

The Cycle of Life

Grade Level or Special Area: Fifth Grade

Written by: Ellie Luyombya, The Academy, Denver, CO

Length of Unit: Six lessons (approximately seven to eight days – 45 minutes each day)

I. ABSTRACT

This fifth grade unit is designed to let students explore the cycle of life from birth to adulthood. Students will study each stage of the life cycle and their characteristics. The students will also learn that there are two types of reproduction.

II. OVERVIEW

A. Concept Objectives

1. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Adams 12 Curriculum Framework Grade 5, standard 3)
2. Students understand how organisms change over time. (Adams 12 Curriculum Framework Grade 5, standard 3.C)
3. Students will appreciate the unique cycles that characterize ...and animal life systems. (CK Concept Objectives, Science)

B. Content from the *Core Knowledge Sequence*

1. Fifth Grade Science: Life Cycles and Reproduction, page 128
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.
 - a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.

C. Skill Objectives

1. Students will be able to explain the difference between living and non-living things.
2. Students will be able to explain the difference between sexual and asexual reproduction.
3. Students will be able to define and explain the eight stages of the human life cycle.

III. BACKGROUND KNOWLEDGE

A. For Teachers

1. *What Your 5th Grader Needs to Know*, by E. D. Hirsch, pp. 128
2. Mallinson, G., Mallinson, J., Smallwood, W., and Valentino, C. *Silver Burdett Science*, Chapter 14
3. Core Knowledge Unit: *Cells: Structures and Processes*, by Ellie Luyombya

B. For Students

1. Grade 2 Science: Life Cycle – birth, growth, reproduction, death

IV. RESOURCES

- A. Book: *What Your Fifth Grader Needs to Know*, Hirsch, E.D. (Lessons One and Five)

V. LESSONS

Lesson One: Introduction: Life Cycle and Reproduction (one lesson – 45 minutes)

A. Daily Objectives

1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.
 - a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
3. Skill Objective(s)
 - a. Students will be able to explain the difference between living and non-living things.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.

B. Materials

1. Pretest: Life Processes and Reproduction, Appendix A, copies for all students
2. Pretest: Life Processes and Reproduction, Teacher Key, Appendix B, teacher copy
3. Science Folder with paper for each student
4. Two pencils per student
5. *What Your Fifth Grader Needs to Know*, by E. D. Hirsch for teacher

C. Key Vocabulary

1. The *life processes* are distinguished by six characteristics. The six characteristics include:
 - a. Living things take in nutrients
 - b. Living things need and use energy to work
 - c. Living things reproduce
 - d. Living things grow
 - e. Living things respond to the world around them
 - f. Living things get rid of waste

2. A *cycle* is any series of events, which repeats itself in the same order again and again.
 3. The *life cycle* is the development of an organism from reproduction, to birth, to growth, to death.
 4. *Reproduction* is the process in which living things produce offspring.
- D. *Procedures/Activities*
1. Hand out pre-assessment to each student, Appendix A. Give him or her 10 minutes to complete. When the time is up collect pre-assessments and grade with a key later and collect data from the test to see what concept/skill needs to be taught thoroughly or are there things that just need to be touched on.
 2. Review the definition of living things. Tell students: Scientists have discovered six life processes that all living things do:
 - a. Living things take in nutrients
 - b. Living things need and use energy to work
 - c. Living things reproduce
 - d. Living things grow
 - e. Living things respond to the world around them
 - f. Living things get rid of waste
 3. In this unit, we will be focusing on the human life cycle and reproduction.
 4. Ask students: “What is a cycle? Record answers on board. After students give some answers tell them “A *cycle* is any series of events, which repeats itself in the same order again and again.” The write “Life Cycle “ on the board and tell students to think about its meaning. Have the students briefly discuss with a partner the meaning. After a few minutes, ask partners to share. Record answers on board. Tell the students for the purpose of this unit “Life Cycle” will be defined as the development of an organism from reproduction, to birth, to growth, to death. (Write definition on the board.)
 5. Then introduce what reproduction is. Tell students “Reproduction is the process in which living things produce offspring.
 6. There are two types of reproduction: asexual and sexual. Larger animals reproduce sexually and smaller organisms reproduce asexually.
 7. Read pages 340 – 341 in *What Your Fifth Grader Needs to Know*.
 8. Read “Reproduction in Animals” pages 349 – 350.
- E. *Assessment/Evaluation*
1. Pre-assessment (will be graded with key and data collected)

