Proclamation 2024 Report of Unconfirmed Required Corrections and Editorial Changes

This report provides information on the instructional materials adopted by the State Board of Education under *Proclamation 2024*. As a condition of adoption, publishers must implement all changes specified for required corrections, editorial changes and new content. These materials have been reviewed to confirm that all required changes were incorporated into the final versions provided to schools. The following results indicate the changes that were not made, along with the publisher's responses.

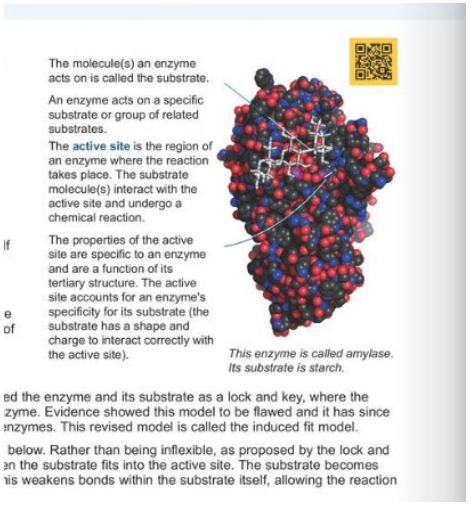
Biozone Corporation

Editorial Changes: 162 of 175 editorial changes were confirmed. See below for details regarding the changes that were not made.

Biology for Texas

1. **Initiated By:** Publisher
   Page Number(s): 114
   Location: third paragraph to left of diagram at top of page. Original Text: active site' is blue bolded
   Updated Text: change to black text, not bold

   Publisher Response: *Please accept our apologies. This has now been updated for future reprints and is listed on the errata notice.*


The molecule(s) an enzyme acts on is called the substrate.

An enzyme acts on a specific substrate or group of related substrates.

The **active site** is the region of an enzyme where the reaction takes place. The substrate molecule(s) interact with the active site and undergo a chemical reaction.

The properties of the active site are specific to an enzyme and are a function of its tertiary structure. The active site accounts for an enzyme's specificity for its substrate (the substrate has a shape and charge to interact correctly with the active site).

This enzyme is called amylase. Its substrate is starch.

ed the enzyme and its substrate as a lock and key, where the zyme. Evidence showed this model to be flawed and it has since nzymes. This revised model is called the induced fit model.

below. Rather than being inflexible, as proposed by the lock and n the substrate fits into the active site. The substrate becomes is weakens bonds within the substrate itself, allowing the reaction

2. **Initiated By:** Publisher
   Page Number(s): 442
   Location: first blue text box
   Updated Text: remove blue bolded style

   Publisher Response: *Please accept our apologies. This has now been updated for future reprints and is listed on the errata notice.*


114

63 What are Enzymes?

Key Question: What are enzymes and what role do they play in biological reactions?

What are enzymes?

- **Enzymes** are proteins. Their shape is determined by their specific tertiary (3-dimensional) structure.
- Enzymes control all the metabolic reactions and cellular processes that take place in a cell.
- Each enzyme controls a very specific metabolic

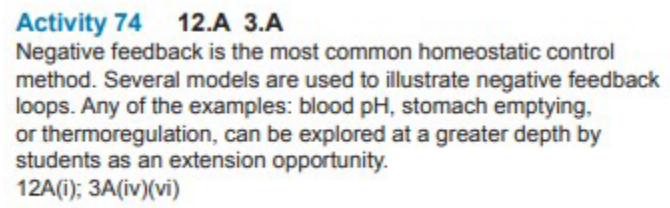
The molecule(s) an enzyme acts on is called the substrate.

An enzyme acts on a specific substrate or group of related substrates.

The **active site** is the region of

3. **Initiated By:** Publisher
   Page Number(s): CG32
   Location: Activity 74 breakouts removed in response to SRP review
   Updated Text: remove blue bolded style

   Publisher Response: *3A(v) will be deleted from Activity 74 page CG32. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*

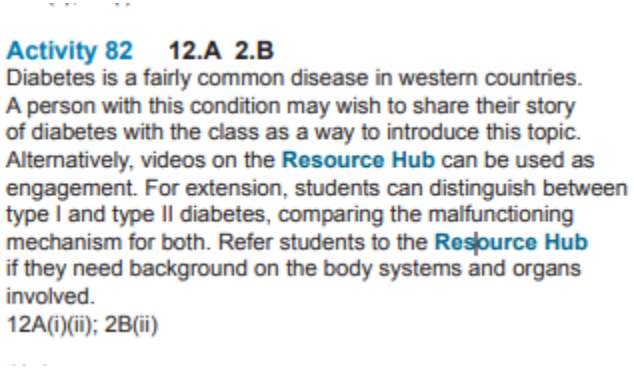

Activity 74 **12.A 3.A**

Negative feedback is the most common homeostatic control method. Several models are used to illustrate negative feedback loops. Any of the examples: blood pH, stomach emptying, or thermoregulation, can be explored at a greater depth by students as an extension opportunity.

