ACAP

Alabama Comprehensive Assessment Program

ALTERNATE

Alabama Comprehensive Assessment Program (ACAP) *Alternate*

Item Specifications

Science

Grade 10

Alabama Comprehensive Assessment Program
(ACAP) *Alternate*

Item Specifications

Science

The *Alabama Comprehensive Assessment Program (ACAP) Alternate* item specifications are based on the development of alternate assessments that measure the 2018 *Alabama Alternate Achievement Standards: Science*. The item specifications define the purpose of the *ACAP Alternate* and provide important information regarding the content to be measured. The item specifications also serve as a road map to guide Alabama educators in the development and subsequent review of items that best measure the 2018 *Alabama Alternate Achievement Standards: Science* for a given grade and subject area. Each item specification is aligned to the given Alabama content area, domain, and standard and includes the following key information:

- Course of Study Standard
- Alternate Achievement Standard
- Content limits/constraints
- Recommended depth of knowledge (DOK) or cognitive levels
- Sample item stem information

The appendix to this document includes sample test items, along with information about each item, including item type, page reference, alignment, depth of knowledge, and answer key. These sample items are provided to be an additional resource for educators to help guide instruction and assessment-building in the classroom. Teachers can use the sample items as models when leading classroom discussion and when creating items for classroom tests or quizzes. In each sample item, the level of rigor needed in the item to align with the content standard is evident.

Definitions

Course of Study Standards: The Course of Study Standards are a set of content curriculum statements that define what general education students should know and be able to do at a given grade level.

Alternate Achievement Standards: The 2018 *Alabama Alternate Achievement Standards: Science* are directly aligned to the Alabama Course of Study Standards. The 2018 *Alabama Alternate Achievement Standards: Science* define what students with the most significant support needs should understand (know) and be able to do at the conclusion of a course or grade..

Alabama Content Areas: Alabama content areas are large groups of related clusters and content standards. Because science is a connected subject, standards from different Alabama content areas may sometimes be closely related.

Standards: Standards define what students should understand (know) and be able to do at the conclusion of a course or grade.

Assessment Limits/Content Constraints: Assessment limits and/or content constraints define the range of content knowledge and the degree of difficulty allowable when items are written to measure a given standard.

Depth of Knowledge (DOK): Depth of knowledge involves the cognitive complexity or the nature of thinking required for a given item. Depth of knowledge levels are used in the development of items for cognitive demand. Therefore, when developing items for depth of knowledge, each item should be as demanding cognitively as what the actual standard expects. The depth of knowledge includes three levels, from the lowest (basic recall) to the highest (strategic thinking).

The *ACAP Alternate* assessment items are written to one of three levels of cognitive complexity:

- Level 1: Recall
- Level 2: Application of a Skill/Concept
- Level 3: Strategic Thinking

Item Types: The *ACAP Alternate* assessments are composed of various item types. These item types are described in the following section.

Context: Context provides information regarding the types of stimulus materials that can be used in items. If context is allowable, it means that the item may have context. If context is required, then the item measuring the given standard must have context. If no context is noted, then the items measuring the given standard should not have context.

Sample Stem Information: This statement explains what students are expected to do when they respond to a given item.

Item Types

The *Alabama Comprehensive Assessment Program* (ACAP) *Alternate* assessments are composed of various item types. These item types are described below.

Multiple-Choice (MC) Items: MC items have three answer choices, including two distractors and one correct answer. Distractors for science represent common misconceptions, incorrect logic, incorrect application of an algorithm, computational errors, etc. A correct response to an MC item is worth one score point in the science *ACAP Alternate*.

Performance Task Items:

Multiple-Select (MS) Items: MS items are similar in structure to MC items. However, unlike an MC item, an MS item has four options and more than one correct answer. In other words, multiple responses are required for a given item. A correct response to an MS item is worth two score points in the science *ACAP Alternate*.

Two-Part Multiple-Choice Items: Two-part multiple-choice Items have two questions. The questions may require students to identify parts of the water cycle, parts of the solar system, interpret information from a graph or chart etc. A correct response to a two-part MC item is worth two score points in the science *ACAP Alternate* when both parts are correct.

Item Specifications

Item specifications are one of the key requirements for a high-quality, legally defensible, standards-based assessment. Item specifications help define important characteristics of the items (i.e., test questions) developed for each Alternate Achievement Standard. These item specifications provide guidelines to help clarify the focus of what is to be assessed, what items may include, and what items may not include (i.e., assessment limits). Item specifications are used by item writers, item editors, and item reviewers as a common reference throughout the item-development process, from initial writing to final approval. These science item specifications are based on the 2018 *Alabama Alternate Achievement Standards: Science*.

