



Escape Room Science Review

Submitted by: Linda Bugg, Science
Bess T. Shepherd Elementary School, Chattanooga, TN

Target Grade: 5th Grade

Time Required: 35 minutes

Standards:

Next Generation Science Standard(s):

- [5th Grade Standards](#)

Lesson Objectives:

Students will:

- Review content covered throughout the year while completing puzzle codes to escape!

Central Focus:

There's been an invasion! Aliens have landed on earth and it's up to your students to save the world! In this end-of-year, escape room science review, students will review science topics covered throughout the year. Students will answer multiple choice questions to unlock the puzzle and send the aliens back to their moon. This lesson is sure to be out of this world!

Keywords: assessment, review game, engaging, matter, interactions, motion, stability, forces, energy, molecules, organisms, structures, processes, ecosystems, dynamics, universe, systems, human activity, engineering design

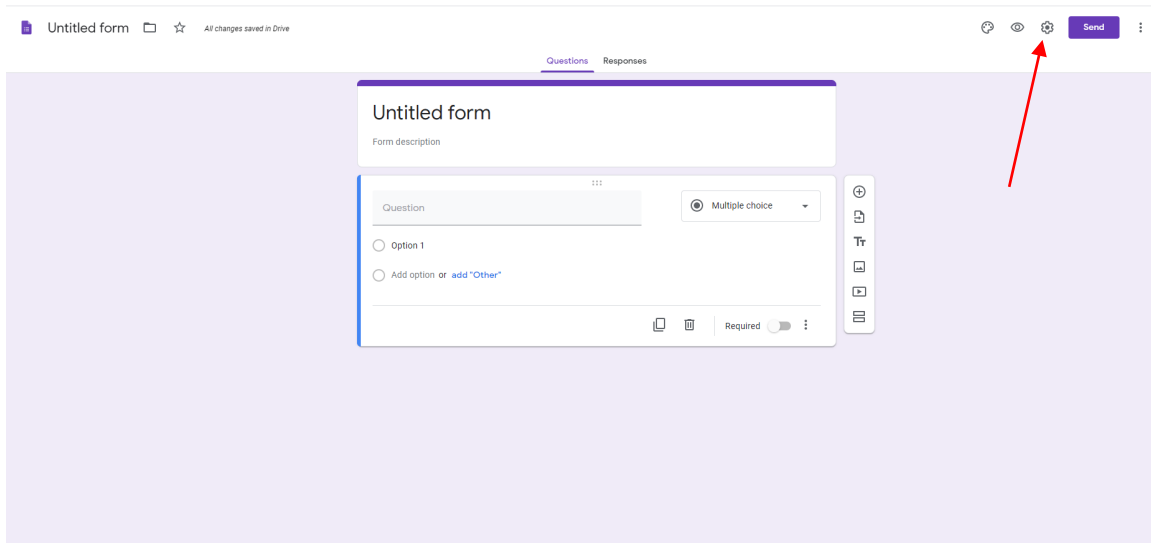
Materials

- Stations of six tables labeled 1-6
- Escape room question handouts
- Google forms puzzle locks (directions for set up in instructions)
 - Example of Google Form Puzzle Locks:
<https://docs.google.com/forms/d/1zUe7aMCWJdA008ptvE7kZP5B5vRuNh0uuAVJ2JF7duo/edit>
- 6 Chromebooks and Google logins
- 3D printed trophies and moon pies for the winners

