymour
Dissolution of monasteries in England begins under the direction of Thomas Cromwell, completed in 1539
1537 Jane Seymour dies after the birth of a son, the future Edward VI
Abbot Richard Whiting is executed by hanging atop Glastonbury Tor
Henry VIII marries Anne of Cleves following negotiations by Thomas Cromwell
Henry VIII divorces Anne of Cleves and marries Catherine Howard
Thomas Cromwell executed on charge of treason
Hernando De Soto discovers the Mississippi River
1538 Ireland made a Kingdom and Henry VIII made King of Ireland
1539 Catherine Howard is executed
Mary, the future Queen of Scots, is born
Henry VIII marries Catherine Parr
Alliance between Henry and Charles V (Holy Roman Emperor) against Scotland and France
1540 Henry VIII and Charles V invade France
Henry VIII dies and is buried in Saint George’s Chapel in Windsor Castle
Edward VI is made King of England
Duke of Somerset acts as the King’s Protector
Tsar Ivan the Terrible assumes power in Russia
1541 Introduction of uniform Protestant service in England based on Edward VI’s Book of Common Prayer
1542 Archbishop Cranmer publishes Forty-two Articles of Religion
1543 Death of Edward VI
Lady Jane Grey proclaimed queen of England by Duke of Northumberland, her reign lasts nine days
Mary I, daughter of Henry VIII and Catherine of Aragon, crowned Queen of England (to 1558)
Restoration of Roman Catholic bishops in England
1544 Execution of Lady Jane Grey
1545 England returns to Roman Catholicism
Protestants are persecuted and about 300, including Cranmer, are burned at the stake
1546 Death of Mary I
Elizabeth I, daughter of Henry VIII and Anne Boleyn, becomes Queen
Repeal of Catholic legislation in England
England loses Calais; last English possession in France
1547 The Thirty-nine Articles, which complete establishment of the Anglican Church
1548 Peace of Troyes between England and France
1549 Murder of Lord Darnley, husband of Mary Queen of Scots, probably by Earl of Bothwell
Mary Queen of Scots marries Bothwell, is imprisoned, and forced to abdicate
James VI made King of Scotland
1560 Mary Queen of Scots escapes to England and is imprisoned by Elizabeth I at Fotheringay Castle
1561 Francis Drake sails around the world (to 1580)
1562 William of Orange is murdered and England sends aid to the Netherlands
1563 Expedition of Sir Francis Drake to the West Indies
Conspiracy against Elizabeth I involving Mary Queen of Scots
1564 Execution of Mary Queen of Scots for treason
England at war with Spain
Drake destroys Spanish fleet at Cadiz
1565 The Spanish Armada is defeated by the English fleet under Lord Howard of Effingham, Sir Francis Drake, and
Sir John Hawkins; war between Spain and England continues until 1603
1566 Irish rebellion under Hugh O’Neill, Earl of Tyrone (finally put down 1601)
1567 Elizabeth I grants charter to East India Company
1568 Elizabethan Poor Law charges the parishes with providing for the needy
Essex attempts rebellion, and is executed
1569 Elizabeth dies; James VI of Scotland becomes James I of England
1570 John Smith founds colony of Virginia at Jamestown
1571 King James authorizes version of the Bible published (most commonly used version today)
1572 Pilgrims sail from England on the Mayflower and found Massachusetts
Henry VIII’s Parliament

The English government is a parliamentary form of government. Parliament is made up of two sections called Houses: the House of Lords - consisting of nobles and Church officials, and the House of Commons - consisting of knights of shires and burgthers (prosperous, solid citizens) of boroughs.

There are certain powers associated with Parliament and for King’s Parliament they were as follows:

- Only Parliament could pass new taxes (called grants).
- If the King wished the law to support one of his proclamations, he had to get the law passed by both Houses.
- Speakers for the Houses could speak openly to the King and either praise or criticize royal policies with impunity.
- Parliament could give the King advice on a wide range of subjects, including his marital status.

Henry VIII’s Court and Advisors

(NOTE: This list includes notable courtiers from the entire length of Henry’s reign. You will not encounter the majority of these people at the festival since they are not being played in 1521)

Sir George Boleyn (1503-1536)
Viscount Rochford, Lord Warden of the Cinque Ports, Master of the Buckhounds, Master of Bethlehem Hospital
George Boleyn was the brother of Anne Boleyn and a member of Henry’s Privy Chamber. He served as a diplomat to France and was praised for his great wit. He was accused with four others of adultery with his sister, found guilty and beheaded at the Tower of London.

Sir Thomas Boleyn (1477-1539)
Earl of Wiltshire, Earl of Ormonde, Lord Privy Seal, Knight of the Garter Nobleman
Thomas Boleyn was a leading diplomat, politician and the father of Anne Boleyn. He was a very powerful Privy Councilor and sometimes Ambassador to France; who also had a reputation as a warrior and a scholar.

Lord Charles Brandon (1484-1545)
Duke of Suffolk, Lord Herbert, Co-President of the Privy Council, Lord High Constable, Knight of the Garter, Knight of the Order of St. Michael
Charles Brandon was a true friend of Henry VIII despite having married his sister Mary against the King’s wishes. He was one of the most influential courtiers in the realm, despite his enmity with the Boleyn’s.

Lord Henry Fitzroy (1519 - 1536)
Duke of Richmond & Somerset, Earl of Nottingham, Lord High Admiral, Warden General of the Northern Marches, Lord Lieutenant of England, Knight of the Garter
Henry Fitzroy was the only illegitimate son that King Henry acknowledged. He was raised like a prince, as his father had a particular fondness for him, and at one point, there was talk of making Fitzroy the king’s heir, though this plan was discarded. He was suspected of suffering from consumption and died at the young age of 17.

Sir Thomas Audley (1488-1544)
Lord High Chancellor, Keeper of the Great Seal of England, Speaker of the House of Commons, Baron Audley of Walden
Thomas Audley was one of Henry VIII’s most loyal courtiers who rose from humble beginnings to become one of England’s most powerful councilors. He presided over the famous assembly called the Black or Long Parliament of the Reformation, which abolished papal jurisdiction. He supported the king’s divorce from Catherine, was part of the trial of Anne Boleyn and her “lovers”, and recommended to parliament the new act of succession, which made Jane Seymour Queen.
Thomas Cranmer (1489-1556)
Archbishop of Canterbury
When Henry VIII’s petition to Pope Clement VII for an annulment of his marriage to Catherine of Aragon was refused, the King ordered Thomas Cranmer, the Archbishop of Canterbury, to grant the annulment. By rejecting the Pope’s authority and invoking his own, Henry had created a new church, with himself as head.

Sir Edward Seymour (c.1506-1552)
Duke of Somerset, Esquire of the Body, Viscount Beauchamp, Earl of Hertford
Edward Seymour was the eldest brother of Jane Seymour, who was King Henry’s third Queen, and brother of Thomas Seymour. He was a soldier and former servant to Cardinal Wolsey and Lord Henry Fitzroy. He was named Lord Protector of the boy King Edward VI, in whose name he ruled the country. He was victorious over the Scots at the Battle of Pinkie Cleugh and his position appeared secure. However, the Seymour brothers had accumulated enemies and grudges during their time in royal favor and fell from power. He was executed for treason at Tower Hill.

Cardinal Thomas Wolsey (1475-1530)
The son of a butcher, Cardinal Thomas Wolsey became one of the most influential men in Europe. His efficient working methods led Henry VII to appoint him as chaplain in 1507. After Henry VII’s death, he rose in the ranks of Henry VIII’s advisors to become both Cardinal and Chancellor in 1515, his power second only to that of the king. When Henry decided to divorce Catherine of Aragon, the royal breakup set off a political crisis. Pope Clement VII objected and Wolsey tried to change his mind — to no avail. Henry responded by creating a new church with himself as its head. Wolsey’s diplomatic failure, combined with Anne Boleyn’s suspicion of his disloyalty, landed him in the Tower of London, where he died before he could be executed. His fate would set the pattern for a succession of court officials, wives, Lords and commoners who were removed when they disappointed Henry.

Edward Stafford (1477-1521)
Duke of Buckingham
The Duke of Buckingham was a wealthy aristocrat of noble blood who served as a trusted advisor to Henry VIII. Unfortunately, with Cardinal Wolsey’s prompting, the King became both jealous and suspicious of Buckingham, who stood to inherit the crown if Henry died without an heir. For his part, the Duke became a leader of disaffected nobles excluded from high offices who had grown to resent Wolsey. While Buckingham warned the King against the Cardinal’s monopolizing influence, the Cardinal convinced the King that Buckingham was after the crown. Wolsey had the last laugh, bringing Buckingham up on treason charges for which he was executed at Tower Hill. Shortly after Buckingham’s death, the King divorced Catherine of Aragon and married Anne Boleyn.

Thomas Cromwell (1485-1540)
Thomas Cromwell was a key political advisor to Henry VIII. He came to prominence at Cardinal Wolsey’s expense. Following Henry’s divorce from Catherine of Aragon, Cromwell suggested to Henry VIII that he make himself head of the English Church and then saw the Act of Supremacy of 1534 through Parliament. His encouragement of the King’s disastrous marriage to Anne of Cleves brought about his downfall. Like so many of the King’s former advisors, Cromwell was charged with treason and executed at the Tower of London.

Lord Thomas Howard (1473-1554)
Duke of Norfolk
One of Henry VIII’s key generals, the Duke of Norfolk led England to victory against the French and Scots. With the Duke of Buckingham, Norfolk spearheaded the aristocratic assault on royal advisors like Cardinal Thomas Wolsey. He was the uncle of both Anne Boleyn and Catherine Howard, and helped both find a place in Henry’s court. The fall of Catherine Howard led to a decline in Norfolk’s fortunes and he was eventually charged with treason and condemned to die. Henry VIII’s own death, on the very day of Norfolk’s scheduled execution, saved him.

