ANT 2000 Introduction to Anthropology

Instructor: Dr. Elizabeth H. Peters  
Class Asst: TBA  
Office: 1847 W. Tenn. (CVS Varsity Plaza)  
Office: 1847 W. Tenn. (Varsity Plaza)  
Office Hrs: W & F 1:00-2:00 PM & by appt.  
Office Hrs: TBA  
Telephone: 644-8148  
Telephone: 644-4281 (leave message)  
E-mail: epeters@fsu.edu  
E-mail: TBA

DESCRIPTION: Anthropology is a discipline that includes both a cultural and a biological understanding of human nature. It examines and records the great variety of human cultural expression. It strives to identify the fundamental features of human nature which make cultural diversity both possible and inevitable. This course will examine what it means to be human with the holistic perspective and the comparative methodology that make anthropology distinctive.

OBJECTIVES:
1. Describe the four subdisciplines of anthropology and the range of inquiries conducted by anthropologists. Describe how anthropology includes scholarship that qualifies it as a social science, a natural science and a humanity.
2. Present traits found in modern humans that indicate we are part of the natural world. Identify fossil and archaeological evidence that demonstrate the emergence of traits found only in humans and human ancestors.
3. Explain the nature of human culture and describe how our symbolic ability distinguishes and empowers humans (but also makes us vulnerable to misconceptions like “race”).
4. Present evidence of cultural expression in fields as diverse as subsistence, artifacts, family life, gender, religion, and language.
5. Describe how changes in technology, communication and social relationship have big consequences for what it means to be human on a 21st century planet earth

STUDENT REQUIREMENTS:
1. Attendance at every class meeting
2. Syllabus quiz
3. Readings as assigned
4. Two class exams
5. eHRAF report
6. Cumulative Final exam

REQUIRED TEXTS:
   ISBN 978-0078116957
   McGraw-Hill Contemporary Learning Series  
   ISBN: 978-0078051312

SYLLABUS QUIZ: On Wed. Sept. 3 there will be a short quiz about the contents of this syllabus. If all questions are answered correctly, a student can earn one bonus point toward their final average. Come to class and perform well on this 5-question, true-false quiz to earn one bonus point.
POWERPOINTS ON BLACKBOARD: This is a web-assisted class. All Powerpoints will be posted on Blackboard. Reviewing these posted Powerpoints on a regular basis will enhance your understanding and long term memory of material presented in class. If you are absent from class, you can use these posted Powerpoints to get some sense of the contents of a class but this is not a substitute for seeking notes from a classmate which will be much more inclusive. Also note that the first slide of every Powerpoint contains important announcements. Generally you can expect to see each Powerpoint posted soon after the class meeting it accompanies.

ATTENDANCE: A university education is a process of brain change. Processing classroom lectures and doing the required work will change the way your brain functions. Minimizing what you do reduces this change and therefore the benefit to you of a university education.

Attendance sheets will be passed out on a daily basis. At the end of the semester, the attendance sheets will be examined and the following point values assigned.

0-3 absences no loss of points
>4 absences loss of one percentage point for each unexcused absence beyond the first three

Attendance sheets will begin in the back of the room and move forward. If you arrive late and missed the attendance sheet, you may discuss with the instructor your university-approved excuse for arriving late. If you have a university-approved reason for leaving the classroom early, please let the instructor know before class begins with a written note. Otherwise a departing student may trigger a second attendance sheet. If a medical emergency requires you to leave the classroom without warning, send an explanatory e-mail to the instructor asap so that you are not unjustly assigned an unexcused absence. If you have a university-approved excuse for being absent, you must e-mail the class assistant assigned to our class either before the absence or within 48 hours after the absence. Use your FSU e-mail account and identify your course and section so that our records are accurate. You will not receive a response. At the end of the semester, our class assistant will do an electronic search on any student with excessive absences to determine whether any absence can be considered a university-approved reason for being absent.

[Note: Regardless of the initial means of notification (e.g. an excuse letter or a contact from another person), it is critical to also provide our class assistant with an e-mail from your personal FSU student e-mail account so that we have an easy-to-locate electronic record with your name].

UNIVERSITY ATTENDANCE POLICY: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

CLASSROOM CONDUCT: University regulations prohibit eating or drinking in classrooms. Computers and other electronic devices should be used for note-taking only. Turn off and put away all cell phones before entering the classroom. Cell phones should not be visible while class is in session. Everyone loses when attention is diverted by individuals who walk in late, leave early or act disruptively. Everyone wins when a classroom environment is orderly. Rules for classroom conduct create both a greater good and a personal good.