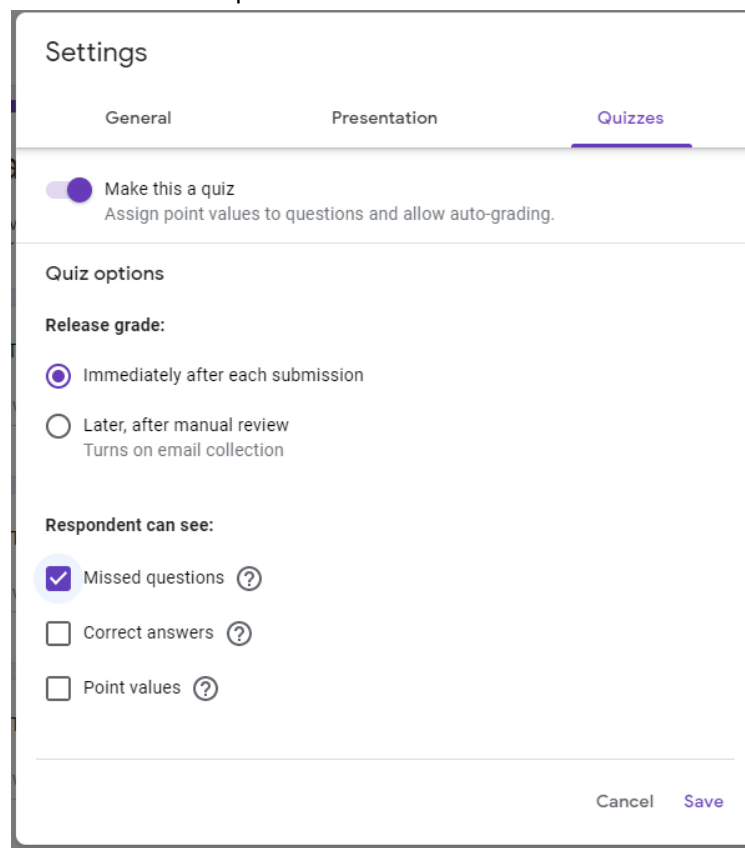


Instruction

- To set up a Google Forms puzzle locks, the teacher should log into docs.google.com/forms.
- Click the gear in the upper right corner.



- In settings, turn on “Make this a quiz” to allow the form to check student answers.





- Add a title and a description of the form.

Questions Responses Total points: 0

Escape Room Puzzle Locks

Aliens have landed on earth and plan to rid our planet of all earthlings and take over our planet! Your mission is to answer all of the questions and solve the puzzle codes in 35 minutes or all humans will cease to exist!

Question Multiple choice

Option 1

Add option or [add "Other"](#)

Answer key (0 points) Required

- Title the question “Table 1 (Turn CAPS LOCK on for letters)” and switch the question type from multiple choice to short answer. Turn on the “Required” button in the bottom right corner of the question box.

Questions Responses Total points: 0

Escape Room Puzzle Locks

Aliens have landed on earth and plan to rid our planet of all earthlings and take over our planet! Your mission is to answer all of the questions and solve the puzzle codes in 35 minutes or all humans will cease to exist!

Table 1 (Turn CAPS LOCK on for letters)

Option 1

Add option or [add "Other"](#)

Answer key (0 points) Required

- Short answer
- Paragraph
- Multiple choice
- Checkboxes
- Dropdown
- File upload
- Linear scale
- Multiple choice grid
- Checkbox grid
- Date
- Time



- Click on “Answer Key” to add the correct answer for Table 1. For Table 1, the correct answer is D3A4C. Check the box “Mark all other answers incorrect.” Click “done” when finished to return to the question.

Questions Responses Total points: 0

Escape Room Puzzle Locks

Aliens have landed on earth and plan to rid our planet of all earthlings and take over our planet! Your mission is to answer all of the questions and solve the puzzle codes in 35 minutes or all humans will cease to exist!

☑ List correct answer(s):

Table 1 (Turn CAPS LOCK on for letters) 0 points

D3A4C ✕

Add a correct answer

Mark all other answers incorrect

Add answer feedback

Done

- Repeat this process for Tables 2-6.

Questions Responses Total points: 0

Escape Room Puzzle Locks

Aliens have landed on earth and plan to rid our planet of all earthlings and take over our planet! Your mission is to answer all of the questions and solve the puzzle codes in 35 minutes or all humans will cease to exist!