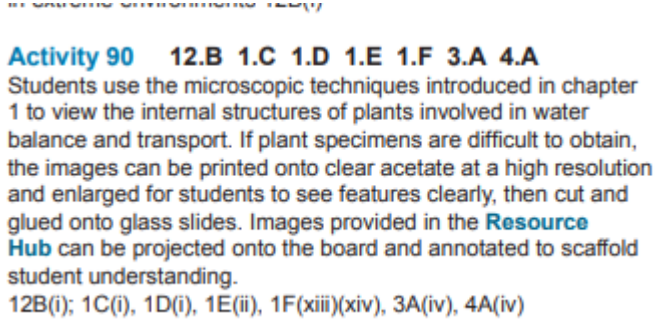
12A(i); 3A(iv)(vi)

4. **Initiated By:** Publisher
   Page Number(s): CG33
   Location: Activities 82 and 90 and 94
   Updated Text: Content previously on CG33 is now on CG37

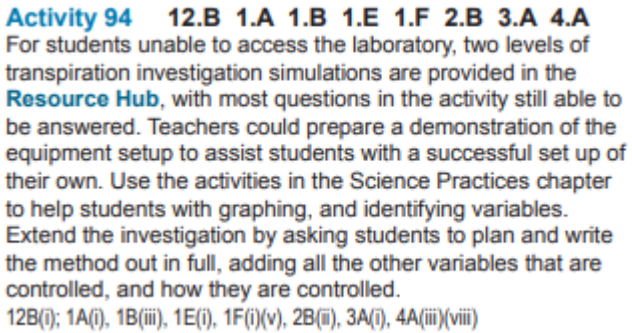
   Publisher Response: *Note that these activities are now on page CG37. 1F(viii) will be removed from Activity 90, page CG37, 1B(ii)(vii) and 2B(iii) will be removed from Activity 94, page CG37. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*



Activity 82 **12.A 2.B**
Diabetes is a fairly common disease in western countries. A person with this condition may wish to share their story of diabetes with the class as a way to introduce this topic. Alternatively, videos on the **Resource Hub** can be used as engagement. For extension, students can distinguish between type I and type II diabetes, comparing the malfunctioning mechanism for both. Refer students to the **Resource Hub** if they need background on the body systems and organs involved.
12A(i)(ii); 2B(ii)



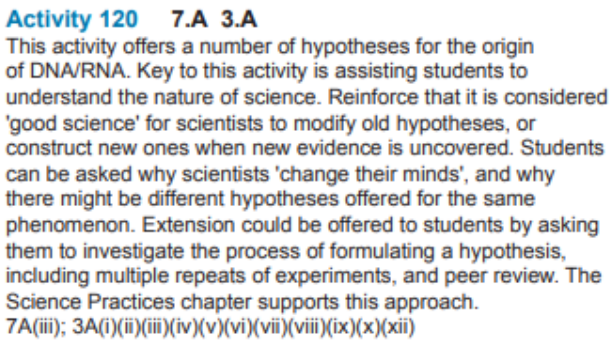
Activity 90 **12.B 1.C 1.D 1.E 1.F 3.A 4.A**
Students use the microscopic techniques introduced in chapter 1 to view the internal structures of plants involved in water balance and transport. If plant specimens are difficult to obtain, the images can be printed onto clear acetate at a high resolution and enlarged for students to see features clearly, then cut and glued onto glass slides. Images provided in the **Resource Hub** can be projected onto the board and annotated to scaffold student understanding.
12B(i); 1C(i), 1D(i), 1E(ii), 1F(xiii)(xiv), 3A(iv), 4A(iv)



