Biology Lab of Horrors Student Guide

Create a creepy exhibit that teaches real biology

Work alone or with a partner to build a handmade museum display. Use inexpensive craft supplies, accurate science, and a clearly marked fictional backstory. Keep the base about 12 by 12 inches or smaller. No homework is required.

Your exhibit needs

- A creative title and small handmade model.
- Four accurate facts linked to two sources.
- Four biological labels or annotated process features.
- A 3–5-sentence scientific explanation.
- A 1–2-sentence fictional backstory or warning marked as fiction.
- A completed research and planning sheet and museum card.

Daily goals

Day	Length	Finish
1	50 min	Choose, research, sketch, and get approval
2	50 min	Build most of the model
3	35 min	Write, check, and place four biological labels
4	50 min	Complete every display component and peer review
5	50 min	Tour, reflect, celebrate, and clean

Safety and teamwork

Use craft materials only. No real microbes, tissues, bodily fluids, glass, or open flames. Keep containers sealed. Both partners contribute and can explain the biology. Expensive materials and artistic skill do not determine your score.

Exhibit choices

1 The Organelle Asylum

How does an organelle help a cell function? Make a paper mitochondrion on cardboard. Use a folded paper strip for the inner membrane. Add a fictional face separately from the biological labels.

2 The Microbial Graveyard

What can colony appearance tell us about bacteria? Place paper or clay colonies in a clean plastic container. Include a side-view drawing for elevation and a small binary-fission sequence beside the container.

3 The Anatomy Crypt

How do heart structures work together to move blood? Make a four-chamber paper heart. Add flow arrows, simple valve flaps, and a septum. Label the four chambers and explain the extra features in your card.

4 The Mutation Station

How can a DNA change affect a protein or trait? Make a before-and-after sequence strip and a chain model. Connect the DNA change to the protein and cell effect. You may use the documented HBB example or a clearly marked hypothetical example.

5 The Diseased Tissue Gallery

How can changes in cells disrupt a tissue? Use paper circles or clay to make side-by-side tissue models. Keep scale and viewpoint similar. Show a boundary and label where the cancer model crosses it.

6 The Cell Death Cemetery

How do apoptosis and necrosis differ? Make two short sequences of paper cells on a cemetery base. Use arrows to show the changes. Keep ghost decorations separate from cell labels.

7 The Carnivorous Greenhouse

Why do some photosynthetic plants capture prey? Build a paper pitcher plant with a smooth inner surface and a digestive region near the bottom. Add a photosynthesis annotation and explain two trap-related adaptations.

8 The Biological Ooze Collection

How do materials outside cells support living systems? Choose ONE material. Use yarn for matrix fibers, paper cells, and a clear sealed plastic container. Colorless tissue paper can represent water without making real slime.

9 Nature’s Monsters

How does an unusual adaptation help a real organism survive or reproduce? Model a tongue-replacing isopod, deep-sea anglerfish, parasitoid wasp, or another approved organism. Explain four features and how they affect survival, prey, or a host. Use Reference Card 9.

Research sheet

Names and class

[Type your response here]

Exhibit category, title, and biology question

[Type your response here]

Use the assigned card as one source if your teacher allows. Use a linked reading or textbook as the second source. Paraphrase facts and record where you found them.

Source A title, organization, URL or textbook pages

[Type your response here]

Source B title, organization, URL or textbook pages

[Type your response here]

Why are these sources trustworthy?

[Type your response here]

Fact 1 in your own words and supporting source A or B

[Type your response here]

Fact 2 in your own words and supporting source A or B

[Type your response here]

Fact 3 in your own words and supporting source A or B

[Type your response here]

Fact 4 in your own words and supporting source A or B

[Type your response here]

Model planning sheet

Names and exhibit title

[Type your response here]

Insert a sketch or photo of your drawing here. Show where the four biological labels will go. On paper, draw in the open area below.

[Insert sketch here]

Feature 1 and what it does or represents

[Type your response here]

Feature 2 and what it does or represents

[Type your response here]

Feature 3 and what it does or represents

[Type your response here]

Feature 4 and what it does or represents

[Type your response here]

Materials, construction steps, and partner task plan

[Type your response here]

What is real biology and what will be fictional?

[Type your response here]

Teacher approval: [Teacher response]

Museum card and peer review

Exhibit number, specimen name, and creators

[Type your response here]

Biology topic

[Type your response here]

Real science explanation in 3–5 sentences

[Type your response here]

Four verified facts in numbered bullets

[Type your response here]

Fictional backstory or warning in 1–2 sentences

[Type your response here]

Short source titles and organizations

[Type your response here]

Peer review

Check for four accurate facts, four labels, a model that matches the explanation, clearly marked fiction, and readable text.

Reviewer name and one science question or correction

[Type your response here]

Revision made after review

[Type your response here]

Project scoring and submission

Submit your physical model, museum card, and research sheet or assigned paper. Complete the separate Gallery Walk and Evaluations individually. Your project earns up to 50 points; your individual work evaluation earns up to 10 additional points as a separate grade.

Project category	Pts	**Evidence**
Scientific accuracy	15	Four accurate facts, a correct explanation, and real science separated from fiction.
Biological model	10	Handmade model clearly represents the biology and matches the explanation.
Biological labels	5	Four correct labels or annotations, each with a function or meaning.
Research submission	10	Completed research sheet or assigned paper; two traceable sources; paraphrased facts linked to sources.
Museum card and communication	5	Creative title, readable explanation, four facts, and clearly marked fiction or warning.
Creative science connection	5	Halloween features meaningfully connect to the biology.

Individual work evaluation

Your teacher scores specific contribution, task completion, use of available time, collaboration, and biological understanding. Each criterion earns 0, 1, or 2 points, for a separate total of 10. Your self-evaluation and peer reports are supporting evidence.

Final submission checklist

☐ Model and four explained biological labels are complete.

☐ Museum card includes the scientific explanation, four facts, and marked fiction.

☐ Research submission includes two sources and fact-to-source links.

☐ I completed my gallery sheet and private contribution checklist.

Artistic skill, purchased supplies, and winning a student-voted award do not determine your grade. Partial credit reflects the quality and completeness of the scientific work. Optional advanced extensions are not required for full credit.