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES**
Standard	**SCI.B.HS.2- Obtain, evaluate, and communicate information to describe the function and diversity of organelles and structures in various types of cells (e.g., muscle cells having a large amount of mitochondria, plasmids in bacteria, chloroplasts in plant cells).**
Alternate Achievement Standard	**SCI.AAS.B.HS.2- Recognize organelles (e.g., mitochondria, ribosomes, chloroplasts) and their functions within plant and animal cells.**
Assessment Limits/Content Constraints	Use visual representation. Limit organelles to nucleus, cell membrane, mitochondria, ribosomes, and chloroplasts.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is an illustration of an animal cell with three parts labeled. What is the name for the part of the cell labeled G?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES**
Standard	**SCI.B.HS.3- Formulate an evidence-based explanation regarding how the composition of deoxyribonucleic acid (DNA) determines the structural organization of proteins.** **a. Obtain and evaluate experiments of major scientists and communicate their contributions to the development of the structure of DNA and to the development of the central dogma of molecular biology.** **b. Obtain, evaluate, and communicate information that explains how advancements in genetic technology (e.g., Human Genome Project, Encyclopedia of DNA Elements [ENCODE] project, 1000 Genomes Project) have contributed to the understanding as to how a genetic change at the DNA level may affect proteins and, in turn, influence the appearance of traits.** **c. Obtain information to identify errors that occur during DNA replication (e.g., deletion, insertion, translocation, substitution, inversion, frame-shift, point mutations).**
Alternate Achievement Standard	**SCI.AAS.B.HS.3- Recognize the structure of DNA which determines the characteristics of living organisms.**
Assessment Limits/Content Constraints	Use visual representation of the structure of DNA. Limit scientists to Watson, Crick, Franklin, and Wilkins.
DOK(s)	1 or 2
Sample Item Stem(s)	DNA is the molecule in the body that carries genetic information. Which illustration shows the structure of DNA?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES**
Standard	**SCI.B.HS.4- Develop and use models to explain the role of the cell cycle during growth and maintenance in multicellular organisms (e.g., normal growth and/or uncontrolled growth resulting in tumors).**
Alternate Achievement Standard	**SCI.AAS.B.HS.4- Use a model to illustrate how growth occurs when cells multiply and recognize that uncontrolled growth can lead to the development of tumors (e.g., cancer).**
Assessment Limits/Content Constraints	Use visual representation/models. Limit to normal cell growth and uncontrolled growth.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is an illustration of a cell. Which statement best describes normal cell growth?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES**
Standard	**SCI.B.HS.5- Plan and carry out investigations to explain feedback mechanisms (e.g., sweating and shivering) and cellular processes (e.g., active and passive transport) that maintain homeostasis.** **a. Plan and carry out investigations to explain how the unique properties of water (e.g., polarity, cohesion, adhesion) are vital to maintaining homeostasis in organisms.**
Alternate Achievement Standard	**SCI.AAS.B.HS.5- Recognize feedback mechanisms (e.g., sweating and shivering) that maintain homeostasis.**
Assessment Limits/Content Constraints	Limit to common homeostasis state, such as body temperature. Limit vocabulary to eighth-grade level.
DOK(s)	1 or 2
Sample Item Stem(s)	Which example is a feedback mechanism that maintains homeostasis?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES**
Standard	**SCI.B.HS.6- Analyze and interpret data from investigations to explain the role of products and reactants of photosynthesis and cellular respiration in the cycling of matter and the flow of energy.** **a. Plan and carry out investigations to explain the interactions among pigments, absorption of light, and reflection of light.**
Alternate Achievement Standard	**SCI.AAS.B.HS.6- Recognize the components necessary for plants to produce their own food and oxygen (e.g., water, sunlight, carbon dioxide).**
Assessment Limits/Content Constraints	Use visual representations as needed. Limit to glucose, oxygen, water, sunlight, and carbon dioxide.
DOK(s)	1 or 2
Sample Item Stem(s)	Plants produce their own food and oxygen. Which list contains the three things plants must have to produce their own food?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS**
Standard	**SCI.B.HS.7- Develop and use models to illustrate examples of ecological hierarchy levels, including biosphere, biome, ecosystem, community, population, and organism.**
Alternate Achievement Standard	**SCI.AAS.B.HS.7- Use models to recognize an organism, a population, and an ecosystem.**
Assessment Limits/Content Constraints	Use visual representation in stem/answer choices. Limit to organism, population, and ecosystem. Use common living things. Limit vocabulary to eighth-grade level.
DOK(s)	1 or 2
Sample Item Stem(s)	A population consists of many organisms. Here is a data table of organisms in different populations. Which population contains the most organisms?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS**
Standard	**SCI.B.HS.8- Develop and use models to describe the cycling of matter (e.g., carbon, nitrogen, water) and flow of energy (e.g., food chains, food webs, biomass pyramids, ten percent law) between abiotic and biotic factors in ecosystems.**
Alternate Achievement Standard	**SCI.AAS.B.HS.8- Identify living and nonliving components in an ecosystem; identify the flow of energy within a common food chain.**
Assessment Limits/Content Constraints	Limit food chain to no more than four levels. Limit components in an ecosystem to no more than six. Use visual representation in the stem.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is an illustration of an area within a forest in Alabama. What are the nonliving components in this ecosystem?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS**
Standard	**SCI.B.HS.9- Use mathematical comparisons and visual representations to support or refute explanations of factors that affect population growth (e.g., exponential, linear, logistic).**
Alternate Achievement Standard	**SCI.AAS.B.HS.9- Recognize the relationship between population size and available resources for food and shelter from a graphical representation.**
Assessment Limits/Content Constraints	Use visual representation to represent population growth or decline. Limit factors to food, competitors, climate (temperature and rainfall), and space.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is a graph that shows a population of carp in a lake over time. Here is a label that indicates when an algae bloom occurred in the lake. How did the algae bloom affect the population of carp?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **HEREDITY: INHERITANCE AND VARIATION OF TRAITS**
Standard	**SCI.B.HS.11- Analyze and interpret data collected from probability calculations to explain the variation of expressed traits within a population.** **a. Use mathematics and computation to predict phenotypic and genotypic ratios and percentages by constructing Punnett squares, including using both homozygous and heterozygous allele pairs.** **b. Develop and use models to demonstrate codominance, incomplete dominance, and Mendel's laws of segregation and independent assortment.** **c. Analyze and interpret data (e.g., pedigree charts, family and population studies) regarding Mendelian and complex genetic disorders (e.g., sickle-cell anemia, cystic fibrosis, type 2 diabetes) to determine patterns of genetic inheritance and disease risks from both genetic and environmental factors.**
Alternate Achievement Standard	**SCI.AAS.B.HS.11- Recognize that parents and offspring may have different traits**
Assessment Limits/Content Constraints	Use visual representation as needed. Do not use humans. Limit to common traits.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is a chart that compares the traits of two dogs and their offspring. Which traits are <u>most likely</u> inherited in dogs?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **UNITY AND DIVERSITY**
Standard	**SCI.B.HS.13- Obtain, evaluate, and communicate information to explain how organisms are classified by physical characteristics, organized into levels of taxonomy, and identified by binomial nomenclature (e.g., taxonomic classification, dichotomous keys).** **a. Engage in argument to justify the grouping of viruses in a category separate from living things.**
Alternate Achievement Standard	**SCI.AAS.B.HS.13- Classify organisms into similar groups based on physical characteristics.**
Assessment Limits/Content Constraints	Use visual representation as needed. Limit to vertebrates. Limit characteristics to vertebrae (in backbone), spinal cord, and endoskeleton.
DOK(s)	1 or 2
Sample Item Stem(s)	Why are dogs, cats, and birds all classified as vertebrates?

Grade	**10**
Content Area	**Science**
Strand	**BIOLOGY** **UNITY AND DIVERSITY**
Standard	**SCI.B.HS.16- Analyze scientific evidence (e.g., DNA, fossil records, cladograms, biogeography) to support hypotheses of common ancestry and biological evolution.**
Alternate Achievement Standard	**SCI.AAS.B.HS.16- Using fossil evidence, recognize that humans have changed in appearance over a very long period of time.**
Assessment Limits/Content Constraints	Use visual representation as needed. Limit to body size, locomotion, and diet
DOK(s)	1 or 2
Sample Item Stem(s)	Here is a fossil of a human skeleton and the skeleton of a modern human. What is one difference between the two skeletons?

Appendix: Released Items: Grade 10

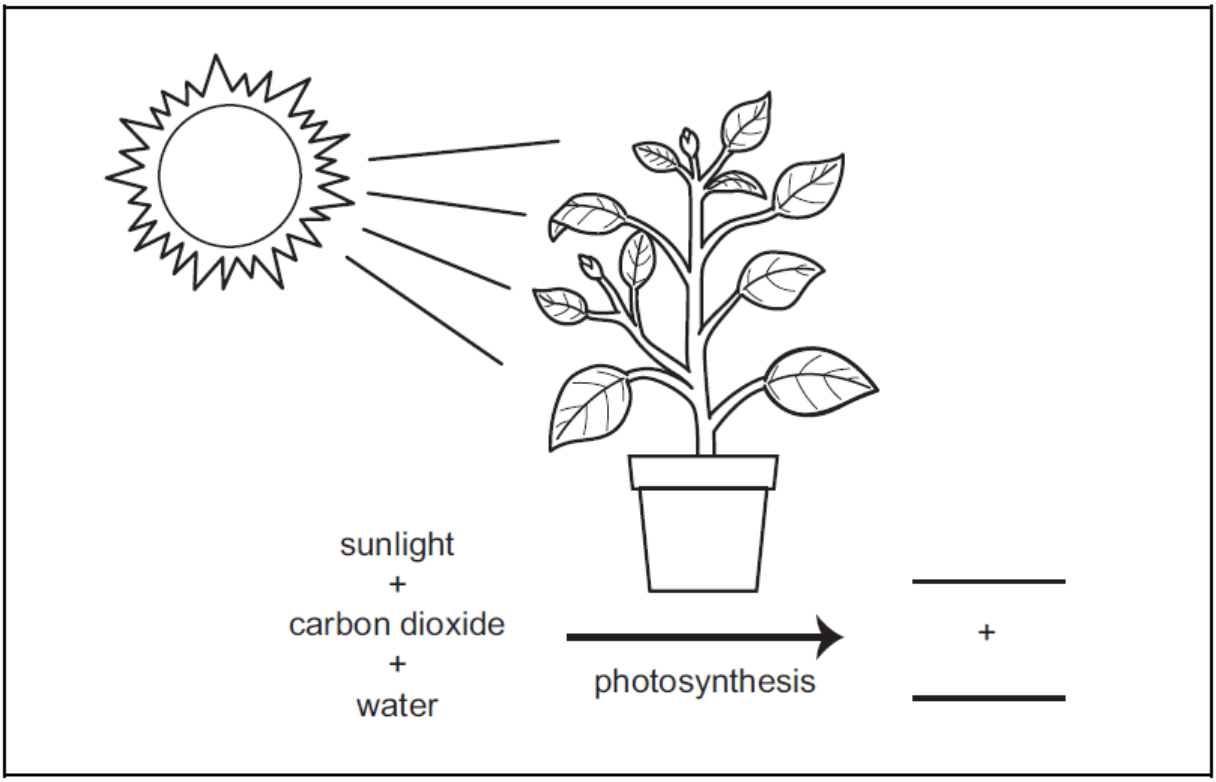
Released Items

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**During photosynthesis, plants use sunlight, carbon dioxide, and water.** *Point to the picture.* **What are the products of photosynthesis?** *Point to and read the answer choices.* A. **nitrogen and oxygen** B. **glucose and cellulose** C. **glucose and oxygen** D. no response