Activity 94 **12.B 1.A 1.B 1.E 1.F 2.B 3.A 4.A**
For students unable to access the laboratory, two levels of transpiration investigation simulations are provided in the **Resource Hub**, with most questions in the activity still able to be answered. Teachers could prepare a demonstration of the equipment setup to assist students with a successful set up of their own. Use the activities in the Science Practices chapter to help students with graphing, and identifying variables. Extend the investigation by asking students to plan and write the method out in full, adding all the other variables that are controlled, and how they are controlled.
12B(i); 1A(i), 1B(iii), 1E(i), 1F(i)(v), 2B(ii), 3A(i), 4A(iii)(viii)

5. **Initiated By:** Publisher
   Page Number(s): CG35
   Location: Activity 120
   Updated Text: Activity 120 added 3A(i)(ii)(iii)(iv)(v)(vi) and deleted (xi)

   Publisher Response: *3A(i)(ii)(iii)(iv)(v)(vi) will be added and 3A(xi) will be deleted from Activity 120, page CG35. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*

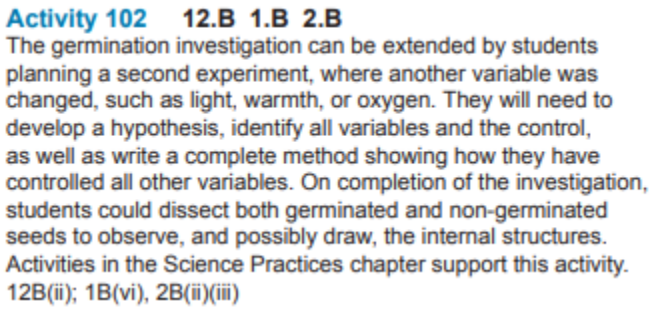


Activity 120 **7.A 3.A**

This activity offers a number of hypotheses for the origin of DNA/RNA. Key to this activity is assisting students to understand the nature of science. Reinforce that it is considered 'good science' for scientists to modify old hypotheses, or construct new ones when new evidence is uncovered. Students can be asked why scientists 'change their minds', and why there might be different hypotheses offered for the same phenomenon. Extension could be offered to students by asking them to investigate the process of formulating a hypothesis, including multiple repeats of experiments, and peer review. The Science Practices chapter supports this approach.
7A(iii); 3A(i)(ii)(iii)(iv)(v)(vi)(vii)(viii)(ix)(x)(xii)

6. **Initiated By:** Publisher
   Page Number(s): CG34
   Location: Activity 102
   Updated Text: Activity 120 added 3A(i)(ii)(iii)(iv)(v)(vi) and deleted (xi)

   Publisher Response: *1B(ii) will be removed from Activity 102, page CG34. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*



Activity 102 **12.B 1.B 2.B**

The germination investigation can be extended by students planning a second experiment, where another variable was changed, such as light, warmth, or oxygen. They will need to develop a hypothesis, identify all variables and the control, as well as write a complete method showing how they have controlled all other variables. On completion of the investigation, students could dissect both germinated and non-germinated seeds to observe, and possibly draw, the internal structures. Activities in the Science Practices chapter support this activity.
12B(ii); 1B(vi), 2B(ii)(iii)

7. **Initiated By:** Publisher
   Page Number(s): CG36
   Location: Activities 130, 136 and 138
   Updated Text: Activity 130 removed 7B and changed to 7C(i)(ii)(iii). Activity 136 removed 4B(xi). Activity 138 added 4B(ix) and removed 4B(xii)

   Publisher Response: 7B will be removed from Activity 130, page CG36. 7C(i)(ii)(iii) will be added to Activity 130, page CG36. 4B(xi) will be removed from Activity 138, page CG36. 4B(xii) will be removed from Activity 138, page CG36.Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.

Activity 130 **7.C**
This activity offers a wide range of case studies on beneficial and harmful mutation in humans. Cover them all broadly or select a few to cover in more detail. An alternative delivery is to assign expert groups to one case study. After a set time, one student from each expert group forms another group sitting in a circle, and students take it in turn to briefly outline the effects of 'their' mutation. This type of activity is useful when multiple areas or case studies of information are to be covered. Firstly, the students in the expert group pay close attention and contribute, as there is an expectation they will share their knowledge. Secondly, students each have a turn at talking and sharing equally, so normally reticent students have an opportunity to contribute.
7C(i)(ii)(iii)

