

# Student Bio Expo

## Sample Topic Ideas

### Arts

- Create a painting depicting the history of the eugenics movement.
- Make a sculpture interpreting the feelings of an individual with a genetic condition.
- Create a photo collage showing the potential uses of stem cells in medicine.

### Career Pathways

- Interview people with creative careers in science: science illustrator, science game designer, and a dancer who integrates science concepts into choreography, etc.
- Choose to investigate careers with a theme. Take genetics, for example—then talk to a genetic counselor, a laboratory scientist who works on Parkinson's, and a technician who helps analyze bioinformatics data.
- Research various positions/careers that are needed to run a biotech company. You could talk to a grants officer, a technician, and someone who helps find investors for the company.
- Other career ideas: molecular biologist; medicinal chemist; quality control assoc.; manufacturing or purification manager; scientific director; patent lawyer; clinical coordinator; regulatory department manager; investor relations representative; human resources recruiter.

### Creative Writing

- Write about the viewpoint of a molecule in DNA sequencing or PCR
- Create a poem describing the molecular basis of a genetic disorder or write a script for a science-based play

### Drama & Dance

- Act out or dance processes such as DNA repair.
- Create a biographical drama focusing on a scientist's life.
- Create a play focused on forensic detectives or depicting a courtroom drama.
- Dance the story of a disease and how it affects a person's life.

### Indigenous Science

- Interview Elders or people in the community on their views of science and knowledge about the world
- Explore the importance of Ethnobiology in indigenous traditions
- Create a play that describes the Creation Stories

### Journalism

- Explain how issues in gene therapy can be considered through different bioethical perspectives, and argue that one perspective is more appropriate than others.
- Write an article for a popular science journal outlining the effects of agricultural biotechnology on food supplies.
- Create a 10-minute audiotape for a radio feature on chimpanzee and human Y chromosomes.

### Molecular Modeling

- Model the interaction of the restriction enzyme EcoRI with DNA.
- Model a hypothetical drug that interacts with an altered protein in a disease state.

### Multimedia

- Create a documentary that describes current developments in brain research and addiction.
- Make a videotape showing interviews with key scientists involved in genomics research in our area.

### Music

- Write an original song about how a disease might effect a family or individual
- Add lyrics to an existing song detailing an issue found in biotechnology

### SMART

- Use 3D printing or any form of robotics to demonstrate a structure/function model

### Teaching

- Create a lesson to teach DNA Fingerprinting (with a multitude of applications)
- Compare/contrast different types of chromatography & how/when each is used
- Show how Protein Electrophoresis can be used to make evolutionary comparisons between species.

### Web Site

- Analyze a case study on vaccines use in Washington state
- Explore a topic of interest and use the tools of a website to demonstrate knowledge
- Investigate the history behind the use of stem cells