EXAMS: There are two class exams and a Final Exam. Each exam will have 40-50 objective-type questions. This means that each individual question contributes 2-2 ½ points toward the exam total. The class exam dates are Oct 1 & Nov 5. The final exam date has been set by the registrar as Wed. Dec. 10, 2014, 12:30-2:30 PM
All exams, including the Final Exam, will take place in our regular classroom. There will be an open-ended Question-Answer session on the day before the exam. On exam day, there will be a 5-10 minute question-answer session before the distribution of the exam. These Question-Answer sessions are a good opportunity to reinforce important information. Students who ask questions are helping everyone to perform better on the exam and to retain knowledge and understanding into the long-term future.

**POLICY ON MAKE-UP EXAMS:** Only university-approved excuses with paper documentation can become the basis for a make-up. If you miss an exam, you must notify the instructor within 24 hours of the exam date and time in order to be eligible for a make-up exam. If you miss an exam and no notification is provided within 24 hours, the exam grade will be zero. E-mail notification is preferred but a phone message left at 644-8148 (which has 24 hour voicemail) can substitute when web access is not available.

**eHRAF WORLD CULTURES REPORT:** eHRAF World Cultures is the web-based version of the Human Relations Area Files World Cultures. The Human Relations Area Files is a collection of ethnographies that have been coded for specific topics. Each student will choose three cultures to investigate. Each student will also be assigned to a discussion group made up of 3-4 other students taking ANT 2000. The purpose of the discussion group is to share information about discoveries and to provide help with eHRAF navigation. The discussion group will also meet to share completed reports before deposit for grading by the instructor.

Students are required to pick one topic to investigate across their three chosen cultures. **In Part 1** of this report, you will be required to include a 1-2 page introduction to each culture and at least two pages of information about your chosen topic for each culture (thus this part usually involves about 8-9 pages of material). **Part 2** of this report asks you to compare and contrast the three cultures you examined with your experience of that same topic in your own culture. What similarities and differences did you discover? What did you discover about the cultures (and topics) examined by other members of your discussion group? Did this exercise give you a greater appreciation for the degree of behavioral diversity in human cultural groups? Did it help you to better understand the power of culture to shape human thinking and human behavior (including your own)?

Following completion of your written report, you will be required to meet with the members of your assigned discussion group. You will verbally share the information you discovered (giving you practice in the oral presentation of information). You will also be required to read and comment on the written report of one other student in your assigned group and make suggestions for improvement. Following all revisions, each student will deposit a completed eHRAF report into Blackboard for grading by the instructor. For more information about HRAF and eHRAF, go to [http://ehrafworldcultures.yale.edu/ehraf](http://ehrafworldcultures.yale.edu/ehraf).

**HOLIDAYS:** There are no classes on Mon. Sept. 1 (Labor Day), Wed. Nov. 26 & Fri. Nov. 28 (Thanksgiving holiday).
**GRADING:** Your final average will be computed as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam #1</td>
<td>25%</td>
</tr>
<tr>
<td>Exam #2</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
<tr>
<td>eHRAF report</td>
<td>25%</td>
</tr>
<tr>
<td>Final average</td>
<td>100%</td>
</tr>
</tbody>
</table>

The following represents the minimum letter grade that will be assigned to each final average:

- 94-100 = A
- 90-93 = A-
- 87-89 = B+
- 84-86 = B
- 80-83 = B-
- 77-79 = C+
- 74-76 = C
- 70-73 = C-
- 67-69 = D+
- 64-66 = D
- < 60 = F

**FSU LIBERAL STUDIES:** The Liberal Studies for the 21st Century Program at Florida State University builds an educational foundation that will enable FSU graduates to thrive both intellectually and materially and to support themselves, with their families and their communities through a broad and critical engagement with the world in which they live and work. Liberal Studies offers a transformative experience; this course has been approved as meeting the Liberal Studies requirements for Social Sciences/History and thus is designed to help you become a critical appraiser of the theories of the social sciences and the facts that support them.