Activity 136 **7.D**
Diabetes is covered in activity 82 and teachers may want to start the lesson by recapping the disorder. Some students, or those with family that have diabetes, may be willing to share about living with diabetes, and the process involved in checking and administering insulin. Students can be extended by comparing the pros and cons of traditionally sourced vs genetically modified insulin. Teachers could use this opportunity to discuss ethics involved, and how it is applied to genetic technologies.
7D(i)(ii)

Activity 138 **7.D 3.B 4.B 4.C**
The final activity covers several case studies of molecular technology. Examples are connected to Texas or Texas research centers. After working through the examples students can research a STEM career related to concepts covered in this chapter. Inviting scientists in to discuss their role would be a nice addition. Schools close to a University or research facility, may be able to undertake a field trip. Students are encouraged to conduct a literature search using as many different types of media as possible.
7D(i)(ii); 3B(i)(ii)(iii)(iv), 4B(ix), 4C(i)(ii)

8. **Initiated By:** Publisher
   Page Number(s): CG37
   Location: Activities 145, 151, 156, and 160
   Updated Text: Activity 145 deleted 1F(xii). Activity 151 deleted 8B. Activity 156 deleted 8B(iii). Activity 160 deleted 8A(ii)(v) and added 8B(v)

   Publisher Response: 1F(xii) will be deleted from Activity 145, page CG37. 8B will be deleted from Activity 151, page CG37. 8B(iii) will be deleted from Activity 156, page CG37. 8A(ii) (v) will be removed and 8B(v) added from/to Activity 160, page CG37. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.

Activity 145 **1.F**
Traits to measure in class could include width of hand, from outstretched little finger to thumb, as a continuous phenotype. Value laden phenotypes, such as skin color, are best to be avoided. Before the investigation, as a class, construct a list of both continuous and discontinuous traits in humans, then narrow down the list to those that can be easily measured in class. Activity 265 in the Science Practices chapter provides guidelines for using tally charts and constructing histograms. Students can be extended by completing graphs for a discontinuous and continuous phenotype. The extra graph can be attached to the page. 1F(iii)(v)(x)(xi)

Activity 151 **1.B 2.B 4.A**

Most students will have heard of Mendel and be aware of his experiments. Refresh understanding by showing the TED-Ed video on the **Resource Hub**. Teachers may need to scaffold some students when they calculate percentages and convert numerical data into ratios. Refer to activities 252 and 253 in the Science Practices chapter. Extension could be offered with a timeline research and presentation activity on the history of genetics discoveries, either on paper, or using a digital program. 1B(iii), 2B(ii), 4A(xi)

Activity 155 **8.B**

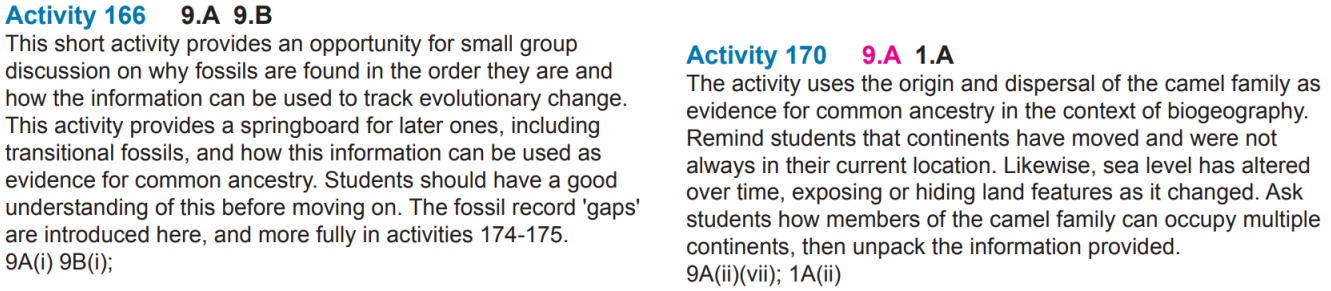
Once students have mastered Punnett squares for monohybrid crosses, they can move onto dihybrid crosses; practice examples are provided. Material in the **Resource Hub** can be used for extension in class or set as homework. Teachers can make a class set of laminated 4 x 4 grids (or 2 x 2 grids for monohybrid crosses) which students can write on with a wipeable marker, to save paper in class. 8B(v)