Sir Nicholas Carew (c. 1496-1539)
Master of the Horse to the King
Sir Nicholas Carew is a Gentleman of the Privy Chamber, who was raised with Henry VIII from age six, and remains one of his oldest friends. He is also Justice of the Peace for Surrey and one of England’s most famous jousters, having achieved near legendary status in the lists.
# Political Powers’ During Henry VIII’s Reign

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Rulers</th>
</tr>
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<tbody>
<tr>
<td><strong>SPAIN</strong></td>
<td>1479-1516</td>
<td>Ferdinand V</td>
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<td></td>
<td>1516-1556</td>
<td>Carlos I</td>
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<td>Ferdinand V and Henry VIII of England signed the Treaty of Westminster, pledging mutual aid between the two against France. Earlier that year, Ferdinand had conquered the southern half of the Kingdom of Navarre and annexed it to Spain. During the rule of Carlos I (aka Charles V, Holy Roman Emperor) the Spanish Empire was tremendously expanded in the New World.</td>
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<tr>
<td><strong>FRANCE</strong></td>
<td>1498-1515</td>
<td>Louis XII</td>
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<td>1515-1547</td>
<td>Francis I</td>
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<td>Louis XII proved to be a popular king, introducing reforms in the judicial system and reducing taxes. These reforms and his caring nature earned him the epithet <em>Father of the People</em>. Francis I, is considered to be France’s first Renaissance monarch. His reign saw France make immense cultural advances, though. He caused severe harm to the nation’s economic well-being by building extravagant palaces, warring with the Protestants, raising taxes, and selling government offices for quick revenue.</td>
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<tr>
<td><strong>SCOTLAND</strong></td>
<td>1488-1513</td>
<td>James IV</td>
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<td>1513-1542</td>
<td>James V</td>
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<td>1542-1567</td>
<td>Mary Stuart</td>
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<td>James IV was an energetic and popular ruler, he unified Scotland under royal control, strengthened royal finances, and improved Scotland’s position in European politics. James V upheld Roman Catholicism against the Protestant nobles and allied his country with France. Mary Stuart’s unwise marital and political actions provoked rebellion among the Scottish nobles, forcing her to flee to England, where she was eventually beheaded as a Roman Catholic threat to the English throne.</td>
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<tr>
<td><strong>OTTOMAN EMPIRE</strong></td>
<td>1481-1512</td>
<td>Bayezid II Wali</td>
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<td></td>
<td>1512-1520</td>
<td>Selim I</td>
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<td>1521-1566</td>
<td>Süleyman I</td>
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<td>By the mid-1500’s, the Ottoman Empire controlled Asia Minor, the Balkans, parts of North Africa and present day Iran, Saudi Arabia, and Syria. They were Muslims and spread their religion, called Islam, throughout the Empire. In 1571 naval forces from Spain, Venice, and the Papal states of Italy almost destroyed the Ottoman fleet at the battle of Lepanto, but the navy was rebuilt and the empire continued to grow.</td>
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<td><strong>PORTUGAL</strong></td>
<td>1495-1521</td>
<td>Manuel I</td>
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<td>1521-1557</td>
<td>John III</td>
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<td>Portugal’s overseas empire included colonies in Africa, Brazil, Malaysia, Indonesia and China. It gained great wealth from these possessions: spice from Asia, gold and slaves from Africa, and diamonds from Brazil. In 1580 Spain conquered Portugal and ruled until 1640.</td>
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<tr>
<td><strong>HOLY ROMAN EMPIRE</strong></td>
<td>1493-1519</td>
<td>Maximilian I</td>
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<td>1519-1556</td>
<td>Charles V</td>
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<td>Maximilian I, Holy Roman emperor and German king, aspired to restore forceful imperial leadership and inaugurate much-needed administrative reforms in the increasingly decentralized empire. The Holy Roman Empire came to a sort of climax in the reign of the Emperor Charles V. Charles V was the last Emperor crowned by a Pope, yet he failed in his purpose to return the Protestants to the Roman Catholic Church.</td>
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<tr>
<td><strong>RUSSIA</strong></td>
<td>1462-1505</td>
<td>Ivan III</td>
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<td>1505-1533</td>
<td>Vasili III</td>
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<td></td>
<td>1533-1547</td>
<td>Ivan IV</td>
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<td>Ivan III, known as Ivan the Great, has been referred to as the “gatherer of the Russian lands” as he conquered many of his surrounding territories. Vasili III continued the policies of his father Ivan III and spent most of his reign consolidating Ivan’s gains. Ivan IV began his reign a popular ruler, but as he grew older he became known as Ivan the Terrible for his quick and unpredictable temper. It was during his reign that the first commercial contacts between Russia and England were forged.</td>
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<tr>
<td><strong>THE CHURCH</strong></td>
<td>1503-1513</td>
<td>Pope Julius II</td>
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<td>1513-1521</td>
<td>Pope Leo X</td>
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<td>1522-1523</td>
<td>Pope Adrian VI</td>
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<td>1523-1534</td>
<td>Pope Clement VII</td>
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<td>1534-1549</td>
<td>Paul III</td>
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<td>The Reformation seriously threatened the Church’s spiritual and military power. However, in the late 1500’s the Counter-Reformation began. With Rome as the center of operations and Jesuits leading the assault, the Catholic Church sought to turn back the tide of the Protestant Reformation.</td>
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<tr>
<td><strong>JAPAN</strong></td>
<td>1465-1500</td>
<td>Gotsuchimikado</td>
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<td>1500-1526</td>
<td>Gokashiwabara</td>
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<td></td>
<td>1526-1557</td>
<td>Gonara</td>
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</tbody>
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Part II

People and Renaissance Life
His Majesty, Henry VIII, King of England

Henry VIII, who ascended the throne in 1509, was endowed with all of the qualities looked for in a Renaissance prince. He was tall, well proportioned, charming, eager to please, and very handsome. He was a keen horseman, a passionate huntsman, a formidable wrestler and a skilled and enthusiastic jouter. In addition to his physical skills, he was a gifted musician, singer and poet. He could debate theology and discuss the arts with the most learned scholars of his day. (The Pope awarded him the title of “Defender of the True Faith” for his book Assertio Septem). King Henry’s physical and mental abilities allowed him to dominate his court, as there was something for all to admire in his character, and his continual festivities at court earned him enormous popularity with his subjects.

Six weeks after his father, King Henry VII’s, death, Henry VIII married Catherine of Aragon, daughter of King Ferdinand and Queen Isabella of Spain; his deceased brother’s wife. Two weeks later the pair was crowned in a ceremony of unsurpassed magnificence. In 1516 Catherine gave birth to a daughter, Princess Mary. Catherine never provided a male heir as Mary proved to be their only child.

By 1527 Henry had fallen passionately in love with Anne Boleyn and, still lacking a male heir, he petitioned the Pope to set aside his marriage to Catherine. When the Pope refused to do so, Henry decided to defy the Pope and the rest of Europe and to ultimately destroy the power of the Catholic Church in England by secretly marrying Anne Boleyn in 1533. In May of that year, the King appointed Thomas Cranmer as Archbishop of Canterbury. Archbishop Cranmer declared Henry’s marriage to Catherine to be invalid and one week later, on June 1, Anne Boleyn proceeded from the Tower of London to Westminster to be crowned Queen of England.

The English parliament subsequently passed legislation enacting Henry’s decision to break with the Roman Catholic Church soon followed by an “Act of Supremacy” (1534) which recognized that the king was “the only supreme head of the Church of England called Anglicana Ecclesia”. King Henry VIII had secured his place in the world and in history by making himself Head of the Church of England. He answered to no one but himself and God.

Anne Boleyn presented Henry with a daughter, Princess Elizabeth, who was to become Queen Elizabeth, one of the greatest of all English monarchs. In 1536 Henry the VIII had Anne Boleyn executed for incest and adultery. A few days after Anne’s death he married Jane Seymour who died in 1537 after bearing Henry’s only legitimate son, Edward (later King Edward VI).

Henry’s fourth marriage was arranged in 1540 with Anne of Cleves in order to form a tie between England and the Protestant princes of Germany. Because Anne of Cleves was unattractive and because Henry found the political alliance no longer to his advantage, he divorced her after several months.

Henry married Catherine Howard the same year that he divorced Anne of Cleves. She was executed in 1542 for having been unchaste before marriage and having committed adultery. In the following year, King Henry married his sixth wife, Catherine Parr, who survived him.

Between 1542 and 1546 Henry VIII was involved in a war with Scotland and France. His troops defeated the Scots at Solway, Moss in 1542. They captured Boulogne-Sur-Mer, from the French in 1544 and, when peace was made in 1546, received an indemnity from France. Henry VIII died in London on January 28, 1547. Though Henry VIII was one of England’s greatest kings and his daughter Elizabeth was one of its greatest queens, all of Henry’s children died childless and his dream of a Tudor dynasty failed to happen.
Her Majesty, Katharine of Aragon, Queen of England

Katharine was born on 16 December 1485 in the archbishop of Toledo’s palace. Her early life promised a future of splendor and success. Her parents, Ferdinand of Aragon and Isabella of Castile, were legends throughout Europe. Their marriage had united the kingdom of Spain and together they had driven the Moors from Granada. Katharine’s mother was deeply pious and very intelligent. Her children, even the daughters, received excellent educations.

Katharine was promised to England; the betrothal contract was finalized before her fourth birthday. The island nation was ruled by Henry Tudor who desired to establish the stability and validity of his new dynasty. A match with a Spanish princess would give him both and so Katharine, proud and solemn and accompanied by a vast dowry, came to England in 1501.

She wed Prince Arthur in a grand celebration; all of London rejoiced and there was every expectation of a glorious future for both husband and wife. They left for Ludlow Castle in Wales, but within six months Arthur was dead of the dreaded sweating sickness. Katharine returned to London but was not sent home as Henry VII was already writing to her parents about another marriage.

Katharine was now promised to Arthur’s younger brother, Henry, who had been destined for the church and educated accordingly. Henry VII betrothed young Henry to his brother’s widow, which required a papal dispensation.

The new betrothal may have been spurred by Henry VII’s legendary avarice. Katharine had brought half of her dowry with her upon marriage to Arthur; if she returned home, her marriage contract required that the dowry be returned.

During this period, despite her royal position, she lived in poverty and was treated shabbily, to the point where the Spanish ambassador was forced to buy her necessities. She spent the next seven years in a state of political limbo.

In 1509, the situation was resolved with startling speed. Henry VII died and his eighteen year old son became king. Imbued with the romantic spirit of chivalry, he promptly married Katharine. The new monarchs acted like a loving and affectionate couple, far beyond typical royal marriages. There were public displays of affection, declarations of love and respect, and for a long while she was also a close political adviser.

Henry VIII’s court was full of gaiety and celebration, a welcome change from the austerity of his father’s rule. Katharine proved herself to be the perfect consort, and gave unwavering support and loyalty to her husband.

Katharine’s primary duty was both personal and political – to bear children. She was far from barren and did her best; in the first nine years of their marriage, she conceived at least six times. Sadly, the only surviving child was a daughter, Princess Mary, born in 1516. Katharine’s last recorded pregnancy was in 1518, when she was thirty-three years old.

It was soon clear there would be no sons. The age difference between he and Katharine was now more noticeable. The queen, struggling with frequent pregnancies and constant stress, looked older than her years. Henry was a far more prudent king than most; he had just two serious affairs during his marriage to Katharine, but one of his mistresses, Elizabeth Blount, bore him a son. It was clear he could have sons, but the queen could not.

By 1527, the question of the succession was the most pressing issue facing the king. He had fallen in love the year previously with a young Englishwoman, Anne Boleyn but did not wish to fight Katharine; he wanted an amicable end to their union and he was prepared to be generous.

In 1533, with Katherine protesting mightily, Henry did the only thing he could to end the marriage – he rejected the authority of the Holy See and declared himself Supreme Head of a new Church of England. His archbishop of Canterbury, Thomas Cranmer, issued the long-awaited decree of nullity. Katharine was no longer queen of England but ‘Princess dowager of Wales' and Princess Mary was now illegitimate. Katharine was exiled from court and to a succession of damp and unpleasant castles. Her final years were lonely and sad; the Spanish ambassador kept her informed of outside events and smuggled letters to her daughter, but she was often ill and at prayer.

She died at Kimbolton Castle on 7 January 1536, three weeks after her fiftieth birthday and was buried at Peterborough Abbey with all the ceremony befitting the widow of the prince of Wales. Henry did not attend the funeral; we do not know if he read Katharine’s last letter to him.