Table 1 (Turn CAPS LOCK on for letters) *

Short answer text

Table 2 (Turn CAPS LOCK on for letters) Short answer

Short answer text

Correct answer: 2C4B4

Answer key (0 points) Required



- Prior to class, the teacher should set up six tables, each with six copies of the corresponding Escape Room Question Handouts.
- Inform students that aliens have landed on earth. They plan to rid our planet of all earthlings and take over our planet. The mission is to answer all of the questions, solve the puzzle codes in 35 minutes or all humans will cease to exist.
- Divide students into six, pre-assigned, differentiated teams and assign each a starting table. Each group should have one laptop.
- One person in each group should log into Google Classroom and access the Google Form Escape Room.
- Instruct the students to answer all of the questions, type the code, and get the results. If it is correct, students will move clockwise to the next table. (The code is the answer to all 5 questions in consecutive order).
- If the answer is incorrect, they must return to the first table and try again.
- The first team to solve all puzzle codes correctly saves all life on earth (and wins an escape room trophy and a moon pie).

Escape Room Puzzle Answers:

- Table #1: D3A4C
- Table #2: 2C4B4
- Table #3: 1C21C
- Table #4: D3B2A
- Table #5: 3B4B2
- Table #6: B2D4B

Escape Room #1

#1. In which structure of a plant cell are water and nutrients stored?

- A. nucleus
- B. chloroplast
- C. cell membrane
- D. Vacuole

#2. Which cell structures are found in both plant and animal cells?

- 1. cell membrane, cell wall, nucleus
- 2. cell membrane, chloroplast, cytoplasm
- 3. cell membrane, cytoplasm, nucleus
- 4. cell wall, cytoplasm, vacuole

#3. Which cell structure absorbs sunlight and gives plants their green color?

- A. chloroplast
- B. cytoplasm
- C. nucleus
- D. Vacuole

#4. How does a dandelion obtain energy?

- 1. It takes energy from grass.
- 2. It receives energy from bees.
- 3. It draws energy from the soil.
- 4. It obtains energy from the sun.

#5. Genetic information is best shown by the way a kitten

- A. plays with a ball of yarn.
- B. prefers to eat certain foods.
- C. looks like its parents.
- D. comes when it hears a can opener.

Escape Room Table 2

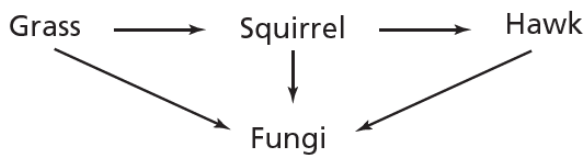
#1 Vultures consume the remains of animals left behind by other predators. The role of a vulture is best described as:

1. producer
2. scavenger
3. prey
4. decomposer

#2 Barn owls eat mice and other small mammals. What is the relationship between barn owls and mice?

- A. consumer-producer
- B. producer-decomposer
- C. predator-prey
- D. parasite-host

#3 A food chain is shown.



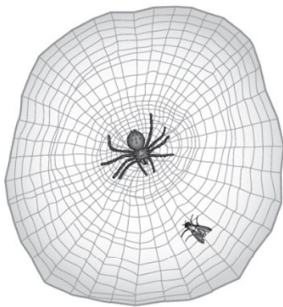
Which organism is the decomposer in this food chain?

1. Grass
2. Squirrel
3. Hawk
4. Fungi

#4 Scientists believe that over 70% of the world's fish species are now being killed faster than they can reproduce. What will most likely happen if people continue to fish at the same rate?

- A. Fish will adapt to reproduce faster.
- B. Many fish species will become extinct.
- C. Many fish species will learn to escape fishing nets.
- D. Fish will be caught more quickly with new fishing nets.

#5. The picture shows a fly caught in a spider web.

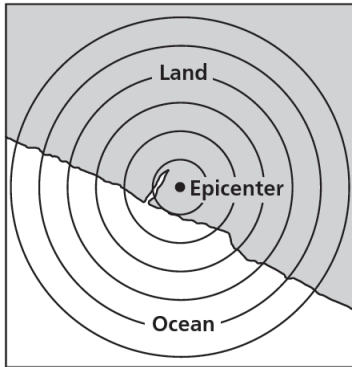


The fly primarily will provide the spider with

- 1. habitat
- 2. shelter
- 3. oxygen
- 4. nutrition

Escape Room Table 3

#1 The diagram shows the surface waves coming from the epicenter of an earthquake.