Activity 156 **8.B 2.B**

This activity provides an introduction to non Mendelian inheritance. Incomplete dominance, codominance, and sex linkage are covered in other activities. This activity is designed to be used with small groups or pairs working together, to elicit their prior knowledge and preconceptions on inheritance examples that do not follow the rules of Mendelian genetics. One option could be to complete the first half on calico cats as an introductory exercise, then move directly onto sex linkage in activity 159. Likewise, the lower section on colored roses can be a lesson starter, then move onto activity 157 to investigate incomplete dominance. The order of teaching of the next three activities is flexible. 8B(i); 2B(iv)

9. **Initiated By:** Publisher
   Page Number(s): CG38
   Location: Activities 166 and 170
   Updated Text: Activity 166 deleted 3A(xii). Activity 170 deleted 9B(ii)(vii) added 9A(ii)(vii)

   Publisher Response: *3A(xii) deleted from Activity 166 page CG38. 9B(ii)(vii) deleted and 9A(ii)(vii) added to Activity 170 page CG38. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*



Activity 166 **9.A 9.B**
This short activity provides an opportunity for small group discussion on why fossils are found in the order they are and how the information can be used to track evolutionary change. This activity provides a springboard for later ones, including transitional fossils, and how this information can be used as evidence for common ancestry. Students should have a good understanding of this before moving on. The fossil record 'gaps' are introduced here, and more fully in activities 174-175.
9A(i) 9B(i);

Activity 170 **9.A 1.A**
The activity uses the origin and dispersal of the camel family as evidence for common ancestry in the context of biogeography. Remind students that continents have moved and were not always in their current location. Likewise, sea level has altered over time, exposing or hiding land features as it changed. Ask students how members of the camel family can occupy multiple continents, then unpack the information provided.
9A(ii)(vii); 1A(ii)

10. **Initiated By:** Publisher
    Page Number(s): CG40
    Location: Activities 183 and 187
    Updated Text: Activity 183 deleted 4A(ix) . Activity 187 deleted 10B(iii)

    Publisher Response: 4A(ix) will be deleted from Activity 183 on page CG40. 10B(iii) will be deleted from Activity 187 on page CG40. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.

Activity 183 **10.B 1.F 1.G 2.B 4.B**
This activity provides a context in which to explore fitness, a term introduced in the previous activity. Darwin's famous work on the beaks of the Galápagos finches is used as a case study for natural selection. Introducing the species of finches, their diets, and beak phenotypes, shows students how wide the variation amongst the finches is. The graphing activity shows how selection pressure (drought) drove selection, based on beak size. Support material is provided in the **Resource Hub**. For extension, some students may want to delve deeper into Darwin's natural selection theory and present a report or presentation. Other research ideas could be an account of the other species he studied, or the work of Wallace in helping develop the theory.
10B(iv)(v)(vi); 1F(iii), 1G(ii), 2B(i)(ii), 4B(ix)

Activity 187 **10.B 1.F 2.B 3.A**
This activity uses a data set to illustrate how coat color acts as a selection pressure in populations of rock pocket mice. Introduce the activity with a short video about rock pocket mice, from the **Resource Hub.** This will familiarize students with the environments and the two coat color phenotypes. Data analysis of rock pocket mice provides an opportunity to graph, and examine patterns. Direct students to activity 264 in the Science Practices chapter for guidelines on how to draw a bar graph. Finish the activity with a class discussion.
10B(i); 1F(iii) 2B(ii) 3A(iii)

11. **Initiated By:** Publisher
Page Number(s): CG42
Location: Activities 216 and 224
Updated Text: Activity 216 added 1B(v) and deleted 3B(v). Activity 224 deleted 1F(ix)

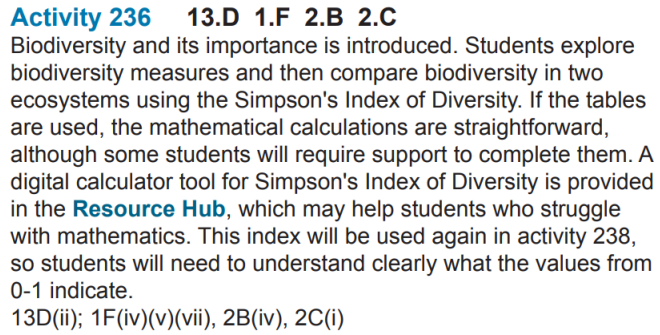
Publisher Response: *1B(v) will be added to Activity 216 and 3B(v) will be deleted from Activity 216 on page CG42. 1F(ix) will be deleted from Activity 223 on page CG42. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*