It was a love letter and she signed it ‘Katherine the Queen’.
Margaret Tudor
Queen of Scotland and the Isles

Margaret Tudor, second child of Henry VII, King of England and his Queen Elizabeth of York, was born at the Palace of Westminster on November 29, 1489. From the moment of her birth, she was almost immediately promised to the King of Scotland, James IV as a bride. That promise was fulfilled through the Treaty of Perpetual Peace signed in November of 1502. The union of the Thistle and the Rose, as the marriage became known, was solemnized in 1503 during a lavish wedding ceremony at the Palace of Holyrood in Edinburgh. Margaret was 13 years old and the Scottish king was 30. It was because of this union that England and Scotland would be united under one crown 100 years later at the death of Queen Elizabeth I in 1603.

The English princess, though not an avid student of arts and letters, was accomplished at archery, dance, needlework and apparently courtly intrigue. It was never her plan to stand at the helm of Scotland, but upon the death of James IV at the Battle of Flodden in September 1513, she found herself a 24-year-old single mother, pregnant and holding the reigns of ruler ship over a nation who had just lost the flower of its nobility in a war against her younger brother, Henry VIII, King of England and Ireland. Thrust into a man’s world, the young Scottish Queen mother embarked on the remainder of her 38-year reign which weathered two more marriages, two more children, one turbulent divorce, an escape to England for a year, international double dealings both for and against her own brother the English King and the deft handling of a near-civil war in Scotland with the aid of the famous Mons Meg cannon now housed in Edinburgh Castle. Though her son, James V, claimed his “majority” as King of Scotland in 1528, Queen Margaret heavily influenced his decisions for many years afterward.

Queen Margaret died on October 18, 1541 at the age of 51 of a stroke while penning a petition to the Pope to obtain a divorce from her third husband, Henry Stewart, Lord Methven. She was buried at the Carthusian Abbey of Saint John in Perth and rested there in peace until Calvinists broke into the abbey in 1559; turned her remains out of their casket and stomped them into dust.
Music of Henry VIII’s Court

The court of King Henry VIII was alive with music. King Henry VIII was a trained musician, with a large collection of musical instruments. The King played the lute and composed music. Pastime with Good Company was one of many compositions attributed to His Majesty. Music was used at the King’s Court for both ceremonial occasions and court entertainment. Court dances were sumptuous occasions, with the King, Queen, and members of the Royal Court dancing pavans, galliards, and many other dances of the day.

In addition to the King’s musicians, called “The King’s Musicke,” numerous towns employed musicians to play for civic, religious, and private occasions. Their town bands, called “Waites” played a variety of instruments. Many instruments that they played, as well as instruments used at court, might look somewhat familiar to modern eyes, and indeed evolved into the instruments we use today.

Recorders and flutes were both pleasing to Renaissance ears. They were made in sets, with various sizes from the large great bass to tiny soprano and played together “in consort.” There were also “consorts” of viols, which look like modern cellos, but differ from them in many respects. Ancestors of modern violins were present too, having been brought over from the continent. One instrument that did not survive beyond the Renaissance was the crumhorn. This “I” shaped reed instrument, with a cap covering the reed, produced a strange muted sound, and had a very limited range. Though the crumhorn died out at the end of the Renaissance period, its cousin the bagpipe lives on.

At one time, the court of King Henry VIII had 63 musicians employed, including two instrument repairmen! A musical king made this a wonderful time for musicians.

Popular and Social Dance

The earliest documentation of the social dances popular in Western Europe is from the Middle Ages. The predominant dance forms of the early Middle Ages were chain dances, in which the participants linked in a line and accompanied themselves with singing. Carol, reign, branle, and farandole were the dances most frequently mentioned in early literature. In the later Middle Ages, members of the feudal nobility concerned themselves with chivalry, knighthood, and troubadour songs, about courtly love. In this environment, couple dances began to achieve popularity. The estampie was one of the first formal couple dances; it was a slow, stately dance performed to instrumental accompaniment in the courts of Europe.

As humanism and an interest in Classical Greece and Rome became powerful ideas, dances tended to reflect secular values. In their ordered patterns, the dances of the Renaissance seem to mirror the fascination with the movements of the planets and other celestial bodies. Many of the dances were created by professional dancing masters hired by the nobility. For the first time, instruction manuals became available, showing the steps and patterns of the various court dances – the trend-setting dances of the 15th through the 18th century. The dances taught by the masters were balli and balletos, the bassadanza, and its northern counterpart, the basse danse. Dances with simple movements and gentle shifts of weight by couples who touched hands at arm’s length, the basse danse proceeded around a hall in a quiet stately manner. When the Italian noblewomen Catherine de Medicis became Queen of France in 1547, she brought to the French Royal court not only Italian influences, but also her Italian dancing master.

Dance manuals published between 1550 and 1630 describe dances such as the pavane, galliard, allemande, courante, saltarello, and volta as well as circular branles and progressive long ways dances (in which each couple repeats the dance pattern with one new couple after another). The sense of order and harmony, so important during the Renaissance, gave rise to formalized suites of dances; pavanes, for example were followed by galliards. The pavane replaced the basse danse as the usual processional dance. The galliard, with its spring leaps and kicks became a dance of male display to a more subdued female partner.
Daily Life in Renaissance England

Many important and exciting changes were taking place in 16th century England. There were great advances in the arts and sciences, the lower classes were becoming more educated, and the entire world was beginning to see England as a real power. Below are some of the changes that the Renaissance Era brought about:

Towns - London was the only city in England that could compare with the great cities of Europe such as Paris or Naples. In 1500, the population in London was about 60,000 and by 1600 that figure had more than doubled. Other towns in England were far smaller. Norwich, the second largest, had only about 20,000 people in 1600. Towns typically had one great industry such as cloth making or fishing. Houses were crowded together with little light and no running water or sewage. More permanent shops were being built to take the place of open market stalls. Even though more people could read by this time, most shopkeepers still used pictorial signs to indicate their trade. Living in town was always exciting because of the many different people you came in contact with.

Traveling - Roads were vital to the life of the country, but they were often so badly kept that it was impossible to use them. Each knight or justice of the peace was responsible for keeping the roads in good order, but it was a very difficult job. Because the roads were not good, people traveled only when necessary. Most people traveled on foot and stopped at inns along the road to rest and meet other travelers.

Shopping - There were four ways to shop: markets, fairs, in-town shops, and at home (from traveling peddlers). Markets were usually held once a week and dealt mostly in food items. The variety of goods was wider at fairs, but they were held less often. Peddlers carried a great variety of goods, which they sold in villages as well as at markets and fairs. It was always exciting when a new peddler arrived because he often brought gossip about current events as well as interesting new items.

Countryside - Life in the country would be very hard. People worked from dawn until dusk to grow enough food for themselves and their landlords. English farmers prided themselves on being freer and much better off than those on the continent. In England there were two distinct agricultural regions. In the South and Midlands, wheat and other crops were grown. In the West and North, where the soil was poorer, farmers concentrated on raising livestock. Despite the hard work, there were many festivals in the country. People would celebrate the harvest, Midsummer’s Eve, or May Day. Many festivals recalled ancient rites intended to insure that the earth would stay fertile; they were a time for dancing and celebrating.

Children - A child’s life was also hard. Children were sent to work at an early age. They had a lot of games to play and toys to play with, but illness claimed one in every three or four before the age of 10. Most children attended school of some sort in the 16th century. Members of the upper classes had private tutors, while children in villages and towns were taught at the new grammar schools being started all over the country. They were taught to read and write and learned about the Bible and about the Romans and Greeks. Boys who were not sent to school might be apprenticed to a local craftsman. They were sent away from home (usually before 10) to live in the house of the master craftsman for seven years to learn his trade and act as his servant. Poorer children were sent out to work in the fields at the age of four or five. Girls also had to help with the cooking and washing.
Customs and Mannerisms

**Men Greeting Men** - When men would greet each other, they would grasp each other’s right wrist and give a firm shake. Then they would pat each other on the back with their left hands. They did this to check sleeves and backs for weapons. Men shook right hands to prove that the men held no weapon and to make sure that the men were not left handed, which was considered to be a sign of the devil. The modern day practice of shaking hands may have evolved from this custom.

**Women Greeting Women** - Women greeted other women with the latest craze from the Continent, the “French Kiss.” Women would face each other and lightly grasp each other by the shoulders. Then they would kiss the air on either side of the other woman’s cheeks three times. One would never actually touch the cheeks for reasons of courtesy as well as fear of contracting the plague. This type of greeting is still practiced in France between both men and women.

**Men Greeting Women** - When a gentleman met a lady he would bow to her. He would present his left leg forward and put his right leg behind. Then he would bend his back leg and bend at the hips, keeping his head raised while maintaining eye-contact with the lady. The proper response to this bow would be for the lady to curtsey. First she would place her right leg slightly behind her, and then she would lightly grasp her skirts and bend at the knees, keeping her body straight and maintaining eye-contact with the gentleman. She would raise her skirts only high enough to keep them off the ground, as it was not considered proper for a lady to show her ankles or legs. An especially dashing or romantically inclined man might then proceed to kiss the lady’s hand. He would offer his hand, palm facing down, then if the lady so desired she would place her fingers lightly on top of his hand. The gentleman would ever so lightly kiss the lady’s middle finger, between the first and second knuckle, while maintaining eye-contact.

**Escorting** - Ladies were escorted by gentlemen whenever they were out walking in public. Men and women would never hold hands in public, palm to palm as they do today; this was considered quite scandalous. A bold and public display of affection was not respectful of another’s reputation. The proper way for a woman to be escorted would be either to place just a finger on the man’s hand, or to rest her entire hand on top of his. It was very important for the ladies to walk on the right side of the man because men carried their swords on their left and needed to be able to draw their sword easily if necessary.

**Gardyloo** - The term “Gardyloo” was used as a word of warning. People used chamber pots at night as an alternative to going to the outhouse. In the morning they would open their windows, shout “Gardyloo” and toss the contents of the chamber pot out the window into the street.

**Good Luck Charms** - Both peasants and nobles alike firmly believed in evil spirits and the power of good luck charms to ward them off. People often sewed tiny bells to their clothing in the belief that the noise would scare away evil spirits. People also wore crosses or crossed their fingers (in the shape of a small cross) and pointed them at someone they considered to be evil or bad luck. This is most likely where the custom of crossing your fingers for good luck comes from. A cough or a sneeze, or even a mention of a cold (thought to be a sign of the plague) was reason to cross oneself. To make the sign of the cross, touch the forehead, left shoulder, and right shoulder with the right hand.

**The Fork** - Another new trend from France was the use of the fork as an eating utensil. The fork was fairly common among the nobility, but its use was not very widespread among the peasant class. Peasants continued to eat with their fingers as they feared the fork’s tines were a sign from the devil.
Language of the 16th Century

Elizabethans loved the language. It was both their entertainment and their weapon. A quick wit was highly prized. Everyone from the lowliest peasant to the loftiest nobleman played with words. Elizabethans would never say in two words what could be said in six or seven.

Social standing and proper etiquette were very important during the Renaissance era. You could tell a lot about people’s social standing by how they addressed one another.

