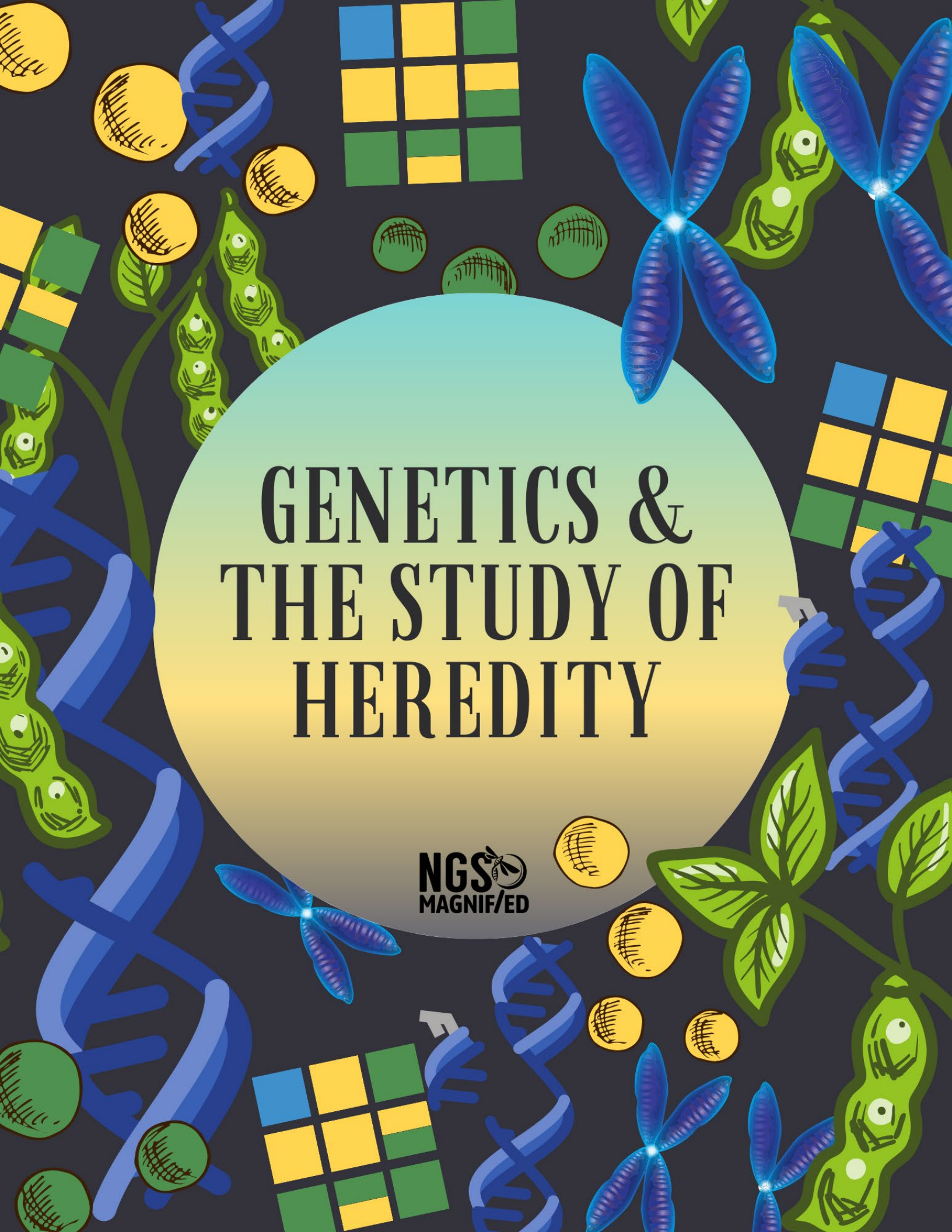
GENETICS &
THE STUDY OF
HEREDITY
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Table of Contents:
Genetics: The Science of Heredity

Description	Page #
Introduction	3
Section 1: The Work of Gregor Mendel	4
Mendel's Facebook Page	5
Quiz: The Work of Gregor Mendel	6
Section 2: Mendel's Laws of Heredity	7
Doohickey Bug Trait Key – page 1	8
Doohickey Bug Trait Key – page 2	9
Doohickey Bug Student Printable	10
Quiz: Mendel's Laws of Heredity	11
Section 3: Punnett Squares	12
Punnett Square Four-Door Foldable (Printable)	13
Quiz: Punnett Squares	14
Section 4: Meiosis	15
Compare/Contrast Table	16
Answer Key – Compare/Contrast	17
Quiz: Meiosis	18
Answer Key	19
Contact and Copyright Information	20
Appendix: Teacher Notes LARGE Print	21–24

Introduction

If you are new to the idea of using a Science Interactive Notebook in your classroom, **stop by my Nitty Gritty Science shop and download my Intro to Science Interactive Notebooks tutorial for FREE!** In there you will find tips on how to begin with your students, what materials to have on hand and, most importantly, how it will enhance your students learning through reflection and creativity.