Item Information	
Item Type	MC
Page Reference	10
Alignment	SCI.AAS.B.HS.6
Point Value	1
Depth of Knowledge	2
Answer Key	C

Appendix: Released Items: Grade 10



nitrogen and oxygen

glucose and cellulose

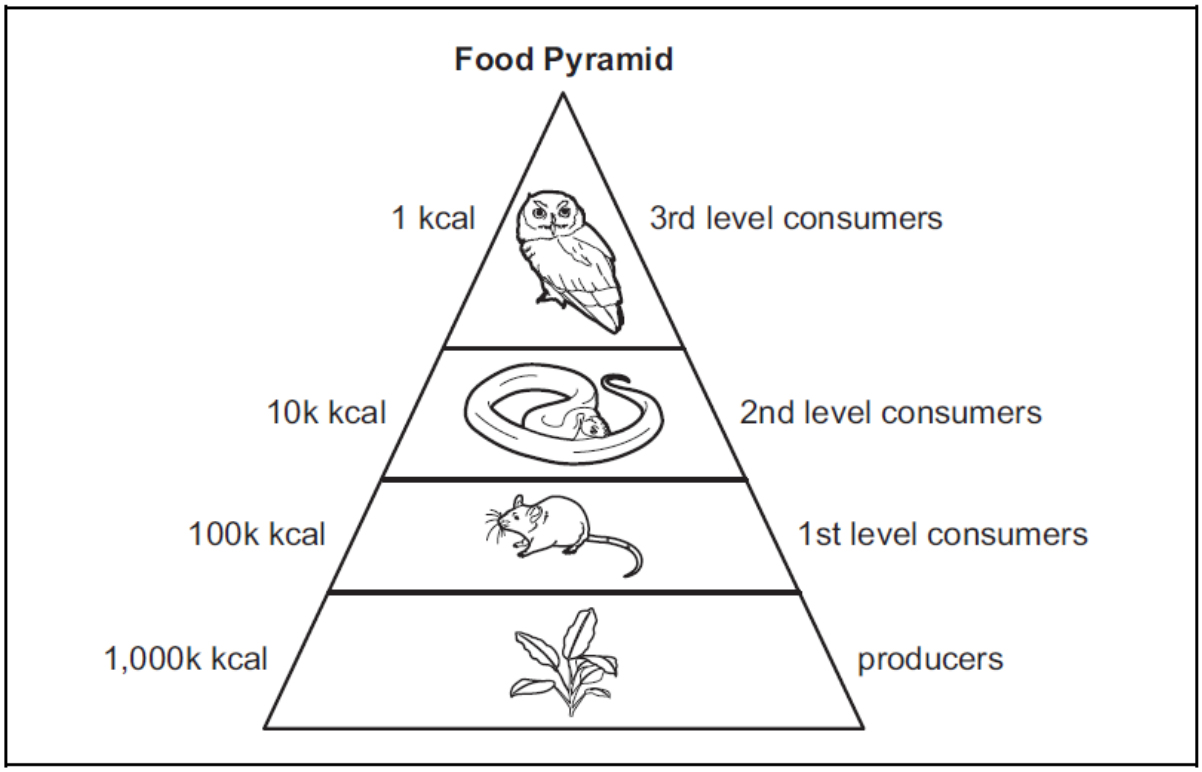
glucose and oxygen

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**This diagram shows how energy flows through a food pyramid.** *Point to the diagram and read the labels.* **Which sentence best describes the flow of energy through this food pyramid?** *Point to and read the answer choices.* A. **The most energy is available in the middle.** B. **The most energy is available at the bottom.** C. **The most energy is available at the top.** D. no response

Item Information	
Item Type	MC
Page Reference	12
Alignment	SCI.AAS.B.HS.8
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 10



The most energy is available in the middle.

The most energy is available at the bottom.

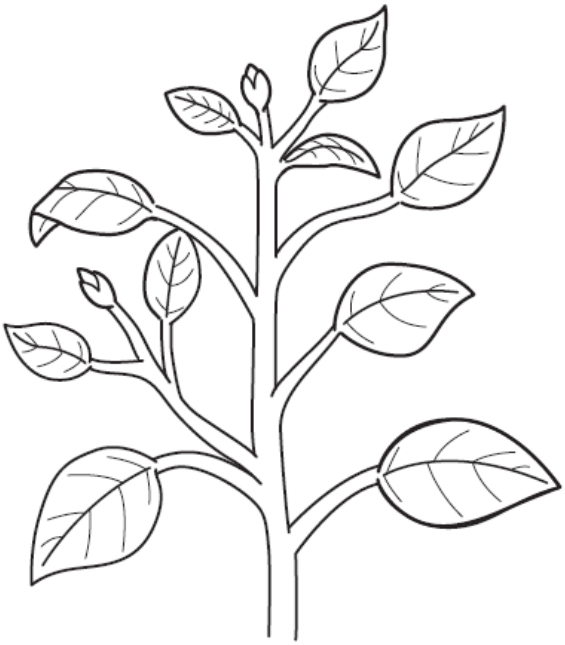
The most energy is available at the top.

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Plants produce their own food and oxygen during a process called photosynthesis.** *Point to the plant.* **What is the energy source for photosynthesis?** *Point to and read the answer choices.* A. **soil** B. **water** C. **sunlight** D. no response

Item Information	
Item Type	MC
Page Reference	10
Alignment	SCI.AAS.B.HS.6
Point Value	1
Depth of Knowledge	1
Answer Key	C

Appendix: Released Items: Grade 10



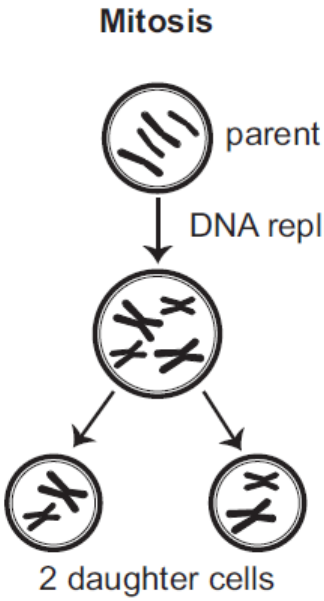
soil water sunlight

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is a diagram that shows mitosis. This is one way a cell divides.** *Point to the diagram and read the labels.* **When a cell divides by mitosis, two daughter cells are produced. Which sentence best describes the two daughter cells?** *Point to and read the answer choices.* A. **Each daughter cell carries different genetic information.** B. **Both daughter cells carry the same genetic information.** C. **Only one daughter cell carries the genetic information.** D. no response

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.B.HS.4
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 10



Each daughter cell carries different genetic information.

Both daughter cells carry the same genetic information.