Lesson Two: Asexual Reproduction (one lesson, 45 minutes)

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
 2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.

- a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
 - 3. Skill Objective(s)
 - a. Students will be able to explain the difference between asexual and sexual reproduction.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.
- B. *Materials*
- 1. Reproduction Quiz, Appendix B page 1, copies for each student
 - 2. Reproduction Quiz, Teacher Key, Appendix B, page 2, teacher copy
 - 3. Pencils, two per student
 - 4. Science Folder to hold notes and enough paper for each student to take notes
- C. *Key Vocabulary*
- 1. *Reproduction* is the process in which living things produce offspring.
 - 2. *Sexual reproduction* requires the joining of male and female gametes to reproduce.
 - 3. *Asexual reproduction* is the simple cell division that produces an exact duplicate of an organism without the use of male and female gametes.
 - 4. *Gametes* are the special name for male and female cells that participate in sexual reproduction.
 - 5. A *male gamete* is called a sperm.
 - 6. A *female gamete* is called an egg.
- D. *Procedures/Activities*
- 1. Tell students to get out their pencils and some papers for notes.
 - 2. Tell the students to write notes on their papers as I write them on the board. Yesterday we talked about what type of reproduction? Wait for answers.
 - 3. Remind students that *asexual reproduction* is the simple cell division that produces an exact duplicate of an organism without the use of male and female gametes. Then explain what gametes are. Tell them that gametes are the special name for male and female cells that participate in sexual reproduction. The male cell is called a sperm and the female cell is called an egg. Write this on the board and give the students time to write them down.
 - 4. There are four types of asexual reproduction:
 - a. Fission – means splitting. Examples: amoeba and euglena
 - b. Spores – single cell
 - c. Budding - forms on one side of the cell and breaks off
 - d. Regeneration – to make or generate again
- E. *Assessment/Evaluation*
- 1. Assignment: Have students find examples, pictures, of species that reproduce by asexual reproduction.

Lesson Three: Sexual Reproduction (one lesson, 45 minutes)

A. Daily Objectives

1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.
 - a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
3. Skill Objective(s)
 - a. Students will be able to explain the difference between asexual and sexual reproduction.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.

B. Materials

1. Science folder containing notes and paper
2. Pencils, two per student
3. Reproduction Crossword Puzzle, one per student, Appendix C

C. Key Vocabulary

1. *Sexual reproduction* requires the joining of male and female gametes to reproduce.
2. *Asexual reproduction* is the simple cell division that produces an exact duplicate of an organism without the use of male and female gametes.
3. *Gametes* are the special name for male and female cells that participate in sexual reproduction.
4. A *male gamete* is called a sperm.
5. A *female gamete* is called an egg.
6. *Internal reproduction* is when the sperm and egg join inside the body of the female.
7. *External reproduction* is when the sperm and egg join outside the bodies of the parents.