Activity 216 **13.A 1.B 3.B**
The zombie cockroach example is an engaging introduction to parasitism. If required, teachers can expand on the *Cyclospora* parasite outbreak that many students may be familiar with. Re-emphasize the benefit-loss balance for examples provided. Ask students to determine what each species benefits or loses from in each example. Link parasitism to destabilization using white nose syndrome in bats. For extension, students can discuss the consequences of a parasite outbreak, and why is it likely to be unsustainable in an ecosystem in the long term.
13A(ii)(vii); 1B(ii)(iv)(v) 3B(vi)

Activity 224 **1.F 1.G 2.B 2.C 3.A**
The 10% rule is an important concept to illustrate that not all energy passes to the next trophic level. Students may need scaffolding for the efficiency calculations in this activity. This could be achieved by working through some steps on the board. The initial food chain in the activity can be used as a context for the calculations. Question 5 is tagged as extension.
1F(iv)(vii)(xiii),1G(ii), 2B(i), 2C(i), 3A(v)

12. **Initiated By:** Publisher
    Page Number(s): CG43
    Location: Activity 236
    Updated Text: Activity 236 deleted 13D(i)

    Publisher Response: *13D(1) will be removed from Activity 236 on page CG43. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*



Activity 236 **13.D 1.F 2.B 2.C**
Biodiversity and its importance is introduced. Students explore biodiversity measures and then compare biodiversity in two ecosystems using the Simpson's Index of Diversity. If the tables are used, the mathematical calculations are straightforward, although some students will require support to complete them. A digital calculator tool for Simpson's Index of Diversity is provided in the **Resource Hub**, which may help students who struggle with mathematics. This index will be used again in activity 238, so students will need to understand clearly what the values from 0-1 indicate.
13D(ii); 1F(iv)(v)(vii), 2B(iv), 2C(i)

13. **Initiated By:** Publisher
    Page Number(s): CG45
    Location: Activity 272
    Updated Text: Activity 272 removed 1C(vii)

    Publisher Response: *1C(vii) will be removed from Activity 272 on page CG45. Apologies for this error. This will be listed on the errata which will contain a link to a free updated classroom guide. Purchasers will be notified.*

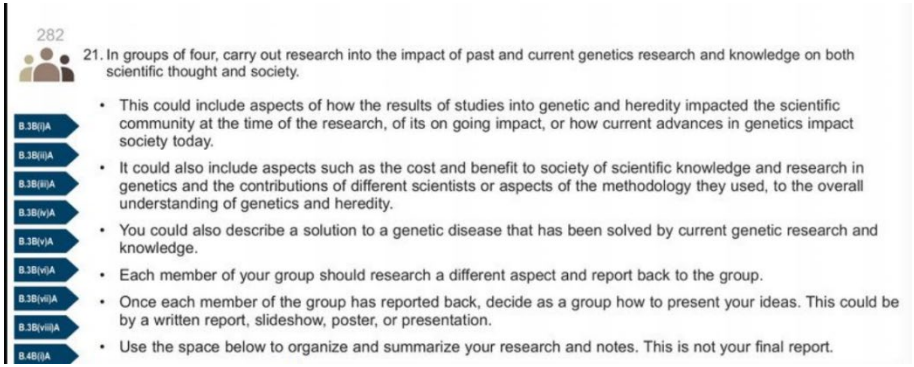
Activity 272 **1.C**
Safety is an important aspect in the classroom any time an investigation is carried out. This activity can be used on day one as an engagement activity to highlight appropriate behavior and practices. It is also suitable as a homework activity before the first laboratory session. Reminders can be provided throughout the program, as appropriate. Draw student attention to specific safety rules for each investigation or demonstration, and use TEA Texas Safety Standards to promote safe activity. The second part of the activity addresses ethics, and the importance of honest and ethical practices and reporting.
1C(i)(ii)(iii)(iv)(vi)

Required Corrections: 296 of 298 required corrections were confirmed. See below for details regarding the changes that were not made.

Biology for Texas

1. **Initiated By:** Publisher
   Page Number(s): 282 of Student Edition
   Location: p282
   Updated Text: Text needs to say *genetics* instead of genetic

   Publisher Response: Please accept apologies. This change has been made to the file for future reprints and is listed in the errata notice.