<table>
<thead>
<tr>
<th>Titles</th>
<th>My Liege or Your Majesty</th>
</tr>
</thead>
<tbody>
<tr>
<td>King and Queen</td>
<td></td>
</tr>
<tr>
<td>Prince or Princess</td>
<td>Your Highness</td>
</tr>
<tr>
<td>Members of the Royal Court</td>
<td>Your Grace</td>
</tr>
<tr>
<td>To Show Respect</td>
<td>M’Lord or M’Lady</td>
</tr>
<tr>
<td>Craftsman</td>
<td>Master or Mistress Artisan</td>
</tr>
<tr>
<td>Mature Man or Woman</td>
<td>Sir or Madam</td>
</tr>
<tr>
<td>Equal birth or social standing</td>
<td>Gentleman or Gentlewoman</td>
</tr>
<tr>
<td>Young boy or girl</td>
<td>Lad or Lass</td>
</tr>
</tbody>
</table>

Renaissance language was very specific. People did not use the all-purpose greeting of “Hello” or “Hi.” There were different greetings depending on the time of day. Also, etiquette might call for one to ask permission before leaving. One could also express feelings or regards for another by leaving them with a blessing or good wishes.

<table>
<thead>
<tr>
<th>Greetings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Good morning</td>
<td>Good morrow</td>
</tr>
<tr>
<td>Afternoon greeting or parting</td>
<td>Good day</td>
</tr>
<tr>
<td>Good evening</td>
<td>Good eve or eventide</td>
</tr>
<tr>
<td>Good-bye</td>
<td>I bid you adieu</td>
</tr>
<tr>
<td>Good-bye (I wish you well)</td>
<td>Fare thee well</td>
</tr>
<tr>
<td>With your permission</td>
<td>By your leave</td>
</tr>
<tr>
<td>A blessing</td>
<td>God save thee</td>
</tr>
</tbody>
</table>

The following are some insults and compliments that you might have heard in Renaissance England.

<table>
<thead>
<tr>
<th>Insults</th>
<th>Compliments</th>
</tr>
</thead>
<tbody>
<tr>
<td>You’re thick-skulled or stupid</td>
<td>Thou art most beauteous this day</td>
</tr>
<tr>
<td>You’re a coward</td>
<td>Thy voice is sweeter than that of an angel</td>
</tr>
<tr>
<td>You do not ever want to see this person again</td>
<td>Thy beauty eclipses the sun</td>
</tr>
</tbody>
</table>

Here are some other words and phrases which might prove useful throughout your day in the village of Scarborough:

<table>
<thead>
<tr>
<th>Helpful Words</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathrooms</td>
<td>Privies</td>
</tr>
<tr>
<td>Exclamation of astonishment</td>
<td>Huzzah</td>
</tr>
<tr>
<td>Amazing</td>
<td>Wondrous</td>
</tr>
<tr>
<td>Perhaps</td>
<td>Perchance</td>
</tr>
<tr>
<td>Please</td>
<td>Prithee</td>
</tr>
<tr>
<td>Come here</td>
<td>Come thee hither</td>
</tr>
<tr>
<td>Truthfully</td>
<td>By my troth</td>
</tr>
<tr>
<td>I’m sorry</td>
<td>I’m vexed</td>
</tr>
<tr>
<td>Where are you going?</td>
<td>Wither goest thou?</td>
</tr>
<tr>
<td>Where are you from?</td>
<td>From whence hail ye?</td>
</tr>
<tr>
<td>What is your name?</td>
<td>What be thy name?</td>
</tr>
<tr>
<td>What is the matter?</td>
<td>What ails thee?</td>
</tr>
<tr>
<td>What did you say?</td>
<td>What sayest thou?</td>
</tr>
<tr>
<td>What time is it?</td>
<td>How stands the hour?</td>
</tr>
<tr>
<td>It is noon</td>
<td>‘Tis midday</td>
</tr>
<tr>
<td>You are late</td>
<td>Thou art behind the hour</td>
</tr>
</tbody>
</table>
Part III

Innovations of the 16\textsuperscript{th} Century
Math and Science

The rise in the importance of science and mathematics began with the Renaissance. Before that, religious doctrine, royal decrees and superstitions ruled the thoughts of those in Western Europe. However, as more advances in science were made, rational inquiry and empirical investigation soon replaced those medieval notions.

During the 1400’s, ancient texts on geometry by Euclid and geography by Ptolemy; preserved by Arab scholars, sparked the beginnings of modern science in Europe. Scholars became interested in studying the human perspective and both theoretical knowledge and the technical skills of the artisan. Furthering this interest in rational inquiry was the invention of the printing press by Gutenberg in 1455, which led to the reprinting and distribution of hundreds of texts of the ancient world, along with new theories of life, the world, and the universe. Science and art were blended at this time, as seen in the life of Leonardo da Vinci, who was not only a painter, but also an engineer and a student of biology, mathematics, physics, optics and geology.

During the 16th Century, Europe would give full vent to the Renaissance spirit of inquiry that emerged in the 15th Century. These new advances in science would lead to the Scientific Revolution of the seventeenth and eighteenth centuries. In 1543, the astronomer Nicolaus Copernicus would be the first to theorize that the Earth and other planets revolve around the sun. In medicine human dissection was used to discover the inner workings of the body and disprove the medieval notion of the four humors controlling human health. Geography and navigation were also strengthened thanks to the circumnavigation of the Earth by Magellan in 1522, proving that the world is round and not flat.

In the early seventeenth century, Italian astronomer and physicist Galileo Galilei boosted the scientific revolution by attempting to verify physical laws experimentally and by linking the study of physics and astronomy with mathematics. Galileo created the first astronomical telescope and used it to discover the moons around Jupiter and reinforce the theories of Copernicus. By the end of the Renaissance, scientific methods and theories had taken hold of scholars, and new societies devoted to science and mathematics were formed in England, France and Italy. The Europeans had become the most scientifically advanced people in the world at that time.

Leonardo da Vinci

Leonardo da Vinci, a true Renaissance man, embodied the spirit of discovery of the Renaissance period. The scope of his work was unequaled in his time. Best known for works such as the Mona Lisa and The Last Supper, he was a painter, inventor, engineer, architect, sculptor and scientist. His lifelong pursuit of knowledge is a model for us all.

Born in 1452 near the village of Vinci, Italy, he showed his artistic talents at an early age and was apprenticed in 1469 to one of the leading Renaissance masters, Andrea Verrocchio. His skills soon surpassed his master and he joined the painters’ guild in 1472. Da Vinci’s works are scattered throughout Italy and France, as he was constantly moving during his life.

By the 1490’s da Vinci’s interest in non-artistic matters became apparent. He studied anatomy and biology using living models and dissecting animals and human cadavers to discover their inside workings. The natural world also drew his attention; the stratification of rocks, the flow of water, the growth of plants, and the action of light were all subjects of his studies. His interests also encompassed math and physics. The knowledge gained from these studies was put to good use in his scientific and architectural drawings, as well as adding to the quality of his artistic works.

Da Vinci’s notebooks, called the Codex Atlanticus, contain anatomical drawings and such information as how to grind lenses, construct canals and fortifications, and build flying machines and helicopters. These books only became widely known in the twentieth century, with two new notebooks found in Madrid in 1965. The curious left-to-right writing in these notebooks can be easily read in a mirror. May 2, 1519 marked the death of Leonardo da Vinci and he was buried in the cloister of San Fiorentino in Amboise.
Inventions & Ideas of the Renaissance

1455  Johannes Gutenberg produced the first large printed book, *The Gutenberg Bible*, using movable type
1476  Copperplate (intaglio) engravings developed
1497  Newfoundland discovered by John Cabot
1500  First flying machine built by Wan Tu
1500’s Paracelsus determines that disease is caused by an agent outside the body
1509  Peter Henlein builds the “Nuremberg Egg” - a spring driven clockwork watch
1519  Chocolate introduced as a beverage in Spain
1528  Earthenware pots stuffed with explosives were the first hand grenades
1543  Nicholaus Copernicus publishes his theory that the Earth orbits the Sun
1550  Modern violin evolves from medieval fiddle
1555  Nostradamus publishes his book of predictions, *Centuries*
1556  Water driven mine pump invented
1557  Equals symbol (=) used for the first time
1565  Human dissection allowed for the first time in England by London’s Royal College of Physicians
1569  Gerardus Mercator created the first map plotting a curved surface as straight lines – he later published an atlas containing 107 maps
1589  William Lee invents a knitting machine
1590  Viete, the inventor of symbolic algebra, wrote *Introduction to the Analytic Art*
1590  Hans & Zacharias Janssen create the first microscope, which didn’t become popular until the 1660’s
1592  The Ruins of Pompeii, Italy, are discovered by workers digging an underground tunnel
1593  Galileo Galilei creates the first Thermoscope (measures temperature changes in the air)
1593  Sir Richard Hawkins recommends oranges and lemons to prevent scurvy at sea
1594  John Harrington creates the first flush toilet, though the idea didn’t catch on until drainage systems were installed in major cities
1599  First sailing of a two-masted yacht
1602  The Bodleian Library, the first public library in Europe, opens in Oxford, England
1608  Hans Lippershey invents the first Telescope, called a spyglass
1614  John Napier, a Scottish mathematician, publishes *Marvelous Canon of Logarithms*
1642  Blaise Pascal invents the first calculator to help his father, a tax collector
1643  Evangelista Torricelli builds the first barometer
1649  Pierre Gassendi publishes the theory that matter is made up of atoms
1650  Toothbrushes are rediscovered in Europe, the original idea came from the Chinese
1658  Red blood corpuscles first observed by Jan Swammerdam
The Arts

In art, the decisive break with medieval tradition occurred in Florence in about 1420 with the invention of linear perspective, which made it possible to represent three-dimensional space on a flat surface. The works of the architect Filippo Brunelleschi and the painter Masaccio are dazzling examples of the use of this technique.

Another spectacular innovation was the sculptor Donatello’s bronze David, the first life-sized nude since antiquity. From the mid-15th century on, the classical form was rejoined with classical subject matter, and mythological motifs derived from literary sources adorned palaces, walls, furniture and plates. Pisanello reintroduced the ancient practice of striking medals to commemorate eminent figures such as the Florentine statesman Cosimo de Medici. Portraits of notable figures emphasizing individual characteristics were painted by Piero della Francesca, Andrea Mantegna, and Sandro Botticelli. The Renaissance ideals of harmony and proportion culminated in the works of Raphael and Michelangelo in the 16th century.

