

Valentine's Day Growing Bundle

**Project
Activities**

Lab Investigations

Readings



High School Science

SCROLL
to take a look inside!



HOW THIS PROJECT WILL HELP YOU



- Saves planning time with a fully structured, ready-to-use
- Valentine's Day-Themed activities
- Supports differentiation through multiple activity types
- Simply grading via rubric, exemplars, and answer keys

Flowers, Pollinators, Ecosystems and Human Impact – Flower Ecology Project

In this activity, you will explore how flowering plants reproduce and why pollinators are essential to their survival. You will learn how ecosystems support pollinators and flowering plants, and how human activities such as habitat loss, pesticide use, and climate change threaten these relationships. Through reading, analyzing information, and creating a project, you will connect real-world environmental science to the plants and foods people rely on every day.

Part 1: Read about how pollination works and how human activities are impacting pollinators and flowering plants. Then, answer the comprehension questions that follow.

Introduction

Flowers are more than decorations or symbols of love – they are the reproductive organs of seed plants. To make seeds and fruits, most flowering plants rely on pollinators. Pollinators such as bees, butterflies, moths, birds and bats. As they feed, they unintentionally transfer pollen from the stamen of one flower to the stigma of another, enabling fertilisation and seed development. This mutually beneficial relationship has driven the co-evolution of many plants. About 35 % of the world's food crops depend on animal pollinators. Without them, 150 food crops in the United States would fail.

How Pollination Works

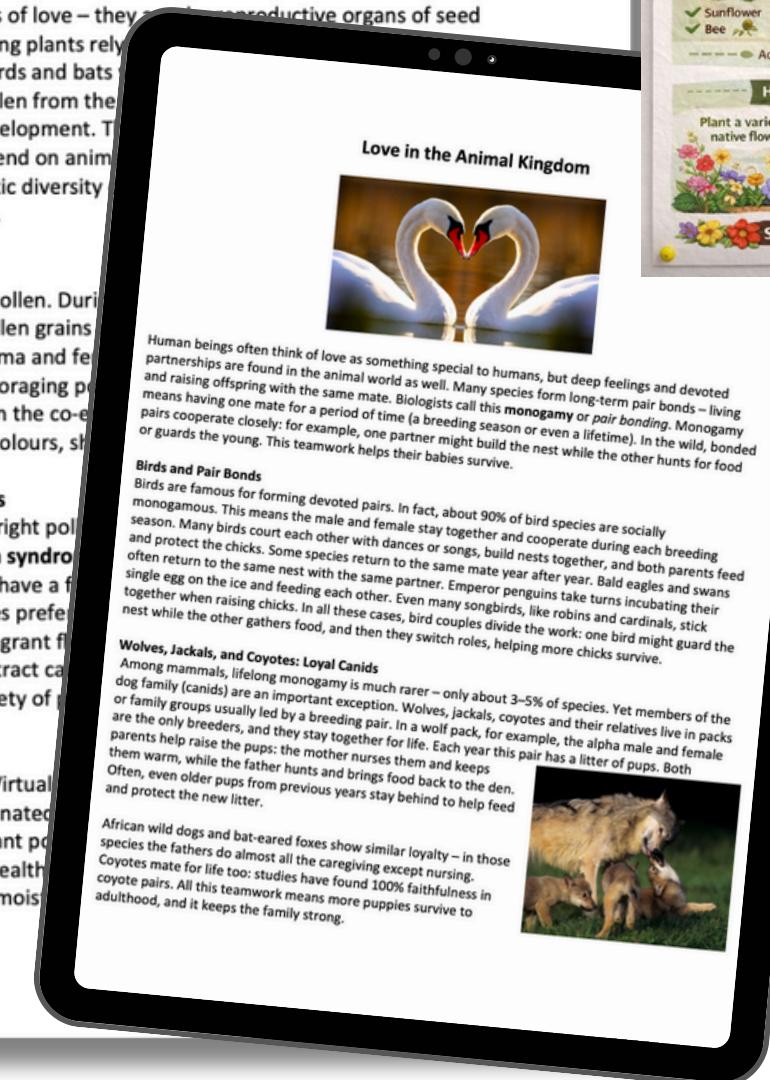
Pollinators visit flowers to collect nectar and pollen. During this process, they transfer pollen from the flower's reproductive parts, carrying sticky pollen grains. When a pollinator visits a flower, some of the pollen rubs off on the stigma and fertilizes the ovary. This process allows the plant to reproduce without pollen carried to them by foraging pollinators. This mutually beneficial relationship has driven the co-evolution of many plants. About 35 % of the world's food crops depend on animal pollinators. Without them, 150 food crops in the United States would fail.