282

21. In groups of four, carry out research into the impact of past and current genetics research and knowledge on both scientific thought and society.

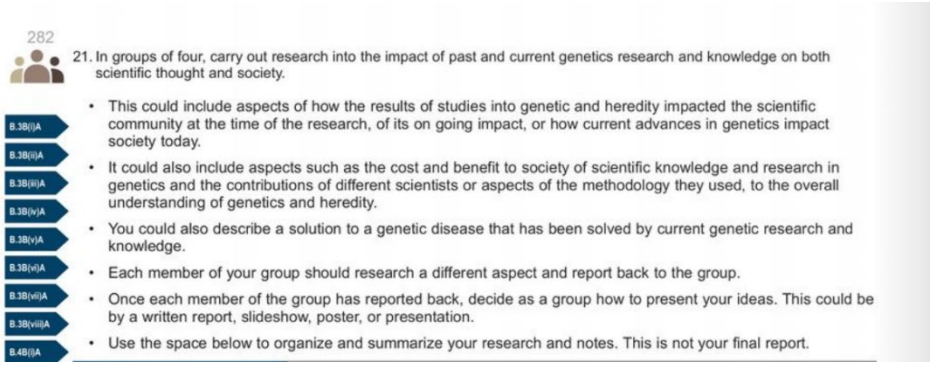
- This could include aspects of how the results of studies into genetic and heredity impacted the scientific community at the time of the research, of its on going impact, or how current advances in genetics impact society today.
- It could also include aspects such as the cost and benefit to society of scientific knowledge and research in genetics and the contributions of different scientists or aspects of the methodology they used, to the overall understanding of genetics and heredity.
- You could also describe a solution to a genetic disease that has been solved by current genetic research and knowledge.
- Each member of your group should research a different aspect and report back to the group.
- Once each member of the group has reported back, decide as a group how to present your ideas. This could be by a written report, slideshow, poster, or presentation.
- Use the space below to organize and summarize your research and notes. This is not your final report.

B.3B(i)A
B.3B(ii)A
B.3B(iii)A
B.3B(iv)A
B.3B(v)A
B.3B(vi)A
B.3B(vii)A
B.3B(viii)A
B.4B(i)A

Biology for Texas – Teacher Edition

1. **Initiated By:** Publisher
   Page Number(s): 282 of Teacher Edition
   Location: p282
   Updated Text: Text needs to say *genetics* instead of genetic

   Publisher Response: Please accept apologies. This change has been made to the file for future reprints and is listed in the errata notice.


282

21. In groups of four, carry out research into the impact of past and current genetics research and knowledge on both scientific thought and society.

- This could include aspects of how the results of studies into genetic and heredity impacted the scientific community at the time of the research, of its on going impact, or how current advances in genetics impact society today. B.3B(i)A B.3B(ii)A
- It could also include aspects such as the cost and benefit to society of scientific knowledge and research in genetics and the contributions of different scientists or aspects of the methodology they used, to the overall understanding of genetics and heredity. B.3B(iii)A B.3B(iv)A
- You could also describe a solution to a genetic disease that has been solved by current genetic research and knowledge. B.3B(v)A
- Each member of your group should research a different aspect and report back to the group. B.3B(vi)A
- Once each member of the group has reported back, decide as a group how to present your ideas. This could be by a written report, slideshow, poster, or presentation. B.3B(vii)A B.3B(viii)A
- Use the space below to organize and summarize your research and notes. This is not your final report. B.4B(i)A

Great Minds

Required Corrections: 40 of 41 required corrections were confirmed. See below for details regarding the changes that were not made.

PhD Science Texas Level 2

1. **Initiated By:** Publisher
   Page Number(s): 207
   Location: Second Spotlight on Knowledge and Skills sidebar on page 207.
   Required Correction: "Consider reading aloud pages 35 and 36, which explain how Crayola Crayons are made today."

   Publisher Response: Our vendor missed this change during our revision process. During our next printing, we will correct this error. It will be correct on the digital platform.

Spotlight on Knowledge and Skills

Guide students to realize that Edwin's team needed to combine different materials to create a crayon, and none of the individual materials can work as a crayon. Consider reading aloud pages 25 and 36, which explain how Crayola Crayons are made today. Focus on photographs 1, 2, and 3. Show students the photographs by using a document camera or by passing around a copy of the text (2.6C, 4F).