### Renaissance Artists

<table>
<thead>
<tr>
<th>NAME</th>
<th>LIFE</th>
<th>MEDIA</th>
<th>FAMOUS WORKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filippo Brunelleschi</td>
<td>1377-1446</td>
<td>Architect</td>
<td>Dome on the Florence Cathedral</td>
</tr>
<tr>
<td>Donatello (Donato di Niccolo di Betto Bardi)</td>
<td>1386-1466</td>
<td>Sculptor</td>
<td>David, Saint George</td>
</tr>
<tr>
<td>Fra Angelico (Guidolino di Pietro)</td>
<td>1400-1455</td>
<td>Painter</td>
<td>The Annunciation</td>
</tr>
<tr>
<td>Masaccio (Tomaso di Ser Giovanni di Mone)</td>
<td>1401-1428</td>
<td>Painter</td>
<td>The Holy Trinity, first to use linear perspective</td>
</tr>
<tr>
<td>Sandro Botticelli</td>
<td>1445-1510</td>
<td>Painter</td>
<td>Birth of Venus, Primavera, Mars and Venus</td>
</tr>
<tr>
<td>Michelangelo Buonarotti</td>
<td>1475-1564</td>
<td>Painter, Poet, &amp; Sculptor</td>
<td>Sistine Chapel - Creation of Adam, David, Moses, Pieta</td>
</tr>
<tr>
<td>Raphael Sanzio</td>
<td>1483-1520</td>
<td>Painter</td>
<td>The Marriage of the Virgin, Creation of Adam, St. George and the Dragon, Stanza della Segnatura</td>
</tr>
<tr>
<td>Titian (Tiziano Vecellio)</td>
<td>1488-1576</td>
<td>Painter</td>
<td>Assumption of the Virgin, Bacchus and Ariachne</td>
</tr>
<tr>
<td>Hans Holbein, The Younger</td>
<td>1497-1534</td>
<td>Painter</td>
<td>The Ambassadors, Dance of Death</td>
</tr>
<tr>
<td>Andreas Vesalius</td>
<td>1514-1614</td>
<td>Draftsman</td>
<td>On the Structure of the Human Body</td>
</tr>
<tr>
<td>El Greco</td>
<td>1541-1614</td>
<td>Painter &amp; Sculptor</td>
<td>Disrobing of Christ</td>
</tr>
<tr>
<td>Peter Rubens</td>
<td>1577-1640</td>
<td>Painter</td>
<td>The Artist and His Wife, Isabella Brant</td>
</tr>
</tbody>
</table>
## Major Literary Figures of the Renaissance

<table>
<thead>
<tr>
<th>NAME</th>
<th>LIFE</th>
<th>FAMOUS WORKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dante Alighieri</td>
<td>1265 – 1321</td>
<td><em>Divine Comedy</em></td>
</tr>
<tr>
<td>Francesco Petrarch</td>
<td>1304 – 1374</td>
<td><em>Canzoniere</em> (366 sonnets)</td>
</tr>
<tr>
<td>Giovanni Boccaccio</td>
<td>1313-1375</td>
<td><em>Decameron</em></td>
</tr>
<tr>
<td>Geoffrey Chaucer</td>
<td>c.1340-1400</td>
<td><em>The Canterbury Tales</em></td>
</tr>
<tr>
<td>Sir Thomas Malory</td>
<td>? - 1471</td>
<td><em>Morte d’Arthur</em></td>
</tr>
<tr>
<td>Desiderio Erasmus</td>
<td>c.1446 - 1536</td>
<td><em>The Praise of Folly</em></td>
</tr>
<tr>
<td>Niccolo Machiavelli</td>
<td>1469-1527</td>
<td><em>The Prince</em></td>
</tr>
<tr>
<td>Sir Thomas More</td>
<td>1478 - 1535</td>
<td><em>Utopia</em></td>
</tr>
<tr>
<td>Michel de Montaigne</td>
<td>1533 - 1592</td>
<td><em>Essays</em></td>
</tr>
<tr>
<td>Miguel de Cervantes</td>
<td>1547 - 1616</td>
<td><em>Don Quixote</em></td>
</tr>
<tr>
<td>Edmund Spencer</td>
<td>c.1552 - 1599</td>
<td><em>The Faerie Queen, The Shepheardes Calendar</em></td>
</tr>
<tr>
<td>Christopher Marlowe</td>
<td>1564 - 1593</td>
<td><em>Doctor Faustus</em>, opened the first theatre in Europe</td>
</tr>
<tr>
<td>William Shakespeare</td>
<td>1564 - 1616</td>
<td><em>Romeo and Juliet, Macbeth, Hamlet, The Tempest</em></td>
</tr>
</tbody>
</table>

## William Shakespeare

William Shakespeare was born in Stratford-on-Avon to middle-class parents. He attended grammar school, but did not go to study at a University. At the age of 18, Shakespeare married Anne Hathaway, who was 26. They had three children. Shakespeare left Stratford sometime after that and traveled to London where he became an actor. The popularity of new playhouses in London created a great demand for plays. Shakespeare’s first play to be performed on stage was *Henry VI*. In 1599, he invested in a company of actors begun by James Burbage, the man who had built the first London playhouse. Together the two men built the Globe Theatre, where many important plays of the period were performed.

Shakespeare’s plays included tragedies, comedies, and histories. The main character in his tragedies was always doomed to death in the end. His comedies were full of mistaken identities, women disguised as men, and other silly complications. His histories told stories of kings and great noblemen in exciting situations, such as war or rebellion. No matter what type of play he wrote, his characters and the words they spoke were very original and entertaining.

King James I loved the theatre and during his first week in London took over the patronage of Shakespeare’s acting company. From then on they were known as the King’s Men.

At the age of 47 Shakespeare returned to Stratford. Although he did write a few plays, the rest of his life was spent quietly with his family. Through the years some have tried to suggest that Shakespeare did not write the plays to which he was given credit; they suggest a nobleman, but it would have been someone who wished to remain anonymous. Those who knew Shakespeare never doubted he was the author. His friend and fellow playwright, Ben Johnson, wrote of him, “He was not for an age, but for all time.”
Part IV

Crafts of the Renaissance
Crafts of the Renaissance

All of these crafts are demonstrated throughout the Festival during Student Days.

Glassblowing

Glass is a material that has been known to humankind for over 5,000 years. The art of working glass is believed to have begun around 3500 BC in Iran or Iraq. During the reign of the Egyptian pharaohs, glass was the most precious of all materials. The blowpipe, a Roman invention of around 400 BC, made glass more available and affordable.

The hand blown techniques we use today were developed between 400 BC and the birth of Christ. Glassblowing has never been a “lost art.” Its history is rich and consistent with centers in Persia, the Islamic countries, Italy, Northern Europe, and France. The main English contribution was of a truly clear glass during the English Renaissance. With the recent advent of the “studio art glass movement,” the United States has become a true center of contemporary glass.

In the glassblowing process, a wrap or “gather” of molten glass is taken from a 2400º furnace and gathered onto the end of a preheated blowing iron. The pressure of the air, the angle at which the pipe is held, the speed at which the glass cools and the handling of the glass by the glassblower control the size, shape, and wall thickness of the glass. Using simple tools, the glass is formed into different shapes by the glassblower as the blowpipe is twirled on a special bench. During the shaping process, the glass is reheated as needed to allow easy forming. This portion being complete, the glass is then transferred to a solid steel rod called the “pontil” or bridging iron, and the mouth of the piece of glass is reheated, opened, and fashioned to its completion. The piece of glass is then put into a separate oven at a temperature of 1000ºF. At the end of the day, this oven is turned off and the glass inside is allowed to anneal or cool slowly for at least 12 hours.

Glass is technically a super-cooled liquid, having a random network of molecules instead of an ordered molecular structure, such as that in metals. Glass’s main ingredient is sand, which fuses at temperatures above 3000ºF. To the sand is added an accurate measurement of soda or potash, and sometimes oxide of lead. These act as fluxing agents and bring melting temperatures into the 2000ºF range. Glass should be considered an alloy of oxides.

The Gutenberg Press

The invention of both movable type and the process of printing have been wrongly attributed to Johannes Gutenberg. The Chinese invented movable type many years before Gutenberg was even a twinkle in his father’s eye; 6 to 7 centuries before his time. Little came of the Chinese invention of movable type because the Chinese alphabet is a pictorial alphabet with thousands of different characters. Therefore, it was far more practical for the Chinese to carve their thoughts into a block of wood and use that as a “printing press.”

It is unlikely that Gutenberg was aware of the Chinese efforts. In the 1430’s or 1440’s Gutenberg started secretly working on a new idea. The only records we have are court records, but it is obvious that he was attempting to come up with a method of automatic handwriting. By the early 1450’s Gutenberg had perfected his process and by 1455 what we know today as “The Gutenberg Bible” was a reality. Gutenberg’s invention was a hand held adjustable mold that enabled him to cast alphabets with letters of the same height and depth so that they could be placed side by side to form words, sentences, paragraphs, and pages. Once the page had been printed, the letters could be taken apart and reused to make up another page.
Bookbinding

The practice and art of binding books in the form we all recognize began before the second millennium. Until almost the end of the 19th century, all books were made one-at-a-time by hand. Pages of parchment or paper were folded into groups called quires or signatures, and then sewn together. Early books were protected by wooden boards covered with leather. Queen Elizabeth I owned a Bible covered in red velvet with silver coins and other decorations. One type of book, called the codex, makes it as easy to find the middle of the book as the start or finish.

There are many steps in binding a book, and even simple books take many hours to finish. Some tools of the trade include hammers, sharp blades, and book presses. Even after more than 1,000 years, the basic bound book cannot be improved.

The Blacksmith

Throughout most of recorded history man has worked the black metal, iron. The rush of air from the bellows, the fiery glow of the forge, the incandescent metal yielding to the measured blows of the smith on the ringing anvil; these are the sights and sounds of the smithy that have fascinated humankind for hundreds of generations, inspiring myth, lore, and poetry in all societies.

The term “blacksmith” describes a metalworker, or “smith,” who shapes black metal, or iron, as distinguished from the tinsmith, who works with white metal, or tin. In a very real sense the smith controls the essential elements; earth, air, fire, and water, bringing them together in carefully directed concert to produce the tools, utensils, hardware, and ornaments of everyday life. Under the skilled eye of the smith, shapes of the most delicate and exquisite nature are produced, almost in defiance of the simple processes, crude tools, and unyielding materials of the art. Hand forged ironwork is valued for more than its durability and longevity. Due to its formation under the myriad blows of the hammer, each piece has its own character: no two articles are exactly the same.

Blacksmithing, once the guiding light of civilization, is today but a glowing ember in the hands of a few hundred dedicated individuals.
The development of material armor has been with us since man first started waging war. At first armor was produced using leather, fabrics, and other readily available material. With the advent of the Bronze Age, armorer learned to create armor using bronze plate.

Bronze, leather and quilted material remained the mainstay of armor even after the discovery of iron, with iron being used only for offensive weapons such as swords and spears until about the third century BC. Although the origins of iron usage for armor remain obscure, the Republican Roman army was using chain mail harnesses.

Chain mail was used consistently, in various geographical areas, well into the 19th century. Although the fact is hotly debated, archaeological evidence seems to suggest that steel was used in weaponry from the 4th century BC. We certainly know that steel swords, were being used against the Gallic tribes by the time of Julius Caesar. The Romans developed legionary armor (the Lorca Segmentata), which changed the face of warfare for almost 250 years. By the 6th century AD, chain mail, being easier to produce than full body armor, was back in vogue in Europe.

The transitional period of armor began in the early to mid – 14th century, when plate was incorporated with chain. Chain mail was used as supplementary protection on the arms, armpits, and other areas where plate armor could not offer protection without sacrificing maneuverability. However, armorers quickly mastered the art of protecting the entire body with plate.

For approximately 200 years, knights in shining armor ruled the field, although compared to the rest of the armies; the knights were few in number. Armor was exceedingly expensive and was used and reused. By the 15th century, full articulation, maximum movement, and maximum protection had been perfected. Now armorers began to make armor more fanciful. By the mid-1500’s, armor was highly ornate, and even more outrageously expensive. There were times when the practicality of a piece of armor was superseded by its decorative effect.