Focused Lessons with Differentiated Instruction

The lessons shared on the following pages cover National Science Standards and meet students' needs. I have given you the notes that I would give my students (Right Side - Input Side of Notebook) so you can understand what I'm having the students focus on when working on their creative assignments (Left Side - Output Side of Notebook). Each lesson focuses on a Question of the Day (QOD) represented in red in the top margin of each "Input" page with the student giving an answer in red on "Output" page.

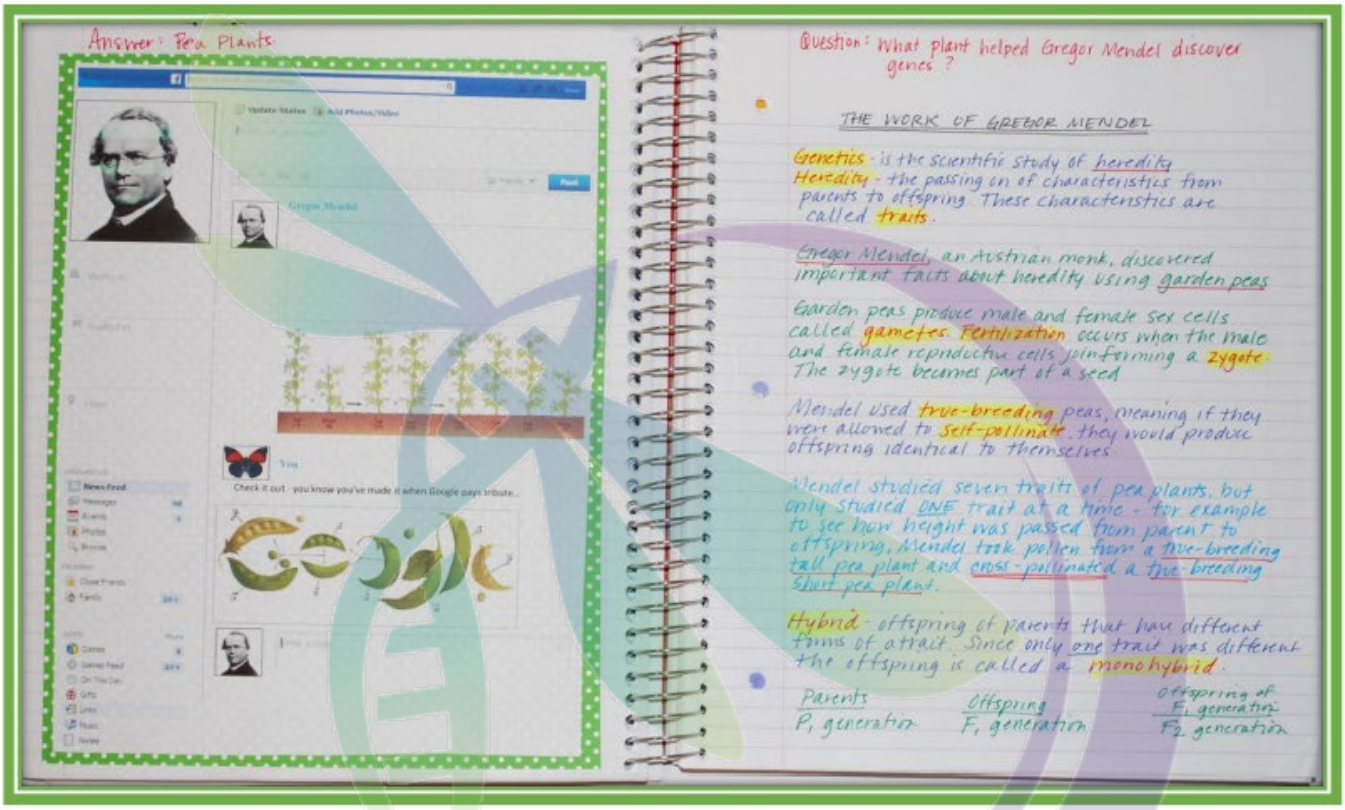
Left Side - Output

Instructions for each Output Side are included. This includes cut-outs, foldables or master copies where applicable. You may find that students work slowly at first, but once groups are organized and students know what is expected from them, not only will you see more energy focused on the final product, but also you will be shocked at the level of creativity certain students have in certain areas.