D. Procedures/Activities

1. Instruct the students to get out their science folders and pencils.

2. Review yesterday's lesson. Ask: "What is asexual reproduction?" Answer should be: asexual reproduction is the simple cell division that produces an exact duplicate of an organism without the use of male and female gametes.
 3. Ask: "Since we know what asexual reproduction means, how would you define sexual reproduction?" answer: *Sexual reproduction* requires the joining of male and female gametes to reproduce. Tell the students that gametes are special male and female cells. The male cell is called a sperm and the female cell is called an egg. When the sperm and egg come together, fertilization has taken place.
 4. Next, discuss, internal reproduction and external reproduction. Tell students that internal reproduction is when the sperm and egg join inside the body of the female. Examples of internal reproduction are mammals like horses, humans, and birds. External reproduction is when the sperm and egg join outside the bodies of the parents. An example of external reproduction is spawning fish. During the spawning season adult fish release eggs and sperm in to the water where fertilization takes place.
 5. Tell the students that tomorrow we will discuss the Cycle of Life.
- E. *Assessment/Evaluation*
1. Assignment: Have students find examples (pictures) of species that reproduce by sexual reproduction.
 2. Reproduction Crossword Puzzle, Appendix C

Lesson Four: The Cycle of Life (one lesson, 45 minutes)

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
 2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.
 - a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
 3. Skill Objective(s)
 - a. Students will be able to explain the difference between asexual and sexual reproduction.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.

- B. *Materials*
1. Science folder containing notes and paper
 2. Pencils, two per student
 3. Fact Sheet on “The Human Life Cycle,” Appendix D, copies for each student
- C. *Key Vocabulary*
1. The *life processes* are distinguished by six characteristics. The six characteristics include:
 - a. Living things take in nutrients
 - b. Living things need and use energy to work
 - c. Living things reproduce
 - d. Living things grow
 - e. Living things respond to the world around them
 - f. Living things get rid of waste.
 2. A *cycle* is any series of events, which repeats itself in the same order again and again.
 3. The *life cycle* is the development of an organism from reproduction, to birth, to growth, to death.
- D. *Procedures/Activities*
1. Have students hand in Reproduction Crossword Puzzles.
 2. Instruct the students to get out their science folder and pencils
 3. Review the previous lessons by asking the question: “Name the two types of reproduction and describe them. Discuss with class.
 4. Hand out Life Cycle fact sheet, Appendix D. Make sure the students understand that they may see lists with fewer or more stages than what we will study. For the purposes of this unit, we will study eight stages: birth, infancy, toddler, childhood, adolescent, adulthood, old age, and death.
 5. Go over the eight stages and discuss each.
 6. The stages of life actually begin in the fertilization process. Once the egg is fertilized, it is called a zygote. Then the zygote develops into an embryo and then the last stage inside the mother is called a fetus. When it has developed enough to survive on its own, the fetus is born. Then the outside developmental stages begin.
- E. *Assessment/Evaluation*
1. Discussion: Use the pictures of examples of sexual and asexual reproduction and discuss what the students found. Were they correct? Have them give reasons why they chose those pictures.

Lesson Five: The Beginning Stages (one lesson, 45 minutes)

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
 2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.

- a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
- 3. Skill Objective(s)
 - a. Students will be able to explain the difference between asexual and sexual reproduction.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.

B. *Materials*

1. Science folder containing notes and paper
2. Pencils, two per student
3. Fact Sheet on “The Human Life Cycle,” Appendix D, copies for each student
4. *What Your 5th Grader Needs to Know*, by E. D. Hirsch for teacher

C. *Key Vocabulary*

1. The *life cycle* is the development of an organism from reproduction, to birth, to growth, to death.
2. *Birth* is the first stage of the human life cycle, when the newborn comes out of its mother’s body.
3. *Infancy* is the second stage of the human life cycle, lasting about one year.
4. A *toddler* is the third stage of the human life cycle, from 1 to 3 years old.
5. *Childhood* is the fourth stage of the human life cycle lasting about 10 years, ages 11 or 12.

