

Life Science

Unit 1: The Pattern of Life

1.5 weeks

7.2, 7.9

What is the biblical view of science?

Why is life so special?

What is the purpose of studying life science?

How do we see the image of God in humans?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Define worldview Compare naturalistic and biblical worldview Explain Gen 1:26-30 as it relates to science Give evidence of life using the characteristics of life Illustrate the concept of homeostasis in an organism Explain the meaning of the claim that life is engineered Show how people are different from the rest of creation How do microscopes work? How can I see cells? How do biologists work in the real world? Explain how life science uses models Describe the scientific process Outline the current system of the classification of life 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs class survey to demonstrate scientific method experiment to demonstrate scientific method truth discernment activity 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 1 teacher made assignments for experiment scientific statement examples for truth discernment activity 	<ul style="list-style-type: none"> responses on survey activity responses on experiment activity responses on truth discernment activity participation in class discussion responses to questions from text responses to questions on workbook activities Completion of ISN pages curriculum quizzes and tests ISN

Life Science

Unit 2: Cell Structure

1.5 Weeks

7.2, 7.7, 7.9

How does cell design show the creativity of God?

How does irreducible complexity point toward a Creationist view?

How does Creation point to a Designer?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• List the main points of the cell theory• Explain why cell theory is a scientific model• Differentiate between types of cells• Show how cells work together to form tissues in multicellular organisms• List the organelles and their functions• Explain osmosis and diffusion• Contrast the view that cell structures are engineered with the view of how they evolved• Define photosynthesis and cellular respirations• Identify ATP as the energy molecule in the cell• Summarize how cells obtain, store and use energy	<ul style="list-style-type: none">• lecture• discussion• individual reading• completing workbook activities individually and in pairs	<ul style="list-style-type: none">• textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 2• buttons	<ul style="list-style-type: none">• participation in class discussion• responses to questions from text• responses to questions on workbook activities• Curriculum quizzes and test• ISN

Life Science

Unit 3: Information in the Cell

1 Week 1 day

7.2, 7.9

How is the complexity of DNA evidence of God's design?

How is God's glory declared in creation?

How does DNA design show irreducible complexity?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Describe DNA structure Relate the structure of DNA to its function as and information storage molecule Summarize the processes of transcription and translation Compare gene structure and function with engineered systems Summarize the cell cycle Describe the process of DNA replication Compare mitosis and meiosis Argue that the structure of DNA is evidence of intelligent design Evaluate the ethics of cloning 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 3 cellular molecule models teacher made assignments for organelle comic strips 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses to questions on workbook activities Curriculum quizzes and test ISN

Life Science

Unit 4: Genetics

1.5 Weeks

7.2,7.7,7.9

- How does genetics reveal God's orderliness?
- What does the bible say about genetic disorders and human disorders?
- What does the Bible say about abortion and euthanasia?
- What is the biblical perspective on cloning?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Summarize Mendel's experiments and principles of inheritance • Contrast dominant and recessive alleles • Explain the relationship between genotype and phenotype • Predict The outcome of a cross with simple dominant-recessive inheritance pattern using Punnett Squares • Define incomplete and codominance • Explain How more than two alleles can affect character • Predict the outcomes of crosses with non-Mendelian inheritance patterns • Define the terms genetic drift and natural selection • Explain how genetic and natural selection affect populations • Analyze the potential for genetic change in a population change • Contrast an 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing workbook activities individually and in pairs 	<ul style="list-style-type: none"> • textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5thed., Chapter 4 • Translation and transcription videos 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • responses to questions on workbook activities • Curriculum quizzes and test • Spudoodle lab • ISN

evolutionist's view of natural selection with that if a creationist.			
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Life Science

Unit 5: Change in Nature

1.5 Weeks

7.1, 7.7, 7.8, 7.9

What is the role of faith in beliefs about origins?

What is the literal view of creation?