Mini-Assessments

Mini quizzes will be given for each section so you may monitor student's level of understanding. For reproduction purposes, there are two quizzes to a page so you can cut in half and save on paper.

Section 1: The Work of Gregor Mendel



Instructions:

Students will have fun with this activity when they have to imagine what Gregor Mendel might have posted to his Facebook page when he crossed his pea plants to show heredity and what he might have written in response to the post about being recognized by Google. Other facts for students to research and fill in include where Mendel worked, where he studied at and where he's from.

For this concept I have included a ready-to-write Facebook status page for Gregor Mendel and a mini-quiz.

MULTIPLE LEARNING STYLES ADDRESSED WITH ORIGINAL ACTIVITIES – NO REPEATS!

Search for people, places and things

Home

Update Status Add Photos/Video

What's on your mind?

Friends Post

Works at

Studied at

From

FAVORITES

- News Feed
- Messages 48
- Events 1
- Photos
- Browse

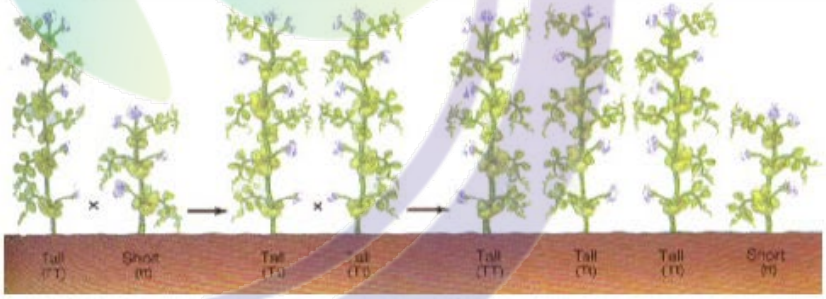
FRIENDS

- Close Friends
- Family 20+

APPS More

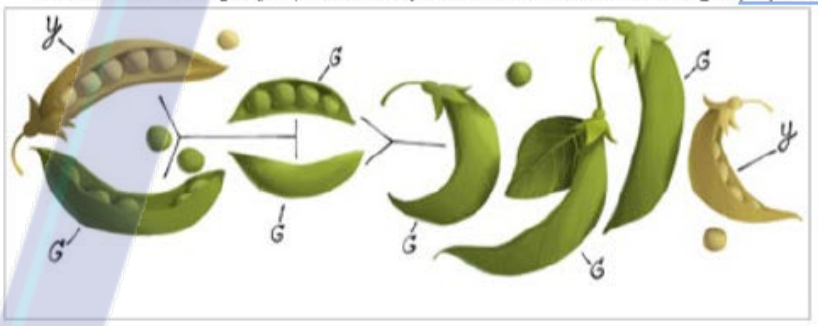
- Games 8
- Games Feed 20+
- On This Day
- Gifts
- Links
- Music
- Notes

Gregor Mendel



You

Check it out Gregory - you know you've made it when Google pays tribute...



Write a reply...

@NGS

Name _____ Date _____

Quiz: Mendel's Laws of Heredity

Matching

_____ 1. genes	a. the way an organism looks and behaves
_____ 2. alleles	b. when two alleles for a trait are different
_____ 3. phenotype	c. this cross is used when studying one trait
_____ 4. genotype	d. every organism has two alleles which separate when gametes are produced
_____ 5. homozygous	e. different forms of genes
_____ 6. heterozygous	f. alleles for trait are the same
_____ 7. monohybrid cross	g. cross that involves two traits being studied
_____ 8. dihybrid cross	h. genes for different traits are inherited independently of each other
_____ 9. Low of Independent Assortment	i. factors that determine traits
_____ 10. Law of Segregation	j. the allele combination of an organism