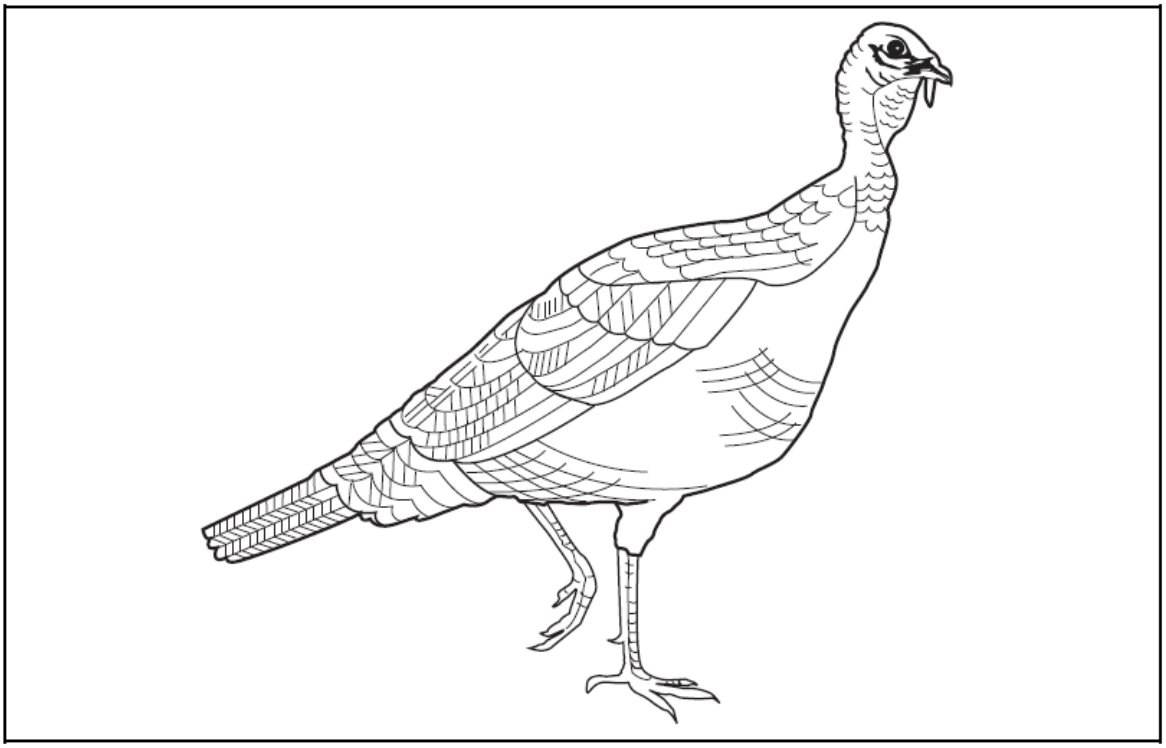
Only one daughter cell carries the genetic information.

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Wild turkeys are common in Alabama.** *Point to the picture.* **What would most likely be found in the wild turkeys' ecosystem?** *Point to and read the answer choices.* A. **sand, rocks, lizards** B. **trees, grasses, insects** C. **swamp, plants, fish** D. no response

Item Information	
Item Type	MC
Page Reference	11
Alignment	SCI.AAS.B.HS.7
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 10



sand, rocks, lizards

trees, grasses, insects

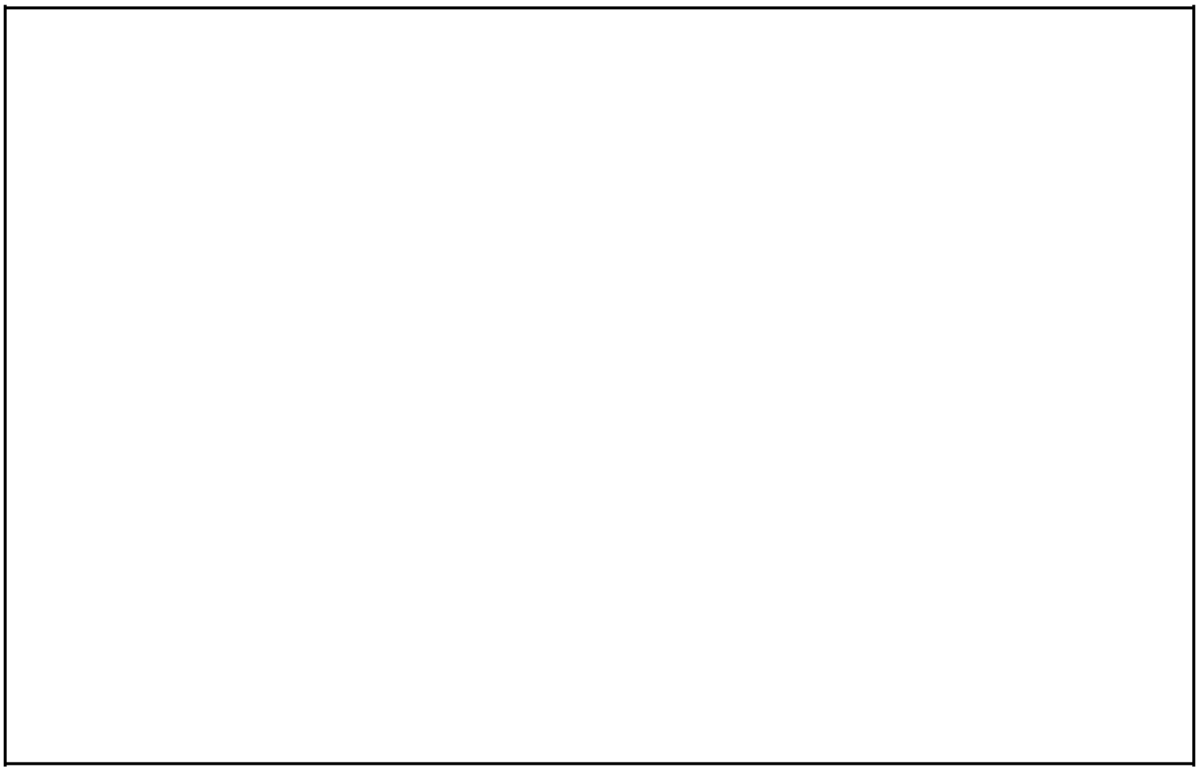
swamp, plants, fish

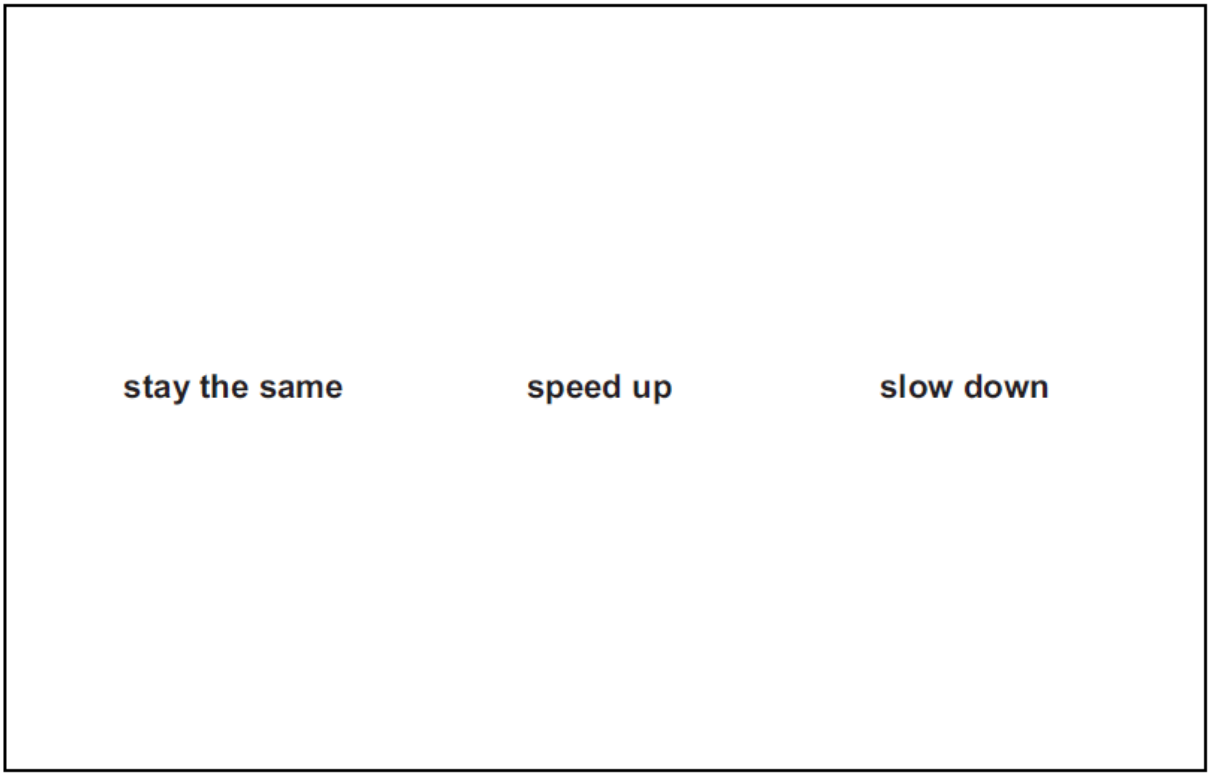
Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Keeping a healthy blood pressure level is an example of homeostasis. The heart can sense changes in blood pressure, causing it to send signals to the brain, which then sends signals back to the heart, telling it what to do. If blood pressure is too low, what will the heart do?** *Point to and read the answer choices.* A. **stay the same** B. **speed up** C. **slow down** D. no response