By the end of this course, students will be able to:

- Critically examine, interpret, and explain how personal, political, cultural, economic and social experiences and/or structures shape the past and/or the present
- Gather and analyze data using social science methodologies to evaluate casual arguments and analyze assertions, assumptions and explanatory evidence
- Evaluate and employ appropriate methods and technology in the collection and analysis of data

**MULTICULTURAL CROSS-CULTURAL (X):** The Liberal Studies for the 21st Century Program at Florida State University builds an educational foundation that will enable FSU graduates to thrive both intellectually and materially and to support themselves, their families, and their communities through a broad and critical engagement with the world in which they live and work. Liberal Studies offers a transformative experience; this course has been approved as meeting the Cross-cultural Studies requirements and thus is designed to help you become a culturally conscious participant in a global community.

By the end of this course, students will be able to:

- Recognize and analyze differences between individuals and groups of people; identify and explain the potential benefits and/or conflicts arising from human differences within the current national and/or international landscape
- Examine and compare a variety of perspectives in the global community; distinguish one's own cultural patterns; and respond flexibly to multiple worldviews

**FREE TUTORING FROM FSU:** For tutoring and writing help in any course at Florida State University, visit the Academic Center for Excellence (ACE) Tutoring Services’ comprehensive list of tutoring options - see [http://ace.fsu.edu/tutoring](http://ace.fsu.edu/tutoring) or contact tutor@fsu.edu for more information. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.
ACADEMIC HONOR POLICY:
The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at http://fsu.edu/Academics/Academic-Honor-Policy)

AMERICANS WITH DISABILITIES ACT:
Students with disabilities needing academic accommodation should:
(1) register with and provide documentation to the Student Disability Resource Center; and
(2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:
Student Disability Resource Center  (850) 644-9566 (voice)
874 Traditions Way  (850) 644-8504 (TDD)
108 Student Services Building  850) 644-8504 (TDD)
Florida State University  sdrc@admin.fsu.edu
Tallahassee, FL 32306-4167  http://www.disabilitycenter.fsu.edu/

SYLLABUS CHANGE POLICY:  "Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."

TOPICS AND PARK TEXT ASSIGNMENTS:  The following is an approximate guide to the topic sequence and required readings.  Check the daily Powerpoint for updates about assignments.

What is anthropology? Anthropology and its subfields. Is anthropology a science?  
Reading Assignment: Park Preface and Chapter 1 & 2
Species and evolution. How did we and other species originate?  
Reading Assignment: Chap. 3
What is a human? Traits that distinguish humans  
Reading Assignment: pp. 65-76 from Chap. 4, Chap. 5, pp. 121-127 from Chap 6
The fossil record for human evolution  
Reading Assignment: Park Chap 6
Culture and culture change  
Reading Assignment: Park Chap 4 & 13
Reproduction: Sex, gender and cultural institutions  
Reading Assignment: Park Chap. 7
Human variation: Biology vs. culture  
Reading Assignment: Park Chap. 8
Subsistence: Getting food, eating it and passing it around  
Reading Assignment Chap. 9
Social Organization: Arranging our families and organizing our people  
Reading Assignment: Chap. 10
Language and communication: Sharing what we need to know  
Reading Assignment: Chap. 11
Religion and law: The maintenance of order  
Reading Assignment: Park Chapter 12
Anthropology in today's world: Problems and contributions  
Reading Assignment: Park Chapter 14
LIBERAL STUDIES ADDENDUM

By the end of this course, students will be able to:

- Critically examine, interpret, and explain how personal, political, cultural, economic and social experiences and/or structures shape the past and/or the present

In ANT 2000, students process examples of cultural diversity and culture change in readings like “Arranging a marriage in India” and films like “Trobriand Cricket.” Each reading or film is followed by class discussion. Class discussion of cultural differences also includes continuing reference to the universal features found in all humans (encouraging attention to shared behaviors, not just differences). Exam questions are used to test student mastery of major conclusions including their ability to understand power concepts like evolution, kinship and patterns of subsistence. Students also meet in small discussion groups of 3-4 individuals to share the results of their personal research with eHRAF. This gives them a chance to share their culture-specific conclusions and their discoveries about the process of extracting information from a series of ethnographies. Their written report also asks them to compare their cross-cultural discoveries with their own experience living in the U.S. (or elsewhere). This gives them additional experience understanding the power of culture to shape human ideas, feelings and behaviors in diverse directions.