---

MINI QUIZZES INCLUDED FOR EACH SECTION

Name _____ Date _____

Quiz: Mendel's Laws of Heredity

Matching

_____ 1. genes	a. the way an organism looks and behaves
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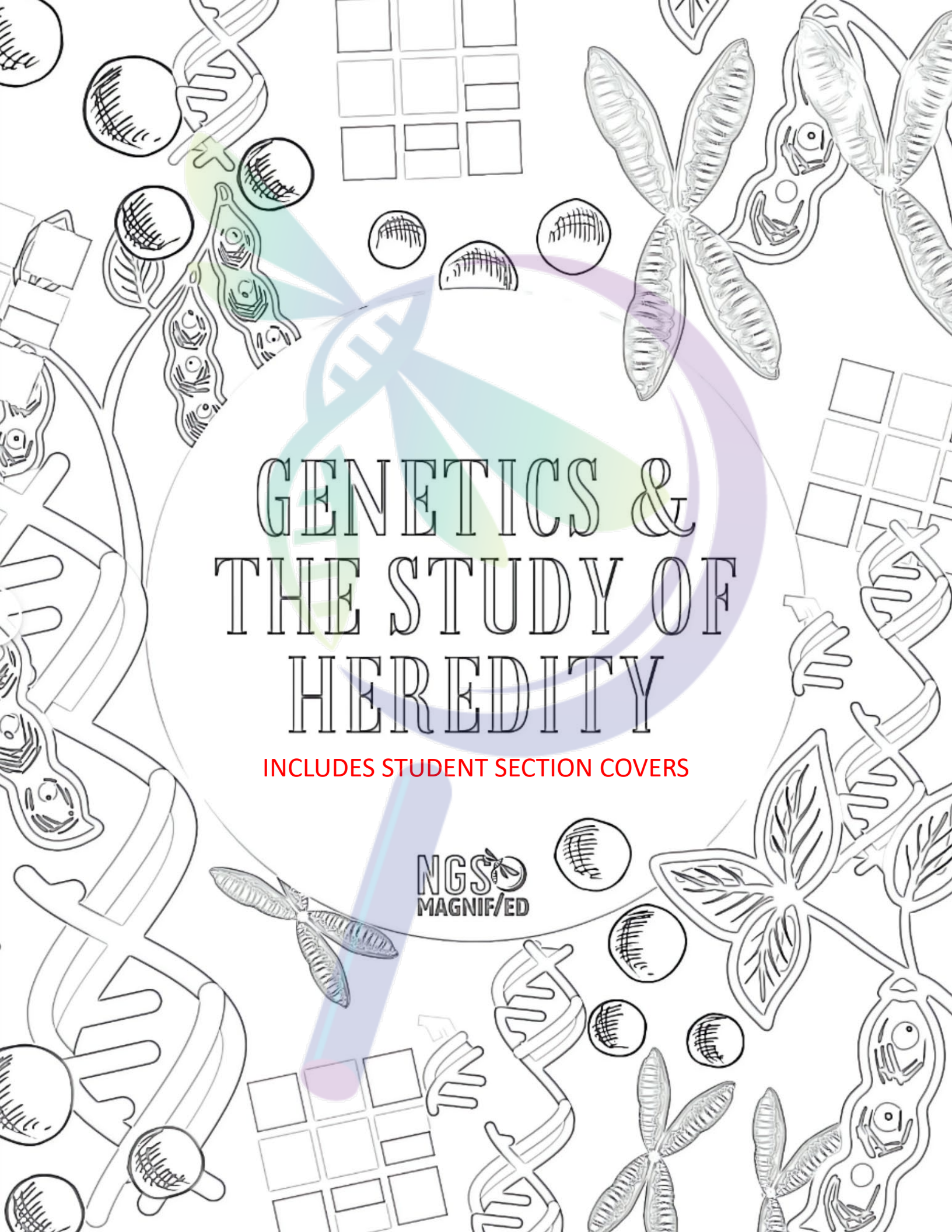
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Question: What plant helped Gregor Mendel discover genes?

THE WORK OF GREGOR MENDEL

Genetics – the scientific study of heredity

Heredity – the passing on of characteristics from parents to offspring.

These characteristics are called traits.

Gregor Mendel, an Austrian monk, discovered important facts about heredity using garden peas.

Garden peas produce male and female sex cells called gametes. Fertilization occurs when the male and female reproductive cells join forming a zygote. The zygote becomes part of a seed.

Mendel used true-breeding peas, meaning if they were allowed to self-pollinate, they would produce offspring identical to themselves.

Mendel studied seven traits of pea plants but only studied ONE trait at a time. For example, to see how height was passed from parent to offspring, Mendel took pollen from a true-breeding tall pea plant and cross-pollinated a true-breeding short pea plant.

Hybrid – offspring of parents that have different forms of a trait.

Since only one trait was different, the offspring is called a monohybrid.

Parents	Offspring	Offspring of F1 generation
P1 generation	F1 generation	F2 generation

Thank you for sharing NGS Magnified with your students!

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