D. *Procedures/Activities*

1. Instruct students to get out their science folders, paper, and pencils.
2. Tell the students: Yesterday we talked about the life cycle and development stages before birth. We also talked about the eight stages of growth. Today we will discuss the first five stages of life. (Note: make sure you write notes on the boards as you talk so the students can write them in their notes.)
3. The first stage is birth. This stage comes after about nine months of being inside the mother. During this stage, the infant depends upon its mother and father for food and basic needs. This will last through the toddler stage. The toddler stage lasts about 1 – 3 years. The toddler stage is the third stage. Ask: “Does anyone have a brother or sister that is a toddler?” Wait for answer. Discuss the characteristics of a toddler. Toddlers begin to learn right from wrong.
4. The fourth stage is when a toddler enters into childhood. The child begins to grow and learn rapidly. They still depend on their parents but not so much. A child is able to do lots of things for themselves, depending on their parents less and less. Ask: “What are some things that you needed your mom and dad for when you were younger” and “What can you do now without their help?”
5. The fifth stage is the adolescent or teenage years. This stage last from puberty to adulthood, about 12 years old to 18. Discuss the change that occurs during the teenage years. Changes you will see when you are a teenager: acne, increased

growth and for boys – deeper voice. It is normal for girls to gain extra weight. It is a very emotional time. Teenagers begin to take on more responsibilities and make their own decisions.

E. *Assessment/Evaluation*

1. Pick one of the five stages and write a paragraph on that stage. Include details such as characteristics, size, weight, etc.

Lesson Six: Adulthood and Beyond (one lesson, 45 minutes)

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
 - b. Students understand how organisms change over time.
 - c. Students will appreciate the unique cycles that characterize ...and animal life systems.
2. Lesson Content
 - a. The Life Cycle and Reproduction
 - i. Life cycle: development of an organism from birth to growth, reproduction, and death.
 - a) Example: Growth stages of a human: embryo, fetus, newborn, infancy, childhood, adolescence, adulthood, and old age
 - ii. All living things reproduce themselves. Reproduction may be asexual or sexual.
 - a) Example of asexual reproduction fission (splitting) of bacteria, spores from mildews, molds, and mushrooms, budding of yeast cells, regeneration and cloning.
 - b) Sexual Reproduction requires the joining of special male and female cells, called gametes, to form a fertilized egg.
3. Skill Objective(s)
 - a. Students will be able to explain the difference between asexual and sexual reproduction.
 - b. Students will be able to explain the difference between sexual and asexual reproduction.
 - c. Students will be able to define and explain the eight stages of the human life cycle.

B. *Materials*

1. Science folder containing notes and paper
2. Pencils, two per student
3. Fact Sheet on “The Human Life Cycle,” Appendix D, copies for each student

C. *Key Vocabulary*

1. The *life cycle* is the development of an organism from reproduction, to birth, to growth, to death.
2. *Adulthood* is the sixth stage of the human life cycle lasting from about 18 years to old age.
3. *Old age* is the seventh stage of the human life cycle. It is the last part of adulthood. Starting around age 65 to death.
4. *Death* is the eighth stage of the human life cycle and the last.

D. *Procedures/Activities*

1. Instruct the students to get out their science folder, notes, paper, and pencils.

2. Ask: "Who can tell me the name of the first five stages of the human life cycle?"
 3. Review the five stages and discuss the characteristics.
 4. Tell the students: "Today we will talk about the last three stages of the human life cycle.
 5. The sixth stage of the human life cycle is adulthood. This stage lasts from about 18 years to 65 years old. This stage is when people must assume many responsibilities, choose their career, get a job, pay bills, and they may choose to start their own family.
 6. Old age is the eighth stage and this usually is when people retire from their job to enjoy the last part of their lives.
 7. The ninth stage is death.
 8. Conclusion: Every living thing goes through a cycle. Humans, animals, and plants. That stages in-between may not be the same, but the last stage is. Everything must die to complete the cycle.
- E. *Assessment/Evaluation*
1. Write a paragraph on what you would like to do when you become an adult. Answer questions like: What are your goals and dreams. What kind of job do you want? Do you want a family? What do you think will be the best part of being an adult?