Item Information	
Item Type	MC
Page Reference	9
Alignment	SCI.AAS.B.HS.5
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 10



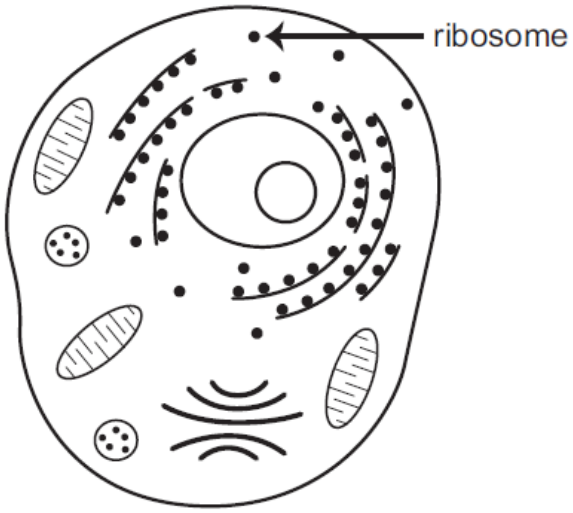


Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is a drawing of a typical animal cell.** *Point to the drawing.* **The arrow is pointing to a ribosome.** *Point to the arrow and the cell part.* **What is the function of ribosomes in the cell?** *Point to and read the answer choices.* A. **to make glucose** B. **to make proteins** C. **to make new cells** D. no response

Item Information	
Item Type	MC
Page Reference	6
Alignment	SCI.AAS.B.HS.2
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 10



to make glucose

to make proteins

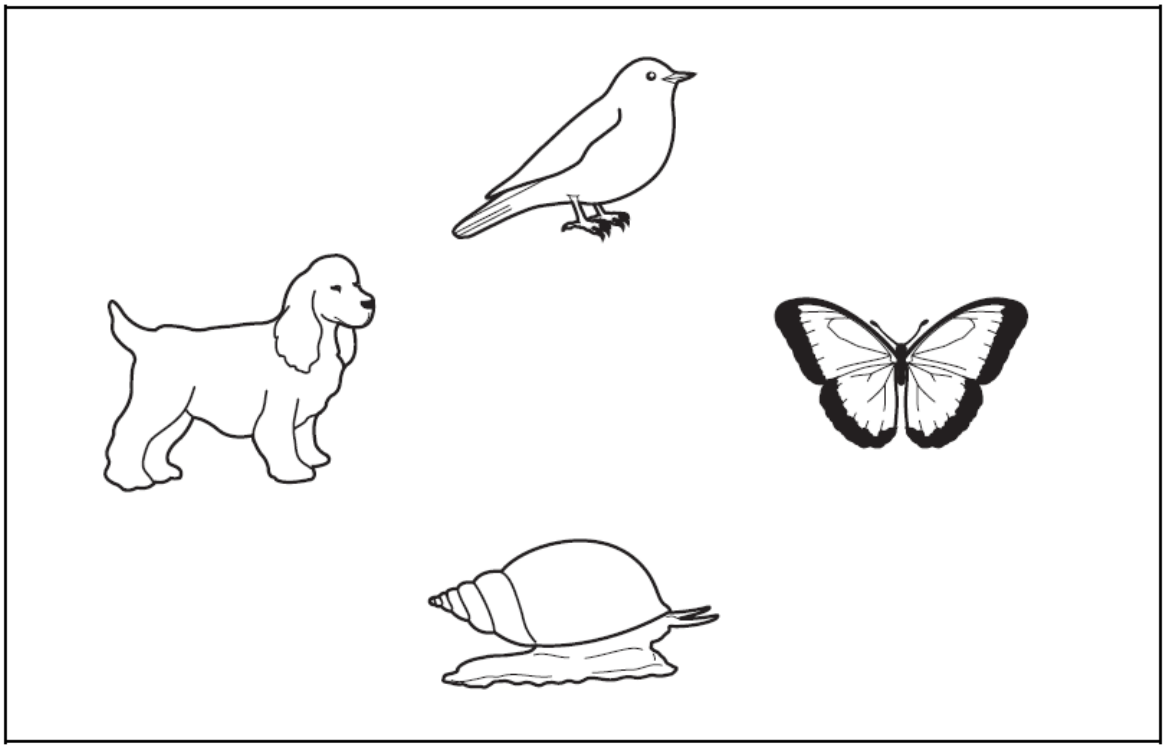
to make new cells

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is a group of organisms.** *Point to the drawing.* **Julien has been assigned to classify them into groups by whether they have a backbone or not. Which two organisms will be classified as having a backbone? Choose two.** *Point to and read the answer choices.* A. **bird** B. **butterfly** C. **snail** D. **dog** E. no response

Item Information	
Item Type	MS
Page Reference	15
Alignment	SCI.AAS.B.HS.13
Point Value	2
Depth of Knowledge	2
Answer Key	A, D