While armor was becoming obsolete in the old world due to changes in military tactics and the introduction of firearms, it was still used extensively in the new world due to the nature of the opponents’ weaponry.

Essentially there were three types of arm armor:
- Parade armor, which was generally lighter and more ornate
- Field armor used in actual combat
- Jousting armor, which was thicker, composed of extra pieces and therefore heavier

Full field plate, on the average, weighed between 50 and 70 pounds; no more than a modern American soldier carries with full kit and combat gear. The image of a knight being hoisted onto his horse is erroneous – knights had no trouble mounting their steeds alone.
Mapping the Festival

Proficiency Outcomes: Math

Grade 6
- Collect data, create a table, picture graph, bar graph, circle graph, or line graph, and use them to solve application problems.
- Read, interpret, and use tables, charts, maps, and graphs to identify patterns, note trends, and draw conclusions.
- Use ratios and proportions to solve application problems.

Grade 9
- Compare, order, and determine equivalence of fractions, decimals, percentages, whole numbers, and integers.
- Solve and use proportions.
- Read, interpret, and use tables, charts, maps, and graphs to identify patterns, note trends, and draw conclusions.
- Use ratios and proportions in a wide variety of applications.

Objectives:
Students will:
- Collect distance measurements from one point to another and create a table to help them determine the scale of a given map.
- Create a key to describe the buildings, structures and landmarks within the park.
- Compute with whole numbers, fractions, and decimals.
- Convert, compare, and compute with common units of measure within the same measurement system.
- Select and compute with appropriate standard and metric units to measure within the same measurement system.
- Calculate averages

Materials:
- Attached Scarborough Faire Renaissance Festival map and worksheet.

Discussion:
The following map activity was designed to be flexible. Use all, some, or none of the suggestions given depending on your students’ needs. The measurements on the map were taken from the center of the bridge to the entrance of the ride or as marked on the map. A consistent, comfortable stride should be maintained. When measuring your stride take care to make the stride as natural as possible. To minimize the amount of error taken during the field measurements, have students work in pairs and calculate the average. Table 1 can be completed prior to the field trip. You can give your students practice converting units if you let them select their own units to measure their stride and then force them to compare their stride measurements with other students in a specified unit.

After both tables have been completed, determine the scale of the map by taking the ratios of the distances on the map and in the field, making sure to use the average. Students will realize that the ratios will not be the same, implying that the map is not to scale with the actual distances.

Challenge
- Have students with strong math and problem solving skills create an accurate map by surveying the land.
- Have students brainstorm for ideas. Use the scientific method as an approach to solving the map problem.
Here is some data for you to use. The units are in feet. For comparison all units should be in one set of units, generally centimeters are appropriate.

### Table in Centimeters

<table>
<thead>
<tr>
<th>On Map Distance</th>
<th>Yorkshire Tower &amp; Dungeon</th>
<th>Crown Stage</th>
<th>Jousting Arena</th>
<th>Crown Pavilion</th>
<th>The Maze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles Crossing Bridge</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village’s Crossing Bridge</td>
<td></td>
<td></td>
<td>9.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Gate</td>
<td>11.5</td>
<td>4.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peg Leg Stage</td>
<td></td>
<td></td>
<td></td>
<td>20.7</td>
<td></td>
</tr>
</tbody>
</table>

### Table in feet

<table>
<thead>
<tr>
<th>On Map Distance</th>
<th>Yorkshire Tower &amp; Dungeon</th>
<th>Crown Stage</th>
<th>Jousting Arena</th>
<th>Crown Pavilion</th>
<th>The Maze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles Crossing Bridge</td>
<td>???</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village’s Crossing Bridge</td>
<td></td>
<td></td>
<td>???</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Gate</td>
<td>???</td>
<td>???</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peg Leg Stage</td>
<td></td>
<td></td>
<td></td>
<td>???</td>
<td></td>
</tr>
</tbody>
</table>

\[
\frac{2.8}{100} = 0.028 \quad \frac{5.4}{300} = 0.018 \quad \frac{2.2}{170} = 0.013
\]
Discovery of the Scarborough Faire Renaissance Festival
Map Worksheet

Student Names: ______________________  ______________________
(A)  (B)

1. Each student should take and record their measurements.

Table 1. On Map Distances

<table>
<thead>
<tr>
<th>On Map Distances</th>
<th>Yorkshire Tower &amp; Dungeon</th>
<th>Crown Stage</th>
<th>Jousting Arena</th>
<th>Crown Pavilion</th>
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<tr>
<td>Front Gate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peg Leg Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Students

| (A) | (B) | Avg | (A) | (B) | Avg | (A) | (B) | Avg | (A) | (B) |

Table 2. Actual Distance:

<table>
<thead>
<tr>
<th>Actual Distances</th>
<th>Yorkshire Tower &amp; Dungeon</th>
<th>Crown Stage</th>
<th>Jousting Arena</th>
<th>Crown Pavilion</th>
<th>The Maze</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Peg Leg Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Students

| (A) | (B) | Avg | (A) | (B) | Avg | (A) | (B) | Avg | (A) | (B) |

Show work when necessary

1. Compare the ratios of the map distance over the actual distance to determine the scale of the map.  
(Show work)

2. What does the result tell you about the map?
Vengeance with Vegetables
(Elementary, Middle)

Proficiency Outcome: Math and Science

Grade 6
- Use variables to describe arithmetic processes, to generalize arithmetic statements and to generalize a problem situation.
- Predict the influences of the motion of some objects on other objects.

Grade 9
- Apply the concepts of force and mass to predict the motion of objects.

Materials: a stopwatch, data table, paper and pencil

Discussion:
Students should be aware that in order to get an object to move, something has to be done to the object. It could be shoved in one direction or it could be thrown up, out or down. Either way, a force is involved. Demonstrate to students that different movements can be obtained by applying different amounts of force in different directions. If you want to hit the face on Vegetable Vengeance, you have to apply a force in that direction, but you also have to account for the force of gravity. The effect of gravity will be small, but if you observe closely you will see that it does fall toward the ground. Ask younger, less knowledgeable students how the game would change if the distance between you and the face getting the vegetables would increase. You have to apply more force. In addition, as the distance increases, the object that is thrown will have to be thrown higher into the air to offset the force of gravity. Have students take time measurements between throwing a vegetable straight to the person’s face and throwing a vegetable up in the air but still towards the person’s face. Have students write down their observations and/or draw the shape the object followed.

For more knowledgeable students, have them time a vegetable with a small force (perhaps one that does not make it to the person), and then a large force.
Vengeance with Vegetables
(High school)

Proficiency Outcomes: Math and Science
Grade 12

- Estimate answers, compute, and solve problems involving real numbers.
- Use fundamental forces to explain and make predictions about motions and changes in systems.

Discussion:
When the insults start flying at the Vegetable Vengeance game, you will want to sharpen your math skills to hit the target. The key is to know how far away you are from the face and how fast gravity will pull the tomato towards the earth. For a real challenge, determine the height above the target you must aim at in order to offset the effects of gravity and hit the target.

Gravity will cause the object to accelerate towards the ground (the center of the earth) at a rate of \( \frac{32 \text{ ft}}{s^2} \). This means; for every second the object spends in the air, it will change its velocity an additional 32 ft/s.

**NOTE** - Students must try to maintain the same force each time a tomato is thrown. Otherwise, this variable will make a big difference in the outcome of this experiment.

Have students demonstrate an understanding of vector components by drawing the resultant vector and identifying the horizontal and vertical components. The following measurements were taken at the Ohio Renaissance Festival Vegetable Vengeance game.

64”

534”
Crow’s Nest
(Middle, High School)

Proficiency Outcomes: Science

Grade 9
- Apply the concept of energy transformations in mechanical systems.
- Apply the concept of force and mass to predict the motion of objects.

Grade 12
- Trace energy transformations, and/or apply the principles of mass/energy conservation to physical systems.
- Use fundamental forces to explain and make predictions about motions and changes in systems.

Discussion:

Energy is defined as the ability to do work. There are many types of energy, including kinetic, potential, electrical, heat, nuclear energy and more. For this ride we will be primarily concerned with these types of energy: gravitational potential energy and kinetic energy. An object can have energy because of its position or because of how fast it is traveling (speed or velocity).

The Law of Conservation of Energy states that the amount of energy that is put into the system (in this case the ride is the system) is exactly what can be taken out of the system. The enjoyment of movement is received because of the energy (work) someone else put into it. Energy is put into the system (by the ride-laborer) and a gravitational potential energy is established. Once the ride-laborer lets go of the ride, the gravitational potential energy is converted into mostly kinetic energy. An undetectable amount of energy will be lost in other areas. NOTE - You will not be able to calculate every area that will experience a loss of energy. The friction in the ropes and the pole and the air resistance from the basket and people are good examples. You may choose to give an allowance for that loss.

Teachers note - Ask students to come up with other possibilities of loss of energy. Hooks and ropes tied at the top and at the bottom on the basket, air resistance of ropes, basket, and people are some examples of loss of energy. Wind plays a role, if it is strong enough. The ride consists of a pole with eight ropes tied to a basket (see spec. on subsequent page). As the ride-laborer turns the basket around the pole, the ropes wrap around the pole. Once the ride is let go the basket turns around the pole as the ropes unwind.

Energy is neither created nor destroyed. It merely changes form.

For example, after all of the ride-laborers put an amount of work (force x distance) into the system it would then have a certain amount of potential energy due to the gravitational force pulling everything towards the center of the earth. Before the ride-laborers release the ride it has only potential energy and no kinetic energy. Why? The kinetic energy is zero because it is not moving (velocity = 0). Zero multiplied by anything is zero. Therefore, kinetic energy is zero just before the ride-laborers let it go. Halfway through its descent, however, there is 50% potential and 50% kinetic energy. What the ride had in potential energy is being turned into kinetic energy. Evidence of this exists as you observe the ride going faster. Once the original height (the ride at rest “h”) is achieved there is 0% potential energy. However, the kinetic energy it achieved by losing potential energy. Kinetic energy transferred back into potential energy (minus the loss of heat energy due to friction) on the way back up. The height that the ride will achieve on the second round will be less than the original height because of the loss of energy due to frictional forces.
Crow’s Nest Continued

Friction Activity - Have students rub their hands together as fast as they can. See who thinks they can get their hands the warmest.

The gravitational potential energy depends on three things: the total mass of the object, the value of "g" (on earth "g" is 9.8 meters per second squared) and the height the object is from the surface (the ground). Remember also, that "g" is going to stay the same whether we are talking about you or someone else on earth no matter how large their mass is. What is the reason for this phenomenon? The gravitational force is dependent upon your mass and the mass of the earth; the earth’s mass is so large that our mass is insignificant. It would be comparable to someone giving you a paper clip while you are on the bathroom scale. It will make an insignificant difference.