VI. CULMINATING ACTIVITY

- A. One of the culminating activities will be a poster on the human life cycle.
1. Hand out assignment directions, Appendix E.
 2. Discuss the assignment. Answer any questions. Make sure all students understand what they are required to do to complete this project.
 3. Assessment is "The Human Life Cycle" poster. Use grading rubric, Appendix F, to grade chart.
- B. Another culminating activity will be the Cycle of Life Test.
1. Instruct the students to get out their pencils.
 2. Hand out a unit test to each student.
 3. Give students time to complete the test and collect when all students are finished.
 4. Grade test using answer key.

VII. HANDOUTS/WORKSHEETS

- A. Appendix A page 1: Pre-Assessment Life Processes and Reproduction
- B. Appendix A page 2: Teacher Key to Pre-Assessment Life Processes
- C. Appendix B page 1: Reproduction Quiz
- D. Appendix B page 2: Teacher Key: Reproduction Quiz
- E. Appendix C: Reproduction Crossword Puzzle
- F. Appendix D: Paragraph Grading Rubric
- G. Appendix E: "The Human Life Cycle" fact sheet
- H. Appendix F: Cumulating Activity Direction sheet.
- I. Appendix G.: Poster Grading Rubric
- J. Appendix H: "The Cycle of Life" Unit Test
- K. Appendix I: Teacher Key: "The Cycle of Life" Unit Test

VIII. BIBLIOGRAPHY

- A. Hirsch, Jr. E.D. *What Your Fifth Grader Needs to Know*. New York: Dell Publishing, 1991. ISBN 0-385-31464-7
- B. Mallinson, G., Mallinson, J., Smallwood, W., and Valentino, C. *Silver Burdett Science*. Silver Burdett Co., 1985. 0-382-13108-8.

- C. Web Site: Fifth Grade – Science – Lesson 34 – Life Cycles. Available URL:
www.cstone.net/~bcp/5/5MrSi.htm

Pre-Assessment: The Human Life Cycle

Matching:

Place the number on the line that correctly matches the definition.

- | | | | |
|----|------------------|-------|---|
| 1. | childhood | _____ | The last part of adulthood. |
| 2. | old age | _____ | A series of events, which repeats itself in the same order again and again. |
| 3. | infancy | _____ | The stages of growth and development throughout a person's life, spanning the time from birth to death. |
| 4. | cycle | _____ | |
| 5. | human life cycle | _____ | The earliest part of adolescence, when boys and girls are physically able to reproduce and begin to show the adult characteristics. |
| 6. | adolescence | _____ | |
| 7. | puberty | _____ | The first stage of the human life cycle, when the newborn comes out of its mother's body. |
| 8. | birth | _____ | The fourth stage of the human life cycle lasting from about age 12 to 18. |
| | | _____ | The second stage of the human life cycle, lasting about one year. |
| | | _____ | The third stage of the human life cycle, lasting to around the age of 12. |

Pre-Assessment: The Human Life Cycle

Matching:

Place the number on the line that correctly matches the definition.

- | | | | |
|----|------------------|-------|---|
| 1. | childhood | __2__ | The last part of adulthood. |
| 2. | old age | __4__ | A series of events, which repeats itself in the same order again and again. |
| 3. | infancy | __5__ | The stages of growth and development throughout a person's life, spanning the time from birth to death. |
| 4. | cycle | __7__ | The earliest part of adolescence, when boys and girls are physically able to reproduce and begin to show the adult characteristics. |
| 5. | human life cycle | __8__ | The first stage of the human life cycle, when the newborn comes out of its mother's body. |
| 6. | adolescence | __6__ | The fourth stage of the human life cycle lasting from about age 12 to 18. |
| 7. | puberty | __3__ | The second stage of the human life cycle, lasting about one year. |
| 8. | birth | __1__ | The third stage of the human life cycle, lasting to around the age of 12. |

Pre-Assessment: Reproduction

Correctly fill in each blank with the appropriate word:

1. _____ is the process in which living things produce offspring.
2. There are _____ types of reproduction.
3. The types of reproduction are _____ and _____.
4. Asexual means reproduction _____ using _____.
5. Name two types of asexual reproduction:
(name all four for extra credit)

6. _____ reproduction requires the joining of male and _____ cells.
7. Special male and female cells that participate in reproduction are called _____.
8. Male gamete + female gamete = fertilized _____.