- Gather and analyze data using social science methodologies to evaluate casual arguments and analyze assertions, assumptions and explanatory evidence

To create the eHRAF report, students must process paragraphs written by ethnographers who were participant-observers in a culture outside of mainstream American experience. Then students compare a topic (or topics) across multiple cultures, including their own culture. In addition to the topical information, students are required to summarize economic, political and social aspects of their chosen cultures and comment on any patterns that are evident between their chosen topic and other aspects of a culture.

- Evaluate and employ appropriate methods and technology in the collection and analysis of data

The web version of the Human Relations Area Files (eHRAF) enables students to efficiently look up information on a topic of interest across multiple cultures. When students read topical paragraphs from multiple ethnographies, they discover both consistencies and inconsistencies in the recording of information (especially when multiple ethnographers record information about the same culture). They discover that conclusions in the social sciences can be harder to corroborate (or falsify) than conclusions in other sciences. They are forced to cultivate and live with uncertainty and this makes them better at evaluating and challenging the conventional wisdom of their own cultural environment.
Grading Rubric for ANT 2000 eHRAF Report

**General parameters:** Report is provided in an MS Word document that is correctly deposited into Blackboard before the deadline. The student’s name, the research topic, the names of the three cultures examined and the date are displayed on a title page. Report demonstrates that the student is able to use eHRAF to locate detailed information about a coded topic and can do this for multiple distinctive cultures. (10 points)

**Culture Summaries:** Report demonstrates that student has read the eHRAF summary for each chosen culture and is able to present a 1-2 paragraph summary of information about subsistence, kinship & social organization, and political organization. The name of each culture is presented and underlined, followed by a culture summary paragraph, followed by the results paragraphs. (see below) (15 points)

**Results:** Data on the chosen topic from each culture is presented in three separate sections. As indicated above, the name of each culture is underlined, followed by a culture summary paragraph, followed by a topic summary. The topic summary for each culture is at least two pages. (40 points)

**Cross-cultural comparison:** In a section labeled “Cross-cultural comparisons of [name of topic]” the report demonstrates an ability to compare similarities and differences among the cultures examined as well as comparisons with the student’s own culturally-guided experience. The report demonstrates an ability to appreciate shared features among the cultures examined. (20 points)

**Clarity of Expression:** Idea development is consistently logical and organized. MS Word’s grammar and spell-check tool has been used to catch common errors. (5 points)

**Commentary:** The report includes the student’s evaluation of the degree to which this eHRAF exercise has contributed to their personal understanding of cultural variation. (5 points)

**Preview and Revision Certification:** The report documents the name of the person who previewed the report and gave the student feedback and the date on which this happened. (5 points)

100 points total
Note: If any question is ambiguous, you may provide your own answer (or you may add additional commentary) by writing in the margins. Then write a note at the top of the first page of this exam alerting the grader to this additional information. Be sure to specify the question for which you are providing information.

Fill in the blank: For Questions #1-11, fill in the blank with the appropriate choice from the list of terms below. Only the best answer will count as the correct answer. Each answer is used only once. You may find it useful to write in an answer before looking for your choice in the list of terms. If there are two blanks in a question, the same answer is used in both blanks.

01= tree 06= horticulture 11= evolution 16= subsistence
02= city 07= pastoral 12= cultural 17= property
03= home base 08= foraging 13= armies 18= egalitarian
04= extracted 09= agricultural 14= stagnation 19= classes
05= chiefdoms 10= games 15= development 20= swimming

1. Anthropologists have been especially interested in the study of groups who subsist via _________ since this is the pattern which characterized our species for but all but the last 10,000 years of human existence.

2. While chimpanzees mostly subsist on food that is collected, human foraging groups eat more food that is _________ or hunted (and is therefore hard-to-acquire).

3. In contrast to chimpanzees, human hunters kill prey animals that can be large, dangerous or difficult to detect. In contrast to chimpanzees, human hunters carry the results of the hunt back to a _________ where it is distributed to other members of the group according to cultural rules.

4. In contrast to foraging groups, horticulturalists have a concept of private _________.
   Individuals can accumulate a surplus and the beginnings of social stratification can be seen. However, prestige is gained by re-distributing wealth and this insures that economic inequities are not great among horticulturalists.

5. Among those who practice _________ as a means of subsistence (e.g. the Trobriand islanders), the “big man” is a leader who can influence the behavior of others in the village but cannot coerce it.