Pollination Syndromes and Floral Adaptations

Plants manipulate their flowers to attract the right pollinators. Particular pollinators are known as **pollination syndromes**. For example, flowers brightly coloured in white, blue or yellow and have a shape of a female bee to lure males. Butterflies prefer flowers with a platform, while nocturnal moths seek pale, fragrant flowers. The corpse flower release a putrid odour to attract carrion flies. As helpful guides, many flowers attract a variety of pollinators.

Ecosystem Connections

Pollination is an essential ecological process. Virtually all of the familiar flowering plants – need to be pollinated. About 80 % of all pollination. Without pollinators, plant production would collapse. If sunlight were available. Pollination supports healthy ecosystems. It provides oxygen; it helps hold soil in place and returns moisture to the soil.



1. Valentine's Day Lava Lamp STEM
Investigation – Density & Gas Production

2. Love in the Animal Kingdom Reading

3. Candy Chemistry Combustion

Calorimetry STEM Lab

4. The Chemistry of Candy - High School
Reading

5. The Chemistry of Chocolate – Reading

6. Flowers, Pollinators, Ecosystems and
Human Impact – Flower Ecology Project

7. Valentine's Day Science Activities Mini
Bundle (6 Activities)

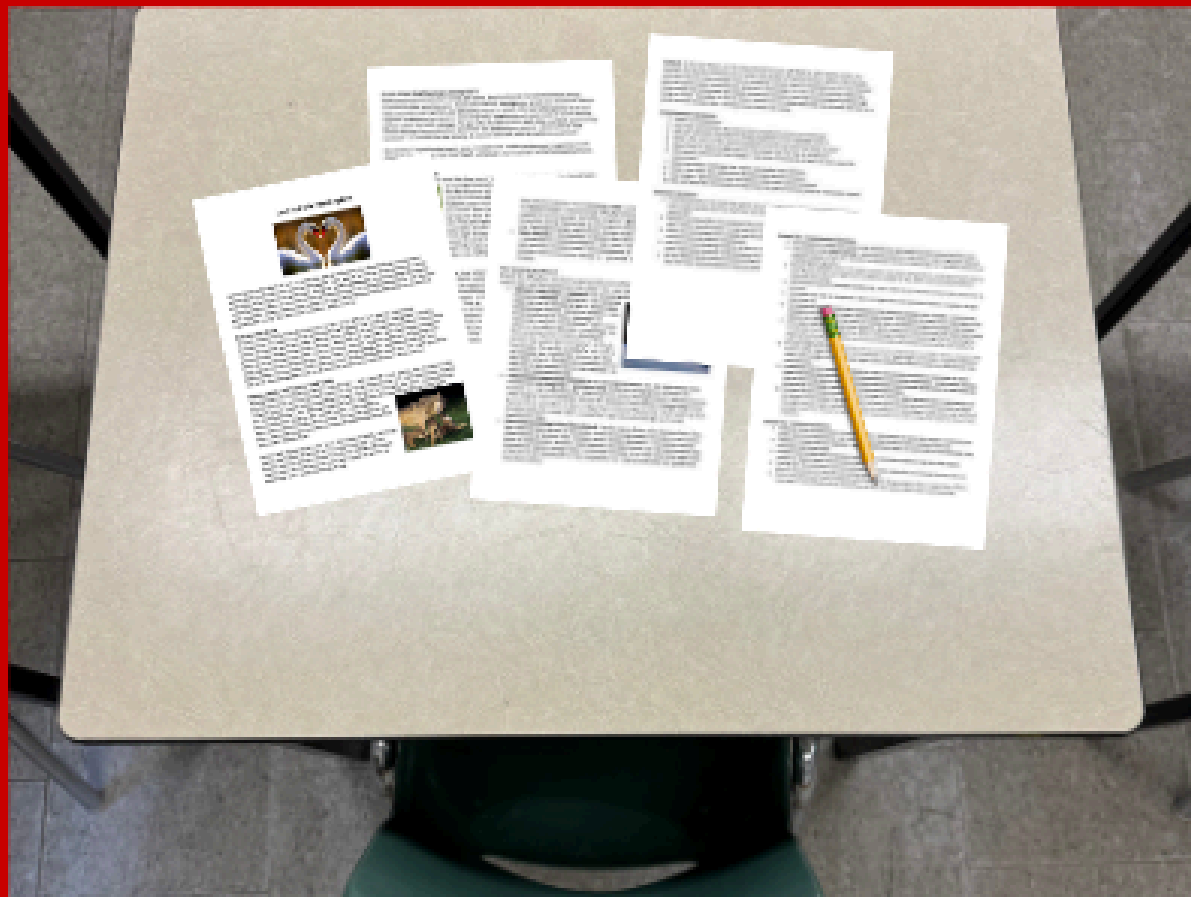
What you get
inside



Skills Your Students Will Learn/Improve

NO-PREP - PRINT/UPLOAD

- Questions and Answer Keys Included
- **No Prep, Ready-to-Use:** Print or assign digitally with Google Docs, Microsoft Word, and PDF formats
- **Includes Varied Activities Types:** Readings, Project, STEM Investigations, and more