How can dinosaurs be explained using the Bible?

What are some of the problems with evolution?

What do you think God thinks about evolution?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• List various forms of evidence for change in living things• Explain why worldview affect's ones construction of history of change of life on Earth• Summarize the history of Darwinism• Explain the concept of natural selection• Explain how evolutionists interpret the evidences for change in living things• Critique the internal consistency of the evolutionary theory• Summarize the biblical account of Creation• explain how creationists interpret	<ul style="list-style-type: none">• lecture• discussion• individual reading• completing workbook activities individually, in pairs and as a class	<ul style="list-style-type: none">• textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 5• BJU Activities book	<ul style="list-style-type: none">• participation in class discussion• responses to questions from text• responses to questions on workbook activities• Curriculum quizzes and tests• ISN

Life Science

Unit 6: Bacteria and Viruses

1 week 1 day

7.1, 7.3, 7.4, 7.9

How can we use a microscope to uncover God’s unseen world?
What are the creation/evolutionists views on the origin of protozoa?
How are bacteria evidence of God’s design for us?
How are bacteria and viruses evidence of teh the Fall?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Identify the structures of bacterium Contrast the kingdoms of Archaeobacteria and Eubacteria Explain how bacteria reproduce Explain the role of bacteria in the environment Evaluate the claim that antibiotic resistance is an example of biological evolution Label the structure of a virus Explain why viruses are classified differently than living organisms explain the difference in active and latent viruses Evaluate the ethics of gene therapy 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs Group activity 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 6 BJU activities book 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses on in class discussion responses to questions on workbook activities curriculum quizzes and test teacher made rubrics for virus/bacteria poster ISN

Life Science

Unit 7: Protists and Fungi

1.5 weeks

7.1, 7.3, 7.7

**How can we use a microscope to uncover God's unseen world?
 What are the creation/evolutionists views on the origin of protists and fungi?
 How are fungi evidence of God's design for us?**

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Identify the major characteristics of fungi ● Classify protists on the basis of major characteristics ● Summarize how protists move, obtain energy and reproduce ● Explain the roles of protists in the environment ● Evaluate the assumption that protists are lower life forms ● identify the major characteristics of fungi ● Summarize how fungo obtain energy and reproduce ● Classify fungi on the basis of major characteristics ● Explain the roles of fungi in the environment ● Contrast explanations for the origin of slime molds 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● group and individual reading of Bible passages 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 7 ● Bibles ● BJU Activity book 	<ul style="list-style-type: none"> ● participation in class discussion ● responses to questions from text ● responses to questions on workbook activities ● curriculum tests and quizzes ● responses on essay activity ● ISN

Life Science

Unit 8: The Plant Kingdom

1 Week 1 Day

7.1, 7.3, 7.4,7.9

- How does the plant world bear testimony to an omniscient Creator?**
- How can we use resources in the plants God has given us to meet human's needs?**
- How are plants testimony to God's beauty and design?**
- How is the lily of the field evidence of God's care for us?**
- How can we compare fruit growth to spiritual growth?**

Objectives	Methods	Resources	Assessment
The student will: <ul style="list-style-type: none">• How are plants different from other living organisms• Compare plants with other living things• Differentiate between vascular and non vascular plants• Identify the structure and functions of roots, stems and leaves• Explain how cell walls and turgor pressure support plants• distinguish legitimate uses of plants from illegitimate uses on the basis of biblical teaching	<ul style="list-style-type: none">• lecture• discussion• individual reading• completing workbook activities individually and in pairs•	<ul style="list-style-type: none">• textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 8• BJU Activity book	<ul style="list-style-type: none">• participation in class discussion• responses to questions from text• responses to questions on workbook activities• curriculum quizzes and tests• responses to questions on bacterial multiplication activity• ISN

Life Science

Unit 9 : Plant Functions

1.5 Weeks

7.2, 7.3, 7.4, 7.9

**How does the plant world bear testimony to an omniscient Creator?
How can we use resources in the plants God has given us to meet human's needs?**