6. The large surpluses produced by agricultural societies create the formally recognized differences in wealth and status known as _________.
   Craftsmen, administrators, soldiers and other labor specialists emerge along with money and a trade economy.

7. As discussed in Park and as seen in the class video, foraging societies are _________.
   There are no recognized, formalized status or wealth differences.

8. _________cultures are able to turn cellulose (which humans cannot digest) into meat and milk by herding grazing animals (who have the ability to digest cellulose).

9. Thirty-nine examples of _________ behavior were published in a 1999 article in the journal Nature which compared the behavior of chimpanzees at 7 long-term study sites across equatorial Africa.

10. Compared to chimpanzees, human cultures have more content. As demonstrated in the video “Trobriand Cricket,” human cultural behavior affects many domains of behavior not seen in chimpanzees. This includes highly coordinated group behavior like song and dance as well as _________ with rules like cricket.
11. Compared to chimpanzees, human cultures have more evidence of _______. The rate of change of human cultures can be fast or slow but cumulative change over time has not been documented for chimpanzees.

**Fill in the blank:** For Questions #12-20 fill in the blank with the appropriate choice from the list of terms below. Only the best answer will count as the correct answer. Each answer is used only once. You may find it useful to write in an answer before looking for your choice in the list of terms. If there are two blanks in a question, the same answer is used in both blanks.

01= brachiation 06= light 11= rodents 16= skilled
02= humanity 07= dark 12= ants 17= elongated
03= primitive 08= derived 13= humans 18= water
04= science 09= dating 14= skeletal 19= adaptive
05= cline 10= protein 15= song 20= bipedal

12. ______ an archaeological site is critical. It establishes sequence and cultural change. It is the basis for drawing conclusions about long term cultural evolution.

13. Archaeologists have successfully used recovered material remains and ______ material to reconstruct social organization at the ancient sites of Ceren and Copan in Meso-America.

14. Archaeology is considered a ________ because conclusions reached by archaeologists are derived from empirical data and these conclusions are continuously tested as new evidence becomes available.

15. Compared to chimpanzees (which show a high level of genetic variability), ______ are a very genetically homogeneous species. Despite their global dispersion, most of the genetically variability present in this species is also present in African populations (suggesting that Africa is the homeland of this relatively young species).

16. Neandertal is a hominin who successfully colonized Europe for at least 300,000 years before modern humans arrived about 40,000 years ago. When the Neandertal Genome project uncovered the gene for red hair in Neandertal, it suggested that ______ skin color evolved in this high latitude species...perhaps for the same reason it evolved in high latitude populations of modern humans (to optimize the production of Vitamin D under conditions of low solar radiation).

17. The distribution of traits like skin color shows a gradual change over geographic space and this kind of distribution is known as a _________. This gradual change in the distribution of phenotypic traits makes it impossible to sort humans into discrete groups on any biological basis.

18. The tubular shape of the human pelvis is not found in other primates. This unique shape is the result of our ______ locomotion and is one reason that birth has been called the “most dangerous six inch journey” that a human will ever take.

19. Human milk is low in ________ like the milk of other primates. This suggests that human infants are designed to nurse very frequently like the infants of other primates (who cling to their mothers and have constant access to mother’s milk).

20. A primitive trait is a trait which similar in both the ancestor and the descendant. This is the opposite of a ________ trait which is a trait that has newly emerged in the descendant and is not found in the ancestor. The nails and tactile pads of primates are ______ traits which are not found in the early mammals of 200 million years ago but are visible in primate fossils of 55 Mya. [Note same word is used for both blanks]
21. A common pattern of social grouping found in Old World monkeys is the female-bonded group in which females are born, live their entire lives and die in the same group. All members of this group are in contact with each other every day. In contrast, chimpanzees live in a _______ social organization in which bonded males defend and control a territory, females migrate into the community and foraging parties vary in composition on a daily basis.

22. _______ is a near-universal feature of human social groups. It is a symbolic relationship between at least one man and one woman which assigns sexual rights, establishes parental responsibility for children, organizes domestic groups and establishes intergroup alliances and exchanges.

23. Monogamy and the nuclear family are normative in foraging groups and industrialized economies. Polygyny is often an ideal in horticultural and _______ cultures.

24. Among the Bari who believe in partible _______, children with 2 or more ascribed “fathers” have higher survivorship than those with one father.