- ✓ Scientific reading comprehension.
- ✓ Designing and conducting investigations.
- ✓ Collecting, analyzing, and interpreting data.
- ✓ Cause-and-effect reasoning in chemical, biological, and environmental systems.
- ✓ Evidence-based explanation using Claim–Evidence–Reasoning (CER).
- ✓ Applying science concepts to real-world contexts.
- ✓ Critical thinking and problem-solving through hands-on investigations.
- ✓ Scientific communication through writing, visuals, and presentations.

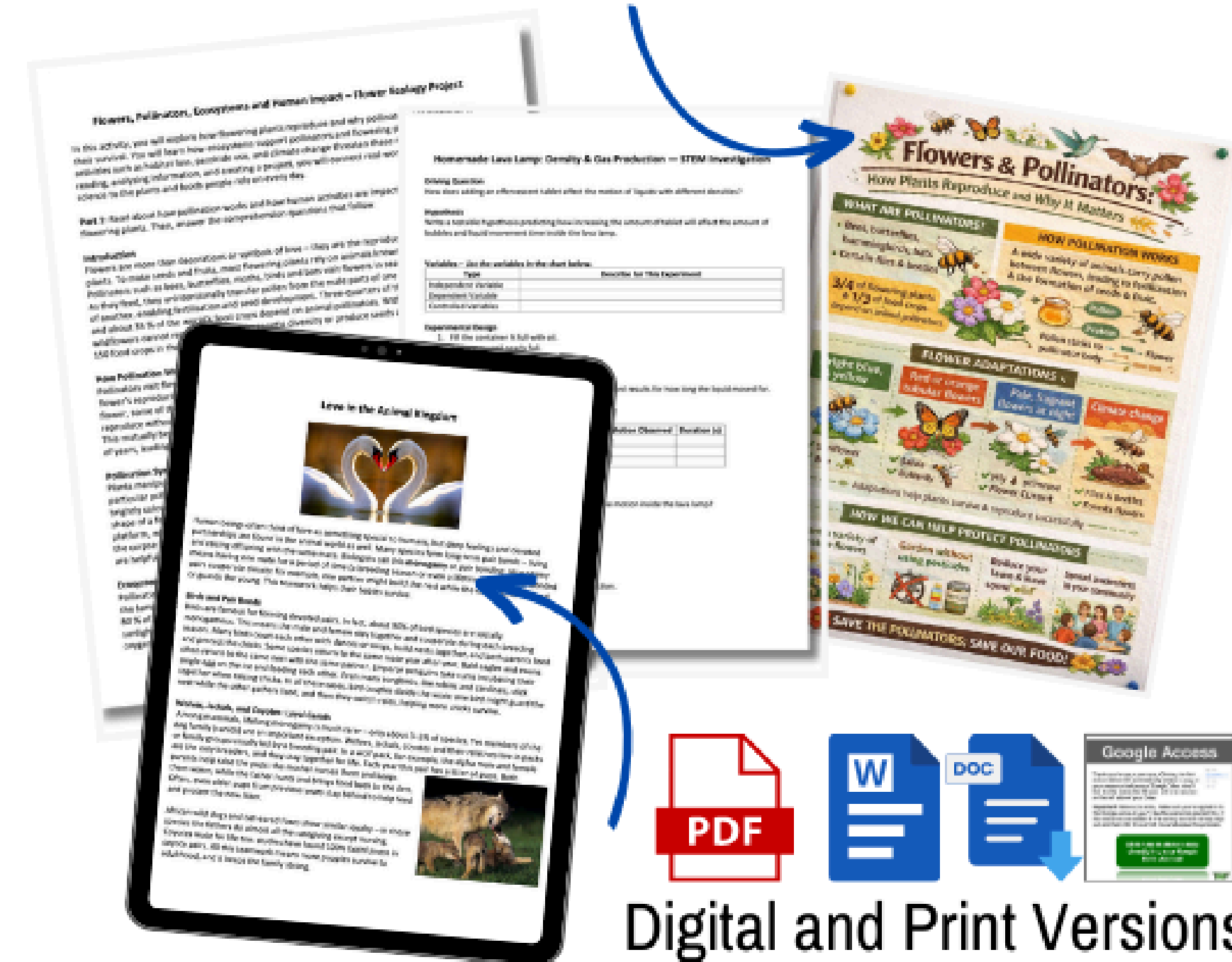
