

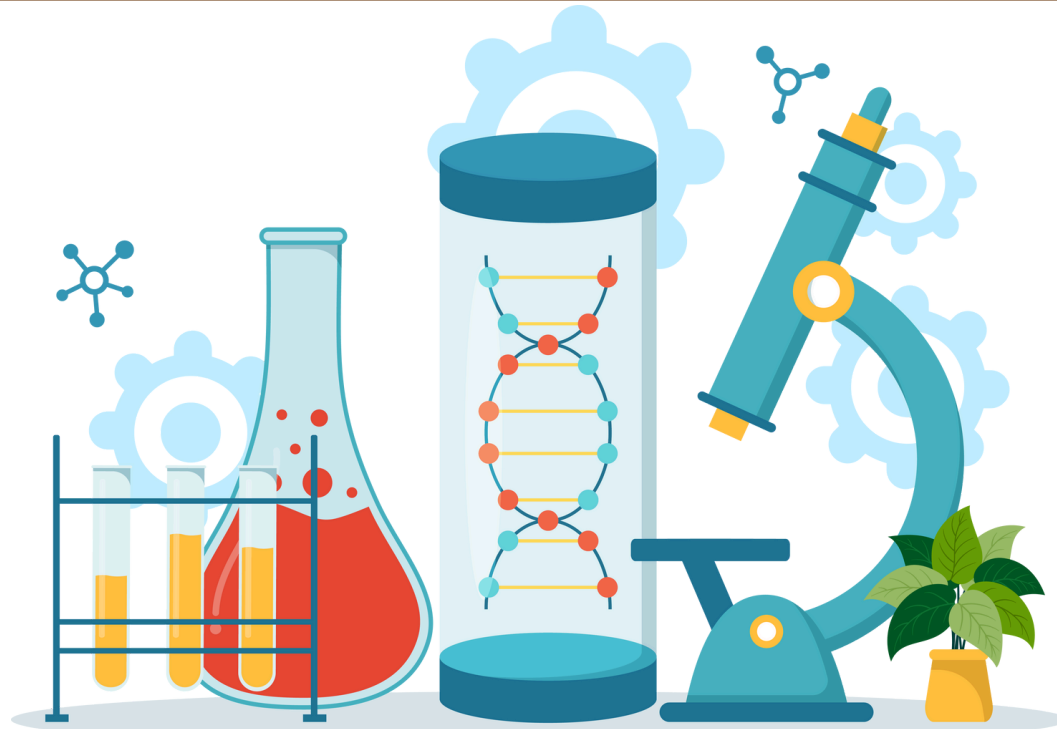
NGSS MS-LS4-5

Curriculum Bundle

Genetic and Reproductive Technologies & Artificial Selection

✓ 2 Lessons and 5 Activities

✓ Everything You Need to Teach NGSS MS-LS4-5

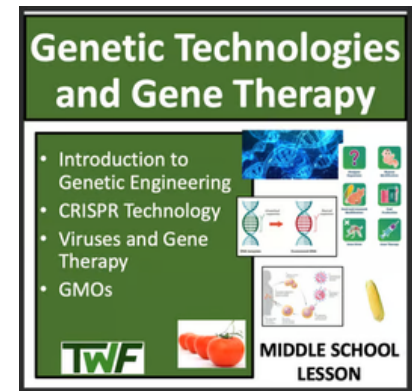


Resources Included

✓ 2 Lessons

✓ 5 Activities

- Genetic Technologies and Gene Therapy Lesson
- Reproductive Technologies Lesson
- Reproductive Technologies - Scavenger Hunt
- Artificial Selection - Station Activity
- GMO Research Activity
- Genetically Modified Organisms Reading
- Genetics and Gene Therapy Reading



Everything You Need to Teach NGSS MS-LS4-5

Genetic Technologies and Gene Therapy

- Introduction to Genetic Engineering
- CRISPR Technology
- Viruses and Gene Therapy
- GMOs



Reproductive Technologies Lesson

- ✓ **Comprehensive Content Overview** – This lesson explores technologies that help plants and animals reproduce such as selective breeding, IVF, and cloning.
- ✓ **Student-Friendly Format** – Clear visuals and comparisons support understanding of complex concepts.



Artificial Selection NGSS-MS-LS4-5 Station Activity



Device-Based Scavenger Hunt Reproductive Technologies



Includes

- 5 Unique Locations
- Online form submission
- Answer Key

Works on all smartphones, tablets, Chromebooks, and more!

- **100% Digital**
- Simulations
- Quizzes
- Videos
- Games
- and more



Genetically Modified Organisms

Scientific Reading Comprehension Article
and Extension Activity



Genetics and Gene Therapy Scientific Reading Comprehension Article



Improve your students' **Scientific Literacy** and **Analysis Skills**, use as an **Emergency Substitute Plan** or create **Applicability** in your classroom

Analyzing Concerns about GMOs

GMOs are increasingly being used for medical applications and food supplies. However, there are some concerns with GMOs.

Research and choose a GMO that interests you. Create a submission that looks at the following questions. In your report please number the questions and keep your answers to ~ 100 words each. You must include at least 1 reference per question.

1. Research how this GMO is used, its benefits, and any concerns for society and the environment.
2. Are the concerns about the application of this GMO valid? Provide reasons for your decision. Your reasons may include social, cultural, economic, political, and environmental implications.
3. Even with the potential concerns, do you believe that the GMO should continue to be used? Provide reasons for your decision.

You will also do a brief presentation on your GMO.

Rubric

Expectation	1	4	7	10
	All three questions were answered, however there were errors and omissions. More time and effort is needed in the future.	All three questions were answered. Answers could have been improved on with more effort and time.	All three questions were answered correctly.	All three questions were answered clearly, concisely and correctly.
And/or		And/or	Presentation was not clear and/or concise	Presentation was clear and concise
Presentation was not clear and/or		Presentation was not clear and/or concise		References were included and done correctly.

The Standard is Explained and the Resources it Incorporates are Outlined

California Preferred Integrated NGSS Course Model – Grade 8 MS LS4 Biological Evolution: Unity and Diversity

MS LS4-5: Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms.

Emphasis is on synthesizing information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, animal husbandry, gene therapy); and, on the impacts these technologies have on society as well as the technologies leading to these scientific discoveries.

Resources:

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Genetic Technologies and Gene Therapy

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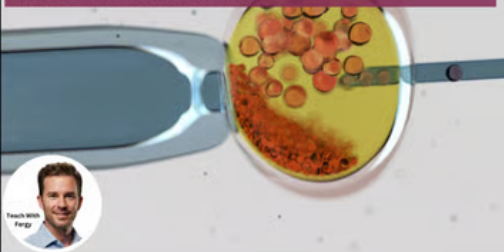


TWF

MIDDLE SCHOOL
LESSON

Reproductive Technologies Lesson

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Artificial Selection

NGSS-MS-LS4-5 Station Activity



Who is this Bundle for?

- **Teachers who teach middle school science and use the NGSS**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to meet the standard**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**