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Define tropisms in plants Identify the effects of hormones in plants Contrasts short-day and long-day plants Defend the aesthetic use of plants on the basis of biblical teaching Compare seed-producing plants with seedless plants Compare the reproduction in gymnosperms and angiosperms 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs begin plant germination and growth project xylem function demonstration tropism experiment video series <p><i>The Private Life of Plants</i></p>	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 9 materials for plant germination and growth project, and xylem function demonstration examples of leaves, root systems, and annual rings plants for tropism experiment video series <p><i>The Private Life of Plants</i></p>	<ul style="list-style-type: none"> Participation in class discussion responses to questions from text responses to questions on workbook activities Curriculum quizzes and test ISn Plant part ID lab

Life Science

Unit 10: Animal Classification

2 Weeks

7.3, 7.5, 7.7, 7.8, 7.9

What is the role of invertebrates in God's creation?

What are the differences between plants and animals in the Bible?

What is the role of mollusk and enchinoderms in the Bible?

How can we learn from the ant in the book of Proverbs?

How does God care for His creation?

How can we use the study of animals to see God's greatness and design?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> List the major characteristics common to all animals Explain how the characteristics of animals can be used to classify them Distinguish between chordates and vertebrates List the major characteristics of invertebrates Compare the major vertebrate phyla List the major characteristics of vertebrates Compare the major vertebrate classes Justify protecting certain animals using biblical teaching Identify parts and systems of frog 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs frog dissection 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 10 BJU Activity book BJU edition 4 Lab Book- frog dissection lab Frog posters dissection videos frog dissection puzzles 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses to questions on workbook activities curriculum quizzes and tests frog dissection lab

Life Science

Unit 11: Animal Structure and Function

2 Weeks

7.1,7.3, 7.5, 7.9

How does homeostasis reflect God's design?

How do a bird's beak and claws show God's intelligent design?

How can we use the study of animals to see God's greatness and design?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Compare various ways animals obtain energy • Explain how animals maintain homeostasis • Evaluate the cultural and ethical implications of eating insects • Distinguish between open and closed circulatory systems • Compare the circulatory systems of different vertebrate groups • Compare types of animal support • Compare types of animal movement • Compare types of animal control • Engineer a design that is based on a particular animal's body structure 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing workbook activities individually and in pairs • animal design engineering lab activity 	<ul style="list-style-type: none"> • textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 11 • pictures of various invertebrates • posters • tube of toothpaste (hydrostatic skeleton demonstration) • insects and magnifying glasses for insect study 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • responses to questions on workbook activities • responses to questions on insect study • curriculum quizzes and tests • ISN

Life Science

Unit 12: Reproduction and Behavior (Enrichment chapter)

1.5 Weeks

7.2, 7.3, 7.5, 7.6, 7.8, 7.9

How does God’s care shown for animals through their instincts?

What does the Bible say about animal testing?

How can we use life science to help others and serve God?

Why is the biblical command to honor your parents important?

How can you serve God as a veterinarian?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Identify reproductive organs and structures in animals Differentiate between internal and external fertilization Contrast internal and external prenatal development Classify animal behavior as innate or learned Identify the general forms of communication animals use Evaluate the ethics about animal testing 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 12 BJU lab activity book 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses to questions on workbook activities curriculum quizzes and tests ISN animal communication poster

Life Science

Unit 13: The Human Body/ Support and Movement

2 Weeks

- How is God’s creativity shown in humans?**
How does God view racism according to Genesis?
How does view all humans with regards to care?
How does the human skeleton show evidence of God’s design?