Ride Specifications:
- Ride height (h) = 6 ft = 2m
- Width of base to ropes (b) = 16 ft
- weight of basket alone = 680 kg
- gravitational force (g) = 9.8 m/s²

Write your answers in complete sentences.
1. What happens to the distance between the basket and the ground (“d”) as the eight ropes wrap around the pole? (The distance increases.)
2. What is causing the ropes to wrap around the pole? (the work put in [input] by the ride-laborer)
3. What happens to the distance between the basket and the ground “d” as the ropes unwind? (The distance decreases.)
4. What is causing the ropes to unwind? (force of gravity - Gravitational Potential Energy)
5. Suppose the ride contains 14 people that have an average weight of 115 kg. The potential energy can be determined if you know the total weight of people and basket at the end of the ropes. Determine the total weight of the ride. \((115 \text{ kg} \times 14) + 680 \text{ kg} = 2290 \text{ kg}\)
6. Calculate the amount of gravitational potential energy established by the ride-laborers just before they let go. \(m = 2290 \text{ kg} \quad g = 9.8 \text{ m/s}^2 \quad h = 6 \text{ ft} = 2 \text{ m}\)
   \[
P.E. = mgh = 2290 \text{ kg} \times 9.8 \text{ m/s}^2 \times 2 \text{ m} = 4488.4 \text{ kgm}^2/\text{s}^2 = 4488.4 \text{ Joules}
   \]
7. Is it possible to determine how fast you would be going at this point in the ride? (yes) Explain. See answer below
8. Using the Kinetic Energy equation, solve for “\(v\)”, assuming the loss of energy in other areas is small.
   \[
   K.E. = \frac{1}{2} mv^2 \quad \rightarrow 2(KE) / M = v^2 \quad \rightarrow \sqrt{2(KE)/M} = v
   \]
9. Assuming friction is enough to be insignificant, and based on the Law of Conservation of Energy, what would the kinetic energy be just as the basket reaches the original height (before the ride begins and while the basket is at rest)? All of the potential energy is converted to kinetic energy (since friction is insignificant). Using the formula in question 8 the numerical answer is 13 m/s or 43 ft/s if you are using the English system. I would recommend all formulas use the Standard International Units SI).
10. Why does the ride go back and forth a few times before it comes to rest? (Hint - it involves a law of conservation.) (Conservation of Energy, watch closely and you will see that the ropes wrap up the pole converting kinetic energy to potential energy and momentarily the ride’s speed will be zero. If all frictional forces could be eliminated, then the ride would continue going back and forth forever.)
Sea Dragon
(Middle, High School)

Proficiency Outcomes: Science

Grade 9
- Apply the concept of energy transformations in mechanical systems.
- Apply the concept of force and mass to predict the motion of objects.

Grade 12
- Trace energy transformations, and/or apply the principles of mass/energy conservation to physical systems.
- Use fundamental forces to explain and make predictions about motions and changes in systems.

Discussion:
Anything that is in motion has kinetic energy. The Law of Conservation of Energy states that energy is neither created nor destroyed but merely changes form. When the dragon is pushed by the ride-laborer, work is put into the system and potential energy is established. The amount of potential energy is determined by the height the dragon is raised from the rest position, the mass of the dragon and riders and the gravitational force of the planet that the ride is on. More information can be found at the beginning of this chapter.

In a perfect pendulum (no friction) the ride would continue to go back and forth and always reach the same height on both sides. Unfortunately, we live in a world with a frictional force and therefore must experience less time riding rides and more time adding things into an equation. When the ride-laborer pushes the ride as high as he possibly can, “h” can be determined. Once the (gravitational) potential energy is known, the velocity of the system (ride) in the middle of its swing (the resting position at the beginning of the ride referred to as the equilibrium point) can be calculated. This means that as the swing goes back and forth it passes through the point where the ride was at rest when the riders were loaded on. At this point we will have all kinetic energy and zero potential energy. That kinetic energy is what allows the ride to continue on to the upswing. As we discovered in the Crow’s Nest, the kinetic energy is converted to potential energy. With each back and forth motion the ride loses some energy in the form of heat due to friction and will bring the riders up to the highest point possible (which will not be as high as it was in the previous back and forth motion).

The ride-laborer keeps the ride going by adding additional energy as the swing passes by. This additional force involves other concepts such as momentum and vectors, which will be developed in the future. Feel free to explore the concepts with your higher level students.

Now back to the pendulum concept. There are various types of pendulums. This ride is an example of a pendulum (albeit not a perfect or simple one) as well as a board swinging from one end and a tire swinging on a rope etc. You may want students to list other examples. In a simple pendulum an object (the pendulum “bob”) swings freely on a string. The string must be able to be considered massless in comparison to the mass of the bob. The period of a pendulum is the time taken (in seconds) to complete one back-and-forth swing. To a high degree of precision, the period depends only upon the length of the pendulum and not upon the angle of swing. (This is true as long as the angle of swing does not exceed 5 or 6 degrees. As the angle - the amplitude- gets larger, the period does also, but the effect is hardly measurable unless large angles are used.) The longer the length of a pendulum; the longer its period. In this ride large angles are being used. In addition, the pendulum is not a simple one. However, students will be able to relate the ride to pendulum motion. You may want to demonstrate a simple pendulum to students before the field trip.
The equation for the period of a simple machine is as follows:

\[ t = 2\pi \]

Where \( t \) is the period, \( l \) is the length of the pendulum (measured to the center of mass of the pendulum bob), and \( g \) is the force (acceleration) of gravity.

Teachers notes - Investigating Pendulums
In a pendulum, the mass of the ball does not affect the period.

Ride Specifications:
- Length of pendulum = 5 m
- Gravity (g) = 9.8 m/s²
- Mass of dragon = 430 kg
- Height = 9 m

Write your answers using complete sentences.

1. Suppose the ride holds 6 people with an average weight of 115 kg each, what is the mass of the ride?
   \{(115 kg \times 6) + 430 kg = 1120 kg\}

2. Calculate the gravitational potential energy established by the ride-laborer just before he lets go.
   \[ P.E. = mgh = 1120kg \times 9.8 \text{ m/s}^2 \times 5 \text{ m} = 98,784 \text{ J} \]

3. Determine the velocity (speed with direction) of the ride as it reaches the equilibrium point.
   \[ \{K.E. = \frac{1}{2}mv^2 \} = v^2 = \sqrt{\frac{2KE}{M}} \]

4. Why is the velocity the same in this ride as it was for the Crow’s Nest? (Because the riders reach the same height and because the mass cancels out of the equation.

5. Determine the period (time it takes to go back and forth) of this ride?
   \( t = 2\pi = 4.5 \text{ s} \)

6. Using your knowledge of a pendulum explain how you could make the ride last twice as long? (Since mass is not a factor in the period of a pendulum, the only way to make the ride last twice as long is to increase the length of the ropes by a factor of four - remember that the square root of the length is being taken.)
Poetry Slam
(elementary, middle, and high school)

Proficiency Outcome: Language Arts and English

Grade 6
- Generate a list of rhyming words
- Review sample poems
- Display understanding by creating a two line poem using the word list or other rhyming pairs.

Grade 9
- Distinguish differences in rhyming schemes, such as ABAB and AABB
- Review rhyming schemes of sample poems
- Distinguish differences in the rhythms of poetry. Whether soft - hard or hard - soft, duh-DAH or DAH-duh
- Review rhythms of sample poems
- Write a four line poem utilizing rhythm and rhyme

Grade 12
- Differentiate iambic from other types of poetic meter.
- Learn to distinguish iambic pentameter in Shakespearean and modern verse.
- Write six to eight lines of a speech in iambic pentameter
- Understand the structure of a Shakespearean sonnet
- Write a sonnet.

Discussion:
Shakespeare
William Shakespeare (page 24) is considered one of the greatest writers of all time. He is known through his sonnets and plays (which were written in verse). You can gain a better appreciation of Shakespeare by understanding poetry.

Poetry
Poetry is a form of literary art where words are used for their beauty and memory associations. Poem styles range from simple nursery rhymes to Shakespearean sonnets to book length epic poems. They can also be plays, hymns and song lyrics. Modern pop music, country songs, rap and hip hop are all poems set to music. Poetry in its simplest form consists of a set of rhymes and rhythms. What poetry do you know? How about song lyrics?

Basic exercise
Lead students in creating a list of rhyming words: cat - rat, hair - chair, dog - log, etc. After a list of 10 to 20 rhyming pairs is created, introduce the concept of a rhyming couplet.

Example #1
Little Boy Blue come blow your horn
the cow's in the meadow, the sheep's in the corn. Old Nursery Rhyme

Example #2 -
Today you are you,
That is truer than true. Dr. Seuss

Ask students to create their own rhyming couplet and share it with the class.
(Teacher Note - Any length of line and rhythm scheme is acceptable.)
Grade 9 Exercise

Rhyming schemes in poetry
In poetry, a rhyming "scheme" means the way the words are rhymed. For example, a rhyming scheme of ABAB would mean that the work at the end of the first line would rhyme with the word at the end of the third line and the word at the end of the second line would rhyme with the word of the fourth line.

Example
Busted flat in Baton Rouge, headin' for the train,
Feelin' nearly faded as my jeans.
Bobby thumbed a diesel down, just before it rained,
Took us all the way to New Orleans. *Bobbie McGee by Kris Kristofferson*

On the other hand a rhyming scheme of AABB would rhyme the last word of the first line with the last word of the second line and the last word of the third line with the last word of the fourth line.

Example
Music starts playin' like the end of a sad movie
It's the kinda ending you don't really wanna see
'Cause it's tragedy and it'll only bring you down
Now I don't know what to be without you around. *Breathe by Taylor Swift*

Rhythms in poetry
A line of poetry is made up of a certain number of feet. A foot is made up of hard (stressed) syllables and soft (unstressed syllables).

Example #1 (Soft - Hard)
Hard syllables are **bold**
If you **liked** it then you **shoulda** put a **ring** on it. *Beyonce*

Example #2 (Hard - Soft)
Once **upon a midnight dreary, while I pondered weak** and weary,
*The Raven by Edgar Allan Poe*

Ask students to create a four line poem using rhythm and rhyme and share them

*(Teacher Note - It is suggested that an eight syllable form be used such as (Da-dee, Da-dee, Da-dee. Da-dee, Da-dee - where the first syllable is stressed and the second syllable is unstressed, or da-Dee, da-Dee, da-Dee, da-Dee where the first syllable is unstressed and the second syllable is stressed.*
Grade 12 Exercise

Iambic Pentameter

In Shakespeare's iambic pentameter you have five "feet" of soft-hard syllables. Iamb means "soft-hard" or "unstressed-stressed". Pentameter means five feet. Penta, from the Greek, meaning five. Meter meaning foot.

Example 1
But, look, the morn, in russet\textsuperscript{1} mantle clad,
Walks o'er\textsuperscript{2} the dew of yon high eastern hill:
Break we our watch up: and, by my advice,
Let us impart what we have seen tonight
Unto young Hamlet: for, upon my life,
This spirit dumb\textsuperscript{3} to us will speak to him. \textit{Act I, scene 1 of Hamlet by William Shakespeare}

Notes - 1. a reddish brown colored cape - as a metaphor for the sun rising
2. Contraction of over
3. Unable to speak

Example 2
Yo man, why have you skipped from school all week?
The football team needs you at Quarterback
so if you fail, then we are gonna' suck!
And with the playoffs just two weeks away,
I'll let it slip to Beverly that you're
all up on some girl that you met 'cross town.
It ain't no lie, I will be watching you. \textit{Anonymous}

Notice that neither of the examples rhymed.