Appendix C

Reproduction Crossword Puzzle

You can find a copy of the Reproduction Crossword Puzzle on the Internet at the website:

<http://www.cstone.net/~bcp/5/5MrSci.htm>.

Appendix D

Summary Writing Rubric

Name _____

Date _____

	4	3	2	1
Organization	The paragraph begins with a clear topic sentence that states the main idea of the selection; all other major points are stated and arranged in a logical order; a concluding sentence brings the summary to a close. The writing is unified and coherent throughout.	The paragraph begins with a topic sentence that states the main idea of the selection; all major ideas are stated and arranged in a generally logical order; concluding sentence brings the summary to a close, but extra details are added; the progression of ideas and information is, for the most part, logical.	The paragraph may or may not state the main idea of the selection, or it may do so at the beginning; it states some, but not all, major ideas and not necessarily in a logical order; the summary may lack a conclusion or include extra details; the development of ideas is not completely logical or coherent.	The paragraph does not state the main idea of the selection; it states few major ideas and does not use a logical order; it lacks a conclusion and includes extra and minor details; the writing lacks unity and coherence.
Elements of Summaries	The overall purpose of the paragraph is clear; the summary expresses only the main idea and major points of the selection; the writing is tailored to the audience. Word choice is effective and concise.	The purpose is generally clear; the paragraph expresses only the main idea and most major points of the selection; most of the writing is tailored to the audience. Word choice is fairly concise.	The purpose wavers; the paragraph does not accurately express the main idea or most major points of the selection; most of writing is not tailored to the audience. Word choice is vague or repetitive.	The purpose is unclear; the paragraph does not convey the main idea or major points of the selection; most of the writing is not tailored to the audience. Word choice is confusing and misleading.
Grammar, Usage, Mechanics, and Spelling	There are few or no errors in mechanics, usage, grammar, or spelling.	There are some errors in mechanics, usage, grammar, or spelling.	There are serious errors in mechanics, usage, grammar, or spelling.	Serious errors in mechanics, usage, grammar, or spelling make the summary difficult to understand.

Comments:

Appendix E

“The Human Life Cycle”

The human life cycle is the stages of growth and development throughout a person’s life, spanning the time from birth to death.

<u>Development Stage</u>		<u>Time of Development</u>
Stage 1	Birth	The first stage of the human life cycle, when the newborn comes out of its mother’s body.
Stage 2	Infant	The second stage of the human life cycle, Lasting about one year.
Stage 3	Toddler	The third stage of the human life cycle, from 1 to 3 years old.
Stage 4	Childhood	The fourth stage of the human life cycle lasting about 10 years, age 11 or 12.
Stage 5	Adolescent	The fifth stage of the human life cycle from puberty to adulthood, about 12 to 18. Also known as the teen years.
Stage 6	Adulthood	The sixth stage of the human life cycle lasting from about 18 years to old age.
Stage 7	Old Age	The seventh stage of the human life cycle is the last part of adulthood. Starting at around age 65 to death.
Stage 8	Death	The eighth stage of the human life cycle. This is the last stage.

Appendix F

CULMINATING ACTIVITY

Assignment: Create a time line of important events and stages of development and growth of a person. Your poster must include all eight stages of the human life cycle. Include details and events of the things that happen during each stage. Be sure to include definitions of each stage and interesting facts about each. Be creative.

Material: Poster board, colored pencils, and ruler.

Devise a plan:

1. Study your notes and think of a way you can make a time line of a person's growth and development.
2. On a separate sheet of paper, put these events and stages in order of occurrence. Decide on a scale for your time line.
3. Make your time line. Include definitions of words that you have learned in this unit.