7.1,7.2, 7.7, 7.9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Distinguish humans from animals ● Define the four types of tissue ● Outline the levels of organization in the human body ● Describe the layers of human skin ● Explain how the skin functions ● Explain how skin color is produced ● Summarize from the Genesis narrative the origin of ethnic differences ● Demonstrate from Scripture that all humans deserve care ● Describe a typical bone structure ● Identify the major bones of teh human body ● Explain how the skeleton develops and grows ● Identify the main types of joints in the skeletal system ● Identify examples of voluntary and involuntary muscles ● Differentiate 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● interactive skeleton activity 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 13 ● life size skeleton model ● posters ● skeleton song 	<ul style="list-style-type: none"> ● participation in class discussion ● responses to questions from text ● responses to questions on workbook activities ● curriculum quizzes and tests ● Bone interactive test ● ISN

<p>between, skeletal, cardiac and smooth muscle</p> <ul style="list-style-type: none">● Explain how muscles function● Differentiate between tendons and ligaments			
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Life Science

Unit 14: Energy

1.5 Weeks

7.10, 7.11

How should Christians view nutrition?

How does a biblical view of nutrition differ from a secular view?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> List the six classes of nutrients explain the roles of the 6 nutrients and the body Analyze the nutrient content on food label Contrast mechanical and chemical digestion Describe the organs in the digestive system Trace the path of food through the digestive system Summarize the types of excretions Describe organs in the urinary system Summarize how the kidneys remove wastes from the blood trace the path of urine through the excretory system Explain the dangers of performance enhancing drugs 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs Tracking “What’s in my food?”- label reading activity Meal plan project “Doping in Sports” ethics assignment 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 14 Food labels recipe from home 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses to questions on workbook activities teacher made test Completed meal plan ISN chapter completion

Life Science

Unit 15: Transport

1.5 Weeks

7.8, 7.9, 7.10, 7.11

**How does the function of the body systems give proof to irreducible complexity?
How do body processes show evidence of a Creative Designer?**

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Describe the organs of the respiratory system Trace the flow of air through the respiratory system Explain how the respiratory system works with other body systems How does exercise affect breathing? How does the body move stuff around inside? Describe the components of the circulatory system Trace the flow of blood through the heart Analyze arguments for and against organ donation Describe the components of the lymphatic system Describe how the lymphatic system works with other body systems 	<ul style="list-style-type: none"> lecture discussion individual reading completing workbook activities individually and in pairs Heart rate activity Segregated blood lab activity Organ donation ethics activity 	<ul style="list-style-type: none"> textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 15 and 17 posters video: “tISN 	<ul style="list-style-type: none"> participation in class discussion responses to questions from text responses to questions on workbook activities teacher made test responses on ethics assignment completion of ISN ch 15

Life Science
Unit 16: Control

1 Week

7.8, 7.9, 7.10 7.11

How did disease enter the world?
What are the results of sin on our bodies?
How did God equip our bodies to fight pathogens?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Describe the structure and function of the immune system ● Show how the immune system and nervous system work together ● Propose solutions to prevent head trauma in sports ● Describe the bodies line of defense ● Contrast active and passive immunity ● Describe the parts of the nervous system ● Summarize how the nervous system relays messages ● Describe the sensory organs in he body ● Trace the path of a stimulus through a sensory organ to a nerve receptor 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● complete immunity analogy ● Safety in sports exercise ● Concussion protocol video 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 16 	<ul style="list-style-type: none"> ● participatio n in class discussion ● responses to questions from text ● responses to questions on workbook activities ● teacher made test ● Ch 16 ISN ● Immune System analogy ● Screen addiction exercise

Life Science
Unit 17: Reproduction, Growth and Development

1.5 Weeks

7.8, 7.9, 7.10 7.11

What is a scriptural support of biblical gender?

How can we glorify God through our gender?

What is a biblical stand on abortion?