What most likely happened to cause these waves?

1. Movement occurred along a fault.
2. Water was pumped into the ground.
3. Liquid rock flowed out of the ground.
4. Sediments were deposited.

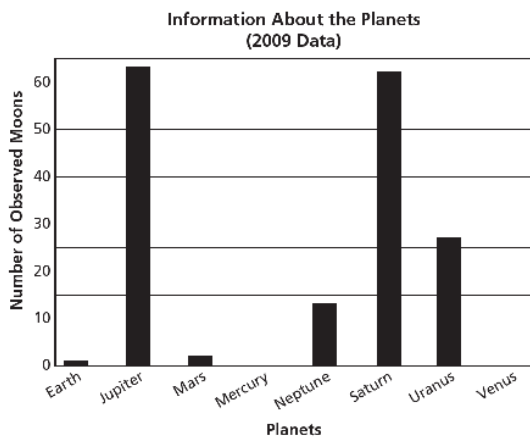
#2 Students are using a star chart while observing the night sky. A star chart is most similar to a

- A. compass
- B. satellite
- C. map
- D. telescope

#3 Which geological feature was formed by the action of volcanoes?

1. the Grand Canyon
2. the Hawaiian Islands
3. the Florida Everglades
4. the Mississippi River Delta

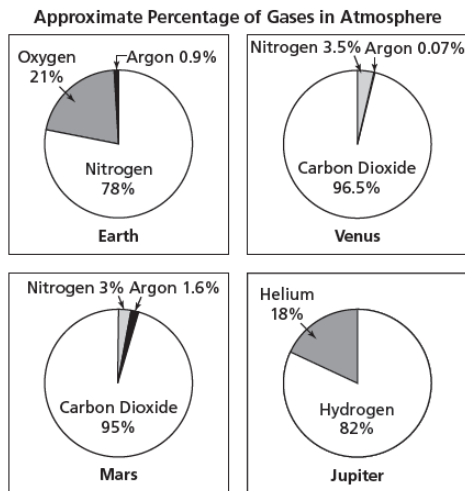
#4 The graph gives information about the planets.



Which characteristic do Mercury and Venus have in common?

1. a lack of moons
2. the smallest size of all the planets
3. the smallest distance from a planet to its moon
4. a lunar orbit that takes the shortest time to complete

#5 The charts below show the main gases in the atmospheres of Earth, Jupiter, Mars, and Venus.



The atmospheres of which planets have the most similar compositions?

- A. Earth and Mars
- B. Earth and Jupiter
- C. Mars and Venus
- D. Jupiter and Venus

Escape Room Table 4

#1. Which sentence about physical and chemical changes is true?

- A. Both create a new substance.
- B. Neither creates a new substance.
- C. A physical change creates a new substance, but a chemical change does not.
- D. A chemical change creates a new substance, but a physical change does not.

#2. Which process happens if enough heat is removed from water?

- 1. boiling
- 2. melting
- 3. freezing
- 4. evaporating

#3. A child took a container of ice cream out of a freezer and placed it on a counter for an hour. Which word equation shows what happened to the ice cream?

- A. liquid-heat=solid
- B. solid+heat=liquid
- C. liquid+heat=gas
- D. solid-heat=liquid

#4. The temperature of an ice cube is raised from -10°C to 100°C . How does its state of matter change?

- 1. solid \rightarrow gas \rightarrow liquid
- 2. solid \rightarrow liquid \rightarrow gas
- 3. liquid \rightarrow solid \rightarrow gas
- 4. liquid \rightarrow gas \rightarrow solid

#5. How should a student arrange a wet bath towel in order to increase the rate of evaporation?