Ask students to create a 6 to 8 line speech in iambic pentameter
Shakespearean Sonnets

A Shakespearean sonnet is a iambic poem of fourteen lines with ten syllables per line that follows a strict rhyming scheme: ABABCCDEFEFGG. The last two lines are a rhyming couplet.

Example 1

When forty winters shall besiege thy brow  
And dig deep trenches in thy beauty's field,  
Thy youth's proud livery, so gaz'd on now,  
Will be a tatter'd weed, of small worth held:  
Then being ask'd where all thy beauty lies,  
Where all the treasure of thy lusty days;  
To say, within thine own deep sunken eyes,  
Were an all-eating shame and thriftless praise.  
How much more praise deserv'd thy beauty's use,  
If thou could answer - "This fair child of mine  
Shall sum my count, and make my old excuse -"  
Proving his beauty by succession thine!  
This were to be new made when thou art old,  
And see thy blood warm when thou feel'st it cold. William Shakespeare

NOTE - Contractions such as tatter'd and ask'd were to make sure that the reader did not pronounce the work correctly, i.e Tatter-ed or ask-ed

Example 2

As age shall make your hair all thin and grayed  
While wrinkles steal the smoothness from your face,  
Your youthful looks and beauty now displayed,  
Shall be worth nothing as you end your race:  
Then asked where all your beauty can be seen,  
Bright eyes, smooth skin and graceful strength now past,  
The answer, "here within my withered mien",  
Would be a wrongful thing to say at last.  
Look outward for the beauty that was yours  
And say instead "This is my little one.  
My child, release my hand, open new doors,  
Go now and take my place when I am done."  
As you live on and I give way to age,  
The book of life will gently turn the page. A modern interpretation of Shakespeare's Sonnet

Ask students to write their own original sonnet.
What a Character!

Proficiency Outcome: Social Studies

Grade 6
- Identify a significant individual from a region of the world other than North America and discuss cause-and-effect relationships surrounding a major event in the individual’s life.
- Compare gender roles, religious ideas, or class structures in two societies.
- Draw inferences about the experiences, problems, and opportunities that cultural groups (referring to a number of individuals sharing unique characteristics e.g., race, ethnicity, national origin, and religion) encountered in the past.

Grade 9
- Distinguish the characteristics, both positive and negative, of various types of government: representative democracy, monarchy, and dictatorship.

Grade 12
- Identify factors that have contributed to America’s cultural pluralism, including historical, racial, ethnic, religious, and linguistic backgrounds of this nation’s people.

Discussion:
Have each student create a Renaissance character to make your class a colorful English village. Character development can include costuming, language, research into the duties the person would have performed, social status, etc. Paintings of the period (Bruegel, Hilliard) are great visual sources. Noble clothing may be too expensive or difficult to construct. The research into different types of characters listed below can be as little or as in depth as is necessary for your students.

- Peasant Farmer
- Shepherd
- Iron Worker
- Tailor
- Architect
- Butcher
- Baker
- Sheriff
- Juggler
- Innkeeper
- Nobleman
- Courtier
- Noblewoman
- Poet
- Huntsman
- Peddler
- Gravedigger
- Tax Collector
- Knight
- Squire
- Minstrel
- Alchemist
- Barber-surgeon (Doctor)
- Newsmonger
- Printer
- Town Crier

Women’s clothing – A typical peasant women wore a long-sleeved shift under everything with at least two skirts over that. The upper skirt was usually newer and was kept tucked up out of the dirt. She wore a tight-fitting scoop or square-necked bodice or vest, which was laced up over the shift. The bodice might have had removable sleeves which could be worn on colder days. Any woman over the age 13 would have her hair covered with some sort of hat. The hair itself was usually braided or bundled up out of the way. She had a belt pouch and a basket to carry her things in. In colder weather she would have a shawl or cape to wrap around herself. If she was lucky, she would have cloth hose (socks) and shoes made of leather or cloth.

Men’s clothing – A typical peasant man would wear a shift or shirt and some type of breeches, as well as a jerkin (vest) made of leather or wool. He would also wear a belt and belt pouch to carry his personal belongings. All but the very poorest men would wear cloth hose (socks) and shoes of leather or cloth. A hat was a must to keep his shaggy hair out of his face and keep the sun and rain off his head.
Make your own clothes
Below are some current patterns that can be adapted to make 16th Century costumes. They are great for nobility, middle-class, or peasant. Be sure to use brocades/velvets with metallic trim for nobility, brocade with fabric trim for middle-class, and muslins/cottons for peasants.

**Simplicity Pattern Co.**

<table>
<thead>
<tr>
<th>Category</th>
<th>Pattern Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noble Men</td>
<td>9887/5925</td>
</tr>
<tr>
<td>Scottish Men</td>
<td>8913</td>
</tr>
<tr>
<td>Scottish Women</td>
<td>8855</td>
</tr>
<tr>
<td>Noble Italian Women</td>
<td>8735/8192</td>
</tr>
<tr>
<td>Peasant/Gentry Men</td>
<td>8587</td>
</tr>
<tr>
<td>Children</td>
<td>9836/5909</td>
</tr>
<tr>
<td>Noble Women</td>
<td>8881/9966</td>
</tr>
<tr>
<td>Cape</td>
<td>9452</td>
</tr>
<tr>
<td>Peasant/Gentry Women</td>
<td>9929/7756</td>
</tr>
<tr>
<td>Women</td>
<td>8715/8249</td>
</tr>
</tbody>
</table>

**McCalls**

<table>
<thead>
<tr>
<th>Category</th>
<th>Pattern Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noble Men</td>
<td>2248</td>
</tr>
<tr>
<td>Noble Women</td>
<td>3797/3663/3653/8937</td>
</tr>
<tr>
<td>Men</td>
<td>2802/2664</td>
</tr>
<tr>
<td>Women</td>
<td>3282/4041/2645/2814/2806</td>
</tr>
</tbody>
</table>

**Butterick**

<table>
<thead>
<tr>
<th>Category</th>
<th>Pattern Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>5656</td>
</tr>
<tr>
<td>Women</td>
<td>6198/6196</td>
</tr>
<tr>
<td>Hoop Petticoat</td>
<td>6884</td>
</tr>
<tr>
<td>King Arthur, Camelot</td>
<td>6203/3552</td>
</tr>
</tbody>
</table>

**Appropriate Fabrics:**
Anything 100% cotton; except for denim. This includes muslins, canvas (bodices), gauze, poly/cotton blends (at least 50% cotton, although you will be more comfortable in 100% cotton), and corduroy. Wool and wool blends are also appropriate. Again, velvet and brocades are for nobility only.

**Inappropriate Fabrics:**
Prints, stripes, or plaids (unless, of course, you are Scottish), knits, and polyester.

**Colors:**
Bedeck yourself in earth tones and the bright colors found in nature (no neons). Remember that purple is reserved for royalty and black for nobles.
Suggested Projects and Classroom Activities

Complementing Contest:
Hold a complimenting contest in your classroom. Students will create their own compliments, and then select an opponent. The more elaborate the compliment, the better, and the last person to run out of compliments wins. (The best formula for creating a renaissance-style compliment is to compare your subject to beautiful things. For example: “Your eyes are more radiant than a thousand stars on a crisp, clear night.” One of the richest sources for inspiration is Shakespeare’s Romeo and Juliet.)

Build a Castle:
Design and build a model of a castle. During Henry VIII’s reign, he built the castles of Deal, St. Mawes, Walmer, Sandown, Pendennis and rebuilt Dartmouth. However, due to the utilization of gunpowder and cannons during this period, the design of castles changed from that of medieval castles. Tudor castles were circular or semicircular structures made up of several circular sections. Medieval castles, for the most part, were square or rectangular. Rounded walls gave Tudor castles a more deflective surface against cannon fire and a better field of fire for their own guns and cannons inside the castle. Tudor castles also had a lower profile (less of a target for cannons) and thick walls.

Royal Feast:
Research and create a menu for a feast. Remember that England is an island. There were plenty of sheep, but spices were quite a luxury because of their expense.

Greetings:
Have your class practice greeting one another in the 16th Century style (see “Customs and Mannerisms” herein).

Present a Petition:
Elect your own Parliament and have its members present a petition to Henry VIII.

Historical Writing:
Write a letter or journal entry from the point of view of a historical figure. For example: a letter from Wolsey to Henry VIII regarding Parliament’s refusal to grant him funding for a war, or a journal entry from Anne Boleyn concerning her long awaited marriage to Henry VIII. Be creative! Pick any one or make one up but be sure the letter or journal entry deals with a specific event.

Role Playing:
Act out a meeting between Henry VIII and Pope Clement VII in regard to Henry’s divorce from Catherine of Aragon, or between Henry VIII and one of his advisors regarding a matter of national concern.

Create a Newspaper:
Although there were no newspapers in Renaissance England, create one for your class and include stories regarding the King’s progress, Parliament’s activities, and various military and religious happenings. Look at your local newspaper to gain a better understanding of story placement, writing style, and use of advertisements.

Obituaries:
Write an obituary notice for King Henry VIII, Catherine of Aragon, Anne Boleyn or another important figure of the day. Examine the obituary section in your local newspaper to learn writing style and pertinent information.

A Renaissance Christmas:
Stage a Christmas celebration in Renaissance England. What would be on the menu? What songs would be sung? Was there a Santa Claus, etc.? 

Panel Discussion:
Create a panel discussion or debate regarding an unpopular policy of national or domestic concern.
Timelines:
Create a timeline based on the information presented herein. Remember to highlight the important dates in Henry VIII’s reign.

Calligraphy & Illumination:
Study some different calligraphic alphabets, and then try to learn one. Copy or write a paragraph in your new handwriting. Have students look at examples of manuscript illumination and have them illuminate a bookmark using their own initials.

Coat of Arms:
Have students create a Coat of Arms. Many coats of arms contained lions, eagles, and mythical beasts. An excellent resource is *A Complete Guide to Heraldry* by A.C. Fox-Davies.

Translating Conversation:
As an exercise, try to translate an ordinary 21st century conversation into Old English.

<table>
<thead>
<tr>
<th>Old English</th>
<th>21st Century</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faith, Jack, where hast thou been?</td>
<td>Wow, Jack, where have you been?</td>
</tr>
<tr>
<td>Thou wast to have been up betimes!</td>
<td>I thought you were gonna get up early!</td>
</tr>
<tr>
<td>Aye, even so. My good grey mare threw a shoe upon the road; naught could I do but lead her to the smithy in Stratford, some seven miles off.</td>
<td>Yeah, but I had a flat tire and no spare. I had to hitchhike to World of Auto Parts.</td>
</tr>
<tr>
<td>By St. Christopher, t’is ill luck</td>
<td>Yeah, bummer</td>
</tr>
<tr>
<td>Too true, alack. Hast supped?</td>
<td>You’re telling me. Is there any food left?</td>
</tr>
<tr>
<td>I fear me thy trenchers be bare</td>
<td>I bet you guys ate it all.</td>
</tr>
<tr>
<td>Nay, in good sooth; we kept a cold partridge wing and a tankard of cider against thou shouldst arrive.</td>
<td>No, as a matter of fact we saved you some pizza and a Pepsi.</td>
</tr>
</tbody>
</table>
“God has not only made us King by inheritance, but has given us wisdom, policy, and other graces in most plentiful sort, necessary for a prince to direct his affairs by honor and glory.”

*King Henry VIII, 1536*