Conclude:

1. Check to see if you have shown and explained all the growth cycle.
2. Check to see if your name is on the assignment.
3. Check to see if you have title, subject, and date.
4. Is your poster colorful and interesting?

Due:

You have one day to finish assignment.

Appendix G

Poster Grading Rubric

Name _____

Date _____

	4	3	2	1
Making a Growth Chart	The growth chart contains all required events and stages in the correct sequence. Date or range of dates for each item is also correct. Student defines all terms used in the growth chart. Student uses an appropriate scale for the growth chart.	The growth chart contains most required events and stages in the correct sequence. Date or range of dates for most items is also correct. Student defines most terms used in the growth chart. Student uses an appropriate scale for the growth chart.	Growth chart contains most required events and stages. Two or three events are in the wrong sequence. Date or range of dates for several items is incorrect. Student defines all but two or three terms used in the growth chart. Student uses an appropriate scale for the growth chart.	The growth chart does not contain several required events and stages. More than three events are in the wrong sequence. Date or range of dates for more than three items is incorrect. Student fails to define more than three scientific terms used in growth chart. Student fails to use an appropriate scale for the growth chart.
Concept Understanding	Student demonstrates mastery of concepts relating to the events and stages of human growth and development.	Student demonstrates a good understanding of concepts relating to the events and stages of human growth and development.	Student demonstrates a partial understanding of concepts relating to the events and stages of human growth and development.	Student demonstrates a minimal understanding of concepts relating to the events and stages of human growth and development.

Comments:

Name _____

Unit Test: The Cycle of Life

The Human Cycle of Life

Matching:

Place the number on the line that correctly matches the definition.

- | | | | |
|----|------------------|-------|---|
| 1. | childhood | _____ | The last part of adulthood. |
| | | _____ | A series of events, which repeats itself in the same order again and again. |
| 2. | old age | | |
| 3. | infancy | _____ | The stages of growth and Development throughout a person's life, spanning the time from birth to death. |
| 4. | cycle | | |
| 5. | human life cycle | _____ | The earliest part of adolescence, when boys and girls are physically able to reproduce and begin to show the adult characteristics. |
| 6. | adolescence | | |
| 7. | puberty | _____ | The first stage of the human life cycle, when the newborn comes out of its mother's body. |
| 8. | birth | | |
| | | _____ | The fourth stage of the human life cycle lasting from about age 12 to 18. |
| | | _____ | The second stage of the human life cycle, lasting about one year. |
| | | _____ | The third stage of the human life cycle, lasting to around the age of 12. |

Reproduction

Correctly fill in each blank with the appropriate word:

1. _____ is the process in which living things produce offspring.
2. There are _____ types of reproduction.
3. The types of reproduction are _____ and _____.
4. Asexual means reproduction _____ using _____.
5. Name two types of asexual reproduction:
(name all 4 for extra credit)

6. _____ reproduction requires the joining of male and _____ cells.
7. Special male and female cells that participate in reproduction are called _____.
8. Male gamete + female gamete = fertilized _____.

Unit Test: The Cycle of Life

Matching:

Place the number on the line that correctly matches the definition.

- | | | | |
|----|------------------|-------|---|
| 1. | childhood | __2__ | The last part of adulthood. |
| | | __4__ | A series of events, which repeats itself in the same order again and again. |
| 2. | old age | | |
| 3. | infancy | __5__ | The stages of growth and Development throughout a person's life, spanning the time from birth to death. |
| 4. | cycle | | |
| 5. | human life cycle | __7__ | The earliest part of adolescence, when boys and girls are physically able to reproduce and begin to show the adult characteristics. |
| 6. | adolescence | | |
| 7. | puberty | __8__ | The first stage of the human life cycle, when the newborn comes out of its mother's body. |
| 8. | birth | | |
| | | __6__ | The fourth stage of the human life cycle lasting from about age 12 to 18. |
| | | __3__ | The second stage of the human life cycle, lasting about one year. |
| | | __1__ | The third stage of the human life cycle, lasting to around the age of 12. |