- A. Hanging flat
- B. In a ball
- C. Folded
- D. In a ball





Escape Room Table 5

#1. Which of these is caused by the gravity of Earth?

1. water freezing
2. water evaporating
3. water falling to the ground
4. water vapor forming into clouds

#2. During an investigation, students folded and crumpled identical sheets of notebook paper. The students then compared the time each piece of paper took to drop from the top of a wall to the floor. The data are in the table below.

Data Table

Outline of Paper	Drop Time (seconds)
Crumpled Ball 	0.8
Folded Square 	1.0
Folded Triangle 	1.3
Folded Rectangle 	2.0

Which most affects the drop time of each piece of paper?

- A. the mass
- B. the shape
- C. the volume
- D. the texture

#3. Students dropped the objects described in the table below from the same height. The students measured the time it took each object to reach the ground.

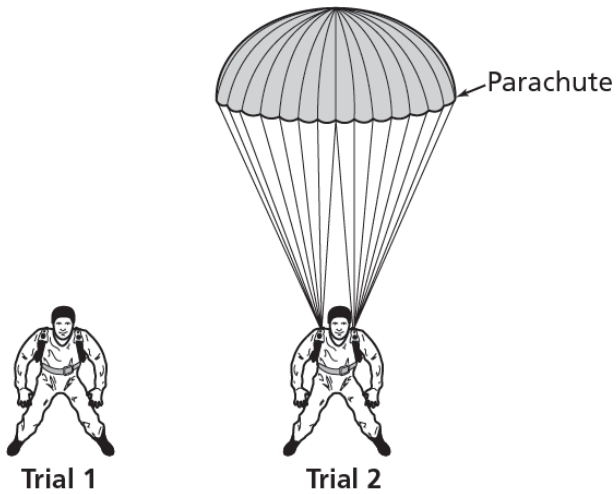
Object Drop Times

Material	Shape	Time (seconds)
Metal Foil	Sheet	3.2
Metal Foil	Ball	1.4
Notebook Paper	Sheet	3.8
Notebook Paper	Ball	1.5
Wax Paper	Sheet	3.6
Wax Paper	Ball	1.3

Which is the best conclusion based on the data in the table?

1. Metal objects fall faster than paper objects.
2. Objects dropped from greater heights drop the fastest.
3. The amount of mass in an object affects how fast it falls.
4. The shape of an object affects how fast it falls.

#4. A student investigates factors that affect the speed of falling objects. The student drops an action figure off a balcony in two trials. In Trial 1, the student drops just the figure. In Trial 2, the student drops the action figure with a parachute.



The action figure falls more slowly during Trial 2 than Trial 1 because the parachute and the action figure

- A. have a smaller mass.
- B. have a larger surface.
- C. have increased gravity.
- D. have decreased friction.

#5. What causes objects thrown into the air to come down again?

- 1. the force of friction
- 2. the force of gravity
- 3. the rotation of Earth on its axis
- 4. the pressure of the atmosphere surrounding Earth

Escape Room Table 6

#1. Scientists are now able to convert light energy from the sun directly into electricity. Which technology was developed as a result of this scientific advance?

- A. battery-powered flashlights
- B. solar-powered traffic signals
- C. light bulbs
- D. telephones

#2. Which describes a physical property of a substance?

- 1. Iron rusts.
- 2. Gold melts.
- 3. Paper burns.
- 4. Silver tarnishes.

#3. Which best explains why temperatures along the coast change less than temperatures 200 kilometers away from the coast?

- A. Waves keep air temperatures more constant at the coast than farther away.
- B. Winds are weaker near the coast than farther away.
- C. Sand dunes help keep the land warmer than the water.
- D. Temperature of water changes more slowly than the temperature of land.

#4. What is the third planet from the sun?

- 1. Venus
- 2. Uranus
- 3. Neptune
- 4. Earth

#5. Which trait could a mouse inherit from its parents?

- A. where it lives
- B. color of its fur
- C. places it finds food
- D. materials it uses for its nest