Appendix: Released Items: Grade 10



bird

butterfly

snail

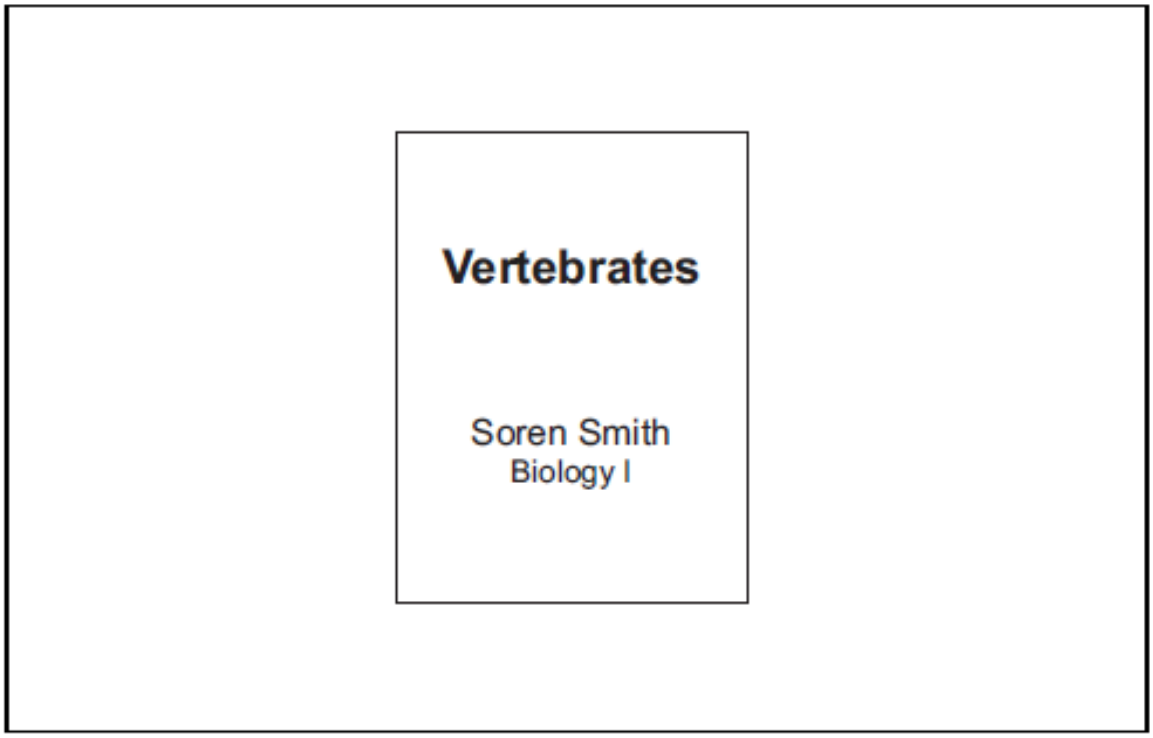
dog

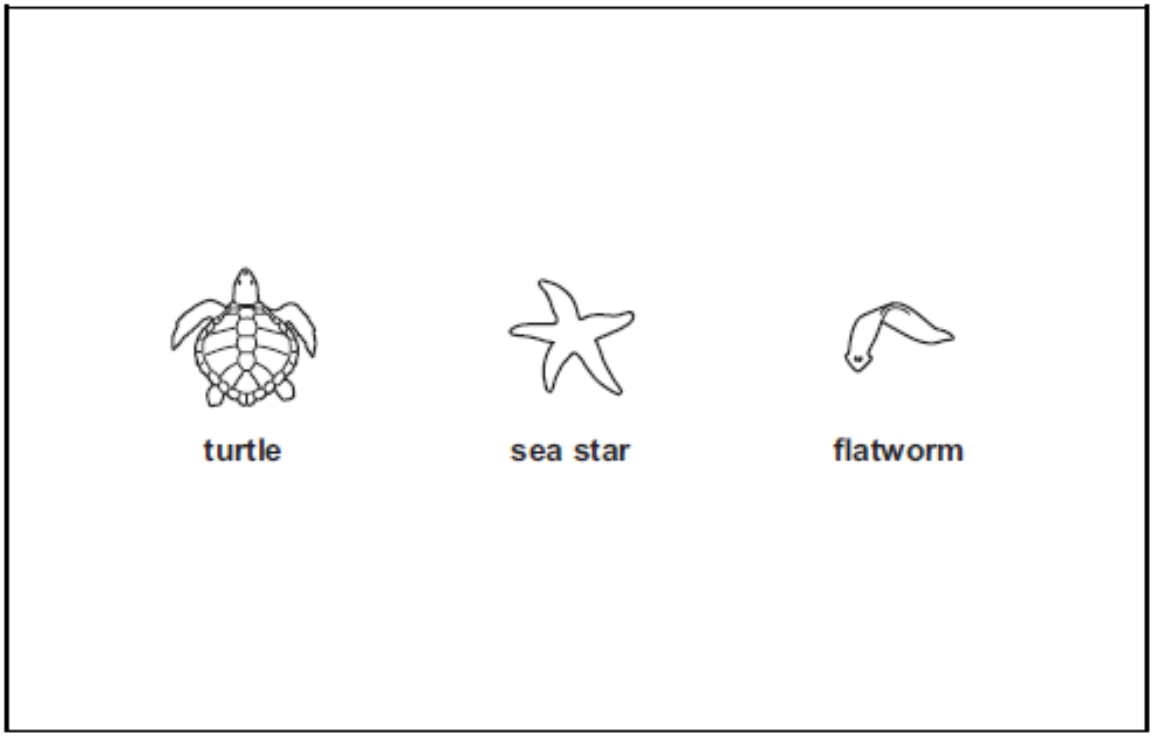
Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Soren is making illustrations for his report on animals that are vertebrates.** *Point to the picture and read the text.* **He needs a picture of a vertebrate to complete the report. Which animal should he include as a vertebrate?** *Point to and read the answer choices.* A. **turtle** B. **sea star** C. **flatworm** D. no response

Item Information	
Item Type	MC
Page Reference	15
Alignment	SCI.AAS.B.HS.13
Point Value	1
Depth of Knowledge	1
Answer Key	A

Appendix: Released Items: Grade 10





Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**The summer tanager is a bright red bird that nests in lowlands along streams and rivers.** *Point to the picture.* **A new park is planned to be built near one of the areas where the summer tanagers make nests. The construction will remove low shrubs to provide access to the stream for people to wade and fish in. According to this information, how will the construction most likely affect the summer tanager?** *Point to and read the answer choices.* A. **The construction will take away space the summer tanager uses to build its nests.** B. **The construction will remove all the flying insects the summer tanager uses for food.** C. **The construction will cause the temperature to decrease too much for the summer tanager to live.** D. no response

Item Information	
Item Type	MC
Page Reference	13
Alignment	SCI.AAS.B.HS.9
Point Value	1
Depth of Knowledge	2
Answer Key	A

Appendix: Released Items: Grade 10

The construction will take away space the summer tanager uses to build its nests.

The construction will remove all the flying insects the summer tanager uses for food.

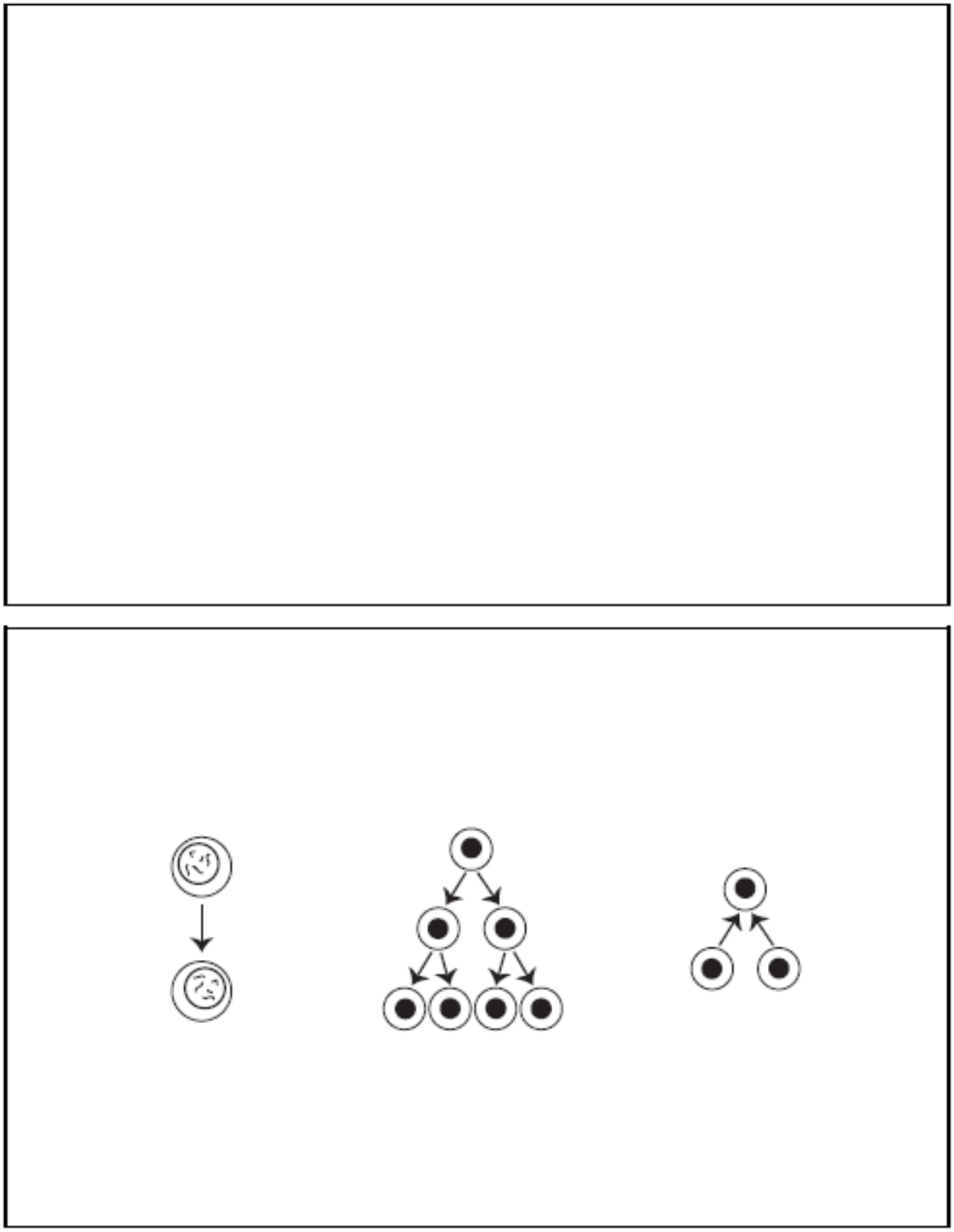
The construction will cause the temperature to decrease too much for the summer tanager to live.