25. In the kinds of traditional societies most often studied by anthropologists, unilinear _______ (which can be either patrilineal or matrilineal) are used to organize social life through multiple generations. Bilateral (cognatic) _______ (which trace relationships through both parents) also exist in traditional societies but they are less frequent. [Note the same term is used in both blanks]

26. A _______ is a traditional kin group that includes all members who claim the same ancestor even if the exact genealogical relationship is unclear. Among the Navajo, it is considered incestuous to marry a member of one’s own _______. This is an example of exogamy. [Note same word is used in both blanks].

27. The _______ kinship naming system used in the United States is a bilateral system which distinguishes close family members from more distant relatives. The bilateral Hawaiian naming system lumps close and distant relatives (so that father and all male relatives of that generation have the same kin name). Other naming systems such as the Crow, Iroquois and Omaha systems are associated with unilinear descent and emphasize either mother’s relatives or father’s relatives.

28. In Elman Service’s classification of political organization, the simplest level of political organization is the _______ and the most complex level of political organization is the state.

29. Bony markers of striding _______ (such as a big toe that is aligned for push-off and a short, broad pelvis) are found in modern humans but are not seen in other primates or other mammals. Such traits are excellent for discriminating human ancestors in the fossil record.

30. Despite a bushy tree of more than 20 hominin species over the last _______ million years, modern humans are the only hominin species alive today. Despite a broad geographic distribution, all modern humans are genetically homogeneous and are the descendants of a small population that lived in Africa. When some members of this population left Africa (less than 100,000 years ago) they may have come into contact with other hominins (e.g. Homo neandertalensis in Europe, Homo erectus in Asia, Homo floresiensis on the island of Flores in Indonesia) but such resident hominins were soon displaced by anatomically modern Homo sapiens who are the only surviving hominin species.
31. The Nariokotome boy (WT-15000) from Lake Turkana showed that body size as tall as that seen in modern humans existed 1.6 million years ago. The narrow waist of this fossil suggests a short gut similar to that seen in modern humans (which is associated with the consumption of nutrient dense foods). This fossil shows that a major shift in ecological _________ occurred in this species when compared to earlier, ape-like hominins such as Lucy (AL-288).

32. Although not known to Darwin, shared molecular similarity (and a single _________ code) provides an independent source of evidence supporting the idea of shared ancestry among all living organisms.

**True/false:** If any part of the statement is false, then the entire statement should be scored as false. Although not required, you may find it useful to circle the incorrect part of the statement and explain why it is incorrect. Use the following key

01 = true
02 = false

33. Darwin called his mechanism of evolution "natural selection" in order to emphasize its similarity with the selective breeding of favored types that humans practiced with domesticated species of plants and animals.

34. An mRNA molecule is a mirror image of the sequence of bases on a section of the DNA molecule (the "gene") and provides the code for the sequence of amino acids that makes up the primary structure of a protein (DNA → mRNA → protein).

35. In their 2004 *Nature* article, Bramble & Lieberman have suggested that the anatomical basis for endurance running (such as a long Achilles tendon) first emerged in Nariokotome’s species *Homo ergaster* (a.k.a. *Homo erectus*).

36. The analysis of Neanderthal DNA has shown that Neanderthal was a cousin (not an ancestor) of modern humans and that the last common ancestor of Neanderthal and modern humans lived about 500,000 years ago.

37. According to Jablonski & Chaplin, excessive exposure of skin to solar radiation can reduce body stores of folate (a B vitamin) in humans and result in serious birth defects such as *spina bifida* and *anaccephaly*. As evolving human ancestors moved from the closed-canopy forest to the open savannah, they developed sweat glands for evaporative cooling, lost the long hair from most hair follicles and evolved dark skin color as protection from the folate-reducing effects of intense solar radiation.

38. *Race are we so different?* is a museum exhibit produced by the American Anthropological Association which combines biological, cultural, and historical perspectives. Although first exhibited in 2007, it will complete its tour of 39 U.S. museums in 2015. It provides evidence that "‘racial’ groups are not consequences of biological inheritance but products of historical and contemporary social, economic, educational, and political circumstances.”

39. Science involves a search for theory ("general ideas that explain a large number of phenomena and are themselves made up of interacting and well-supported hypotheses"). Darwin’s concept of evolution by means of natural selection is an example of a general idea that explains a large number of phenomena.

40. The discipline known as anthropology emphasizes comparison across cultures, across species and across time. This discipline seeks to provide a holistic understanding of human nature.