How can we be good stewards of our time?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Describe the structures and functions of the human reproductive system ● Match the organs of the endocrine system with the hormones they produce ● Show how the endocrine and reproductive systems work together ● Predict how a student's body will change as they get older ● Formulate a Christian view on gender identity and human sexuality ● Describe the parts of the endocrine system ● Describe bodily changes associated with puberty ● Evaluate the current gender crisis on the basis of a biblical worldview ● List the structures and functions of the human reproductive organs ● Formulate a biblical worldview of human sexuality 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● Covenant Eyes: Protecting teens from pornography ● "Portrait of Lotte, Artificial Wombs" ● "lab activity: Too much sugar" ● Ethics question: Gender Confusion 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 17 ● Classroom visitor from CareNet to go over gestation, the effects of abortion and methods of abortion, as well as infant care and new mom care 	<ul style="list-style-type: none"> ● participation in class discussion ● responses to questions from text ● responses to questions on workbook activities ● teacher made test ● Ch 17 ISN ● Immune System analogy ● Screen addiction exercise

● List the stages of human development			
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Life Science Unit 18

1.5 Weeks

7.2, 7.6, 7.9

How are we as Christians to show wise dominion over God's Creation?

What are some ways that we can show love to our neighbor?

Why is it important that we are to be good stewards of the resources God has given us?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Analyze the relationship between abiotic and biotic factors in the environment ● Classify biomes on the basis of distinguishing characteristics ● Evaluate man's role in the environment based on biblical teaching ● Describe the factors that define the ecosystem ● Distinguish between biotic and abiotic factors ● Explain how ecologists use models to study the environment ● Describe the various types of biomes ● recommend a solution to an issue regarding environmental usage 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● Trip to Nauticus ● Environmental careers ● Ethics case study ● Backyard ecosystems activity 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 18 	<ul style="list-style-type: none"> ● participation in class discussion ● responses to questions from text ● responses to questions on workbook activities ● teacher made test ● Ch 18 ISN

Life Science
Unit 19 Rhythms in Ecosystems

2 Weeks

7.1, 7.6, 7.7, 7.8, 7.9, 7.11

How does God show care to His Creation?
Why is stewardship of the Earth important?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● Compare cycles of matter in the environment ● Trace the flow of energy in the environment ● Describe the biotic rhythms that occur in an ecosystem ● Evaluate man's role in managing the ecosystem ● Trace the path of the water cycle ● Associate the oxygen and carbon cycle ● Explain why energy can not cycle through the environment ● Analyze available energy in the ecosystem ● Formulate a biblical response to challenges of managing resources 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities individually and in pairs ● group projects 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 19 ● case study ● Ethics: Engineering for Migration ● Web searches 	<ul style="list-style-type: none"> ● participation in class discussion ● responses to questions from text ● responses to questions on workbook activities ● teacher made test ● Ch 19 ISN ● hands on lab activities ● Ecosystem poster project ● Food web/Food chain project

Life Science
Unit 20 Managing God's Creation

2 Weeks

7.7, 7.9, 7.11

How should we use life science to manage God's creation?
How do Christians respond to the challenges posed by population growth?
How do the views of environmental management fit in to the teachings of scripture?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> ● List the various forms of pollution ● Contrast renewable and non renewable resources ● Argue for the benefits of a natural resource ● Evaluate environmentalism and its extremes according to biblical teaching ● Defend the need for humans to manage the environment ● Apply the principles for wisely managing God's world to specific examples ● Formulate a Christian response to the challenges posed by human population growth 	<ul style="list-style-type: none"> ● lecture ● discussion ● individual reading ● completing workbook activities ● Population explosion- population growth model exercise ● Web links: Tribute to LIght, The Game of Game Animals, Sprucing up the Forrest 	<ul style="list-style-type: none"> ● textbook: Bob Jones <i>Life Science for Christian Schools</i>, 5th ed., Chapter 20 ● Curriculum web tools 	<ul style="list-style-type: none"> ● participatio n in class discussion ● responses to questions from text ● responses to questions on workbook activities ● teacher made test ● ISN ch 20 ● group resource project