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Humans grow from infants to adults because the cells in their bodies increase in number. Which picture shows how the cells in the human body divide and produce more cells?** *Point to the answer choices.* A. *diagram on the left* B. *diagram in the middle* C. *diagram on the right* D. no response

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.B.HS.4
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 10

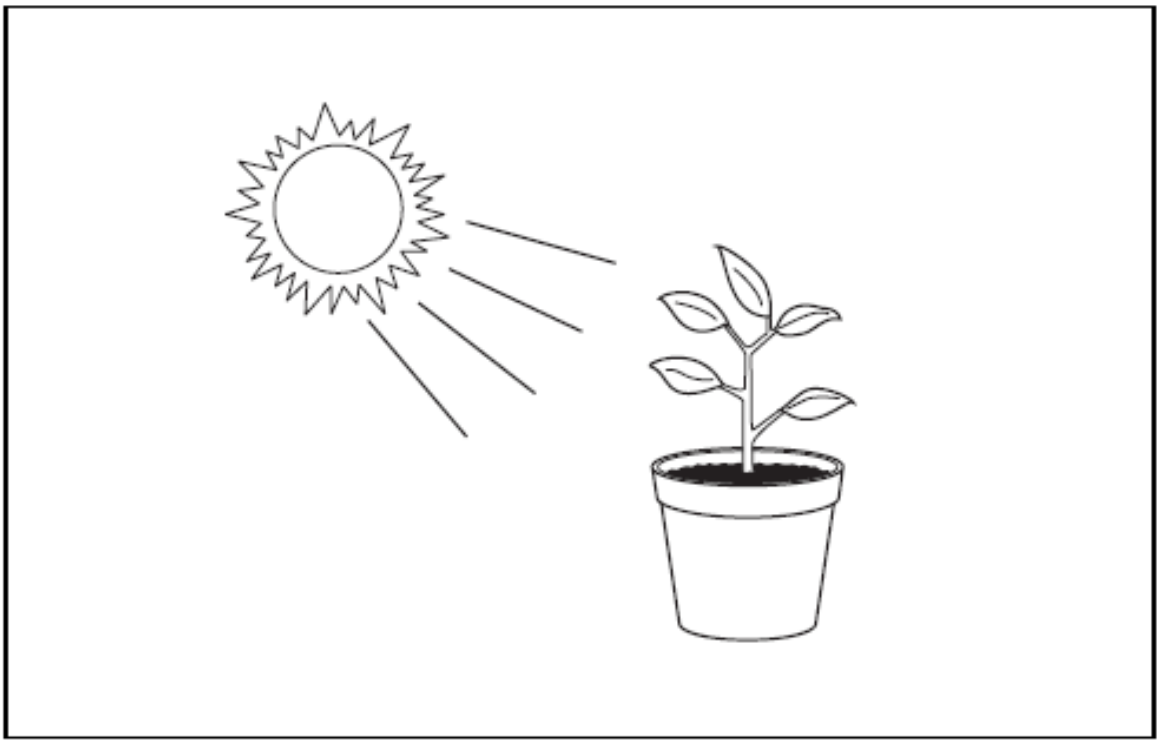


Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Plants produce the food they need through a process called photosynthesis.** *Point to the plant.* **Plants use sunlight as the energy source for this process.** *Point to the sun.* **Which other two components do plants need for photosynthesis? Choose two.** *Point to and read the answer choices.* A. **cellulose** B. **sand** C. **carbon dioxide** D. **water** E. no response

Item Information	
Item Type	MS
Page Reference	10
Alignment	SCI.AAS.B.HS.6
Point Value	2
Depth of Knowledge	2
Answer Key	C, D

Appendix: Released Items: Grade 10



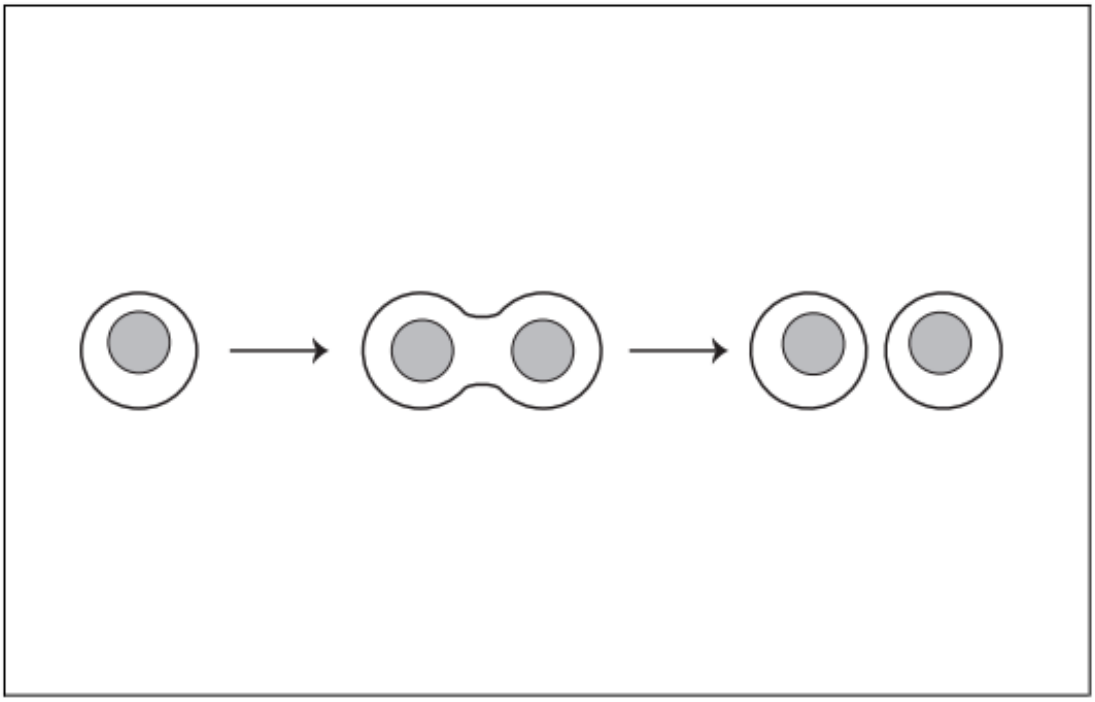
cellulose	sand
carbon dioxide	water

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Organisms grow by cells dividing and making new cells that are just like the original cell.** *Point to the picture.* **Sometimes something can go wrong during this process. The nucleus of one of the new cells can have an abnormal number of chromosomes that are disorganized. This new cell can then grow in an uncontrolled way. What can uncontrolled cell growth produce?** *Point to and read the answer choices.* A. **a tumor** B. **a chromosome** C. **a healthy cell** D. no response

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.B.HS.4
Point Value	1
Depth of Knowledge	1
Answer Key	A

Appendix: Released Items: Grade 10



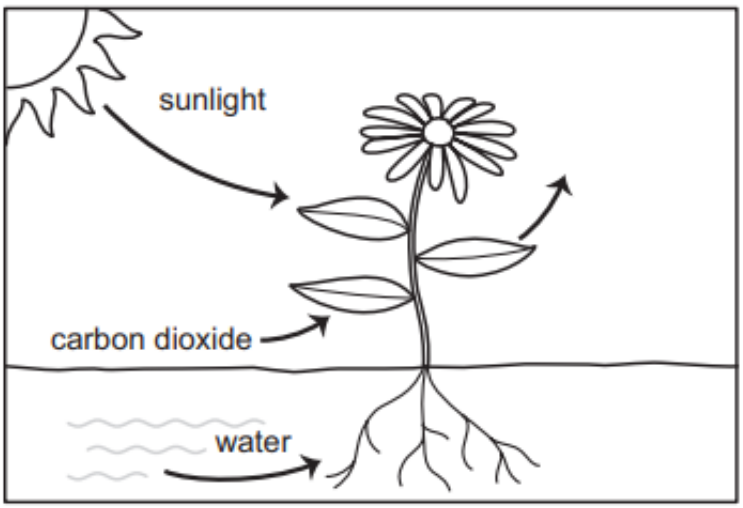
a tumor a chromosome a healthy cell

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Plants produce their own food through a process called photosynthesis. They use water, sunlight, and carbon dioxide to make glucose.** *Point to the picture.* **Which answer choice is the gas given off by the plant during this process?** *Point to and read the answer choices.* A. **nitrogen** B. **oxygen** C. **hydrogen** D. no response

Item Information	
Item Type	MC
Page Reference	10
Alignment	SCI.AAS.B.HS.6
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 10



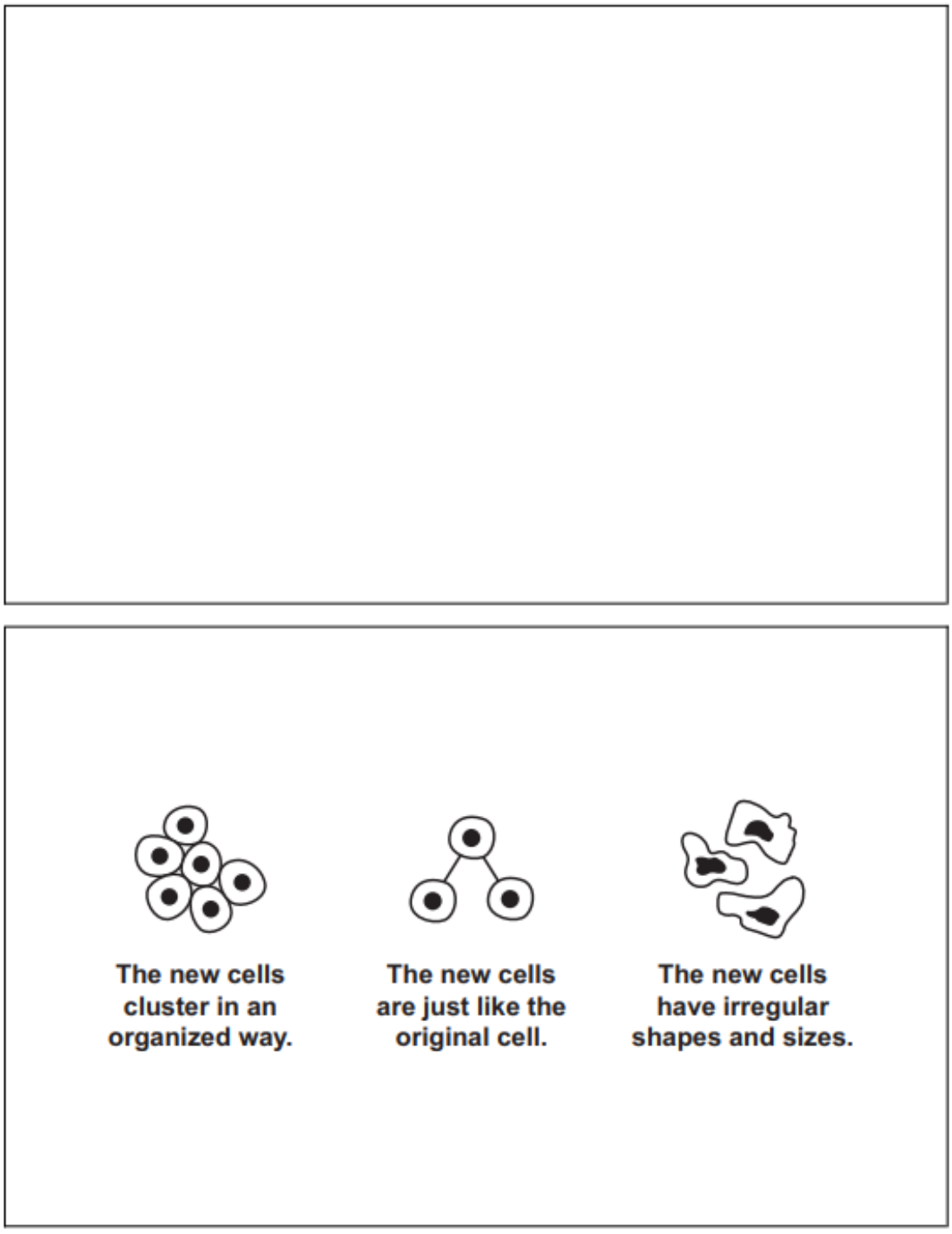
nitrogen oxygen hydrogen

Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Cells in plants and animals multiply by each cell dividing into two new cells. This process makes the organism grow. Sometimes, though, something goes wrong and the cell does not divide normally. Which answer choice best describes how cell growth can go wrong?** *Point to and read the answer choices.* A. **The new cells cluster in an organized way.** B. **The new cells are just like the original cell.** C. **The new cells have irregular shapes and sizes.** D. no response

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.B.HS.4
Point Value	1
Depth of Knowledge	2
Answer Key	C

Appendix: Released Items: Grade 10

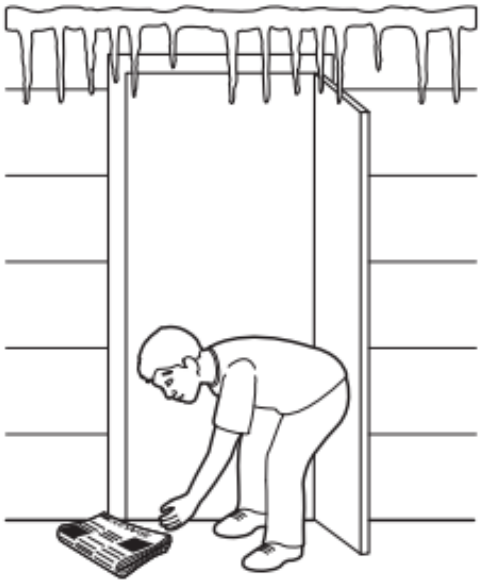


Appendix: Released Items: Grade 10

Teacher Book	
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**It was a cold winter day. Shannon opened the door and went out to pick up the newspaper. He did not wear a coat.** *Point to the picture.* **He began to shiver. Which answer choice best describes why Shannon began to shiver?** *Point to and read the answer choices.* A. **His body was trying to cool his body temperature by releasing water from his pores.** B. **His body was trying to maintain his body temperature by very quickly tightening and relaxing his muscles.** C. **His body was trying to warm his body temperature by making his teeth chatter and the hair on his arms rise.** D. no response

Item Information	
Item Type	MC
Page Reference	9
Alignment	SCI.AAS.B.HS.5
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 10



His body was trying to cool his body temperature by releasing water from his pores.

His body was trying to maintain his body temperature by very quickly tightening and relaxing his muscles.

His body was trying to warm his body temperature by making his teeth chatter and the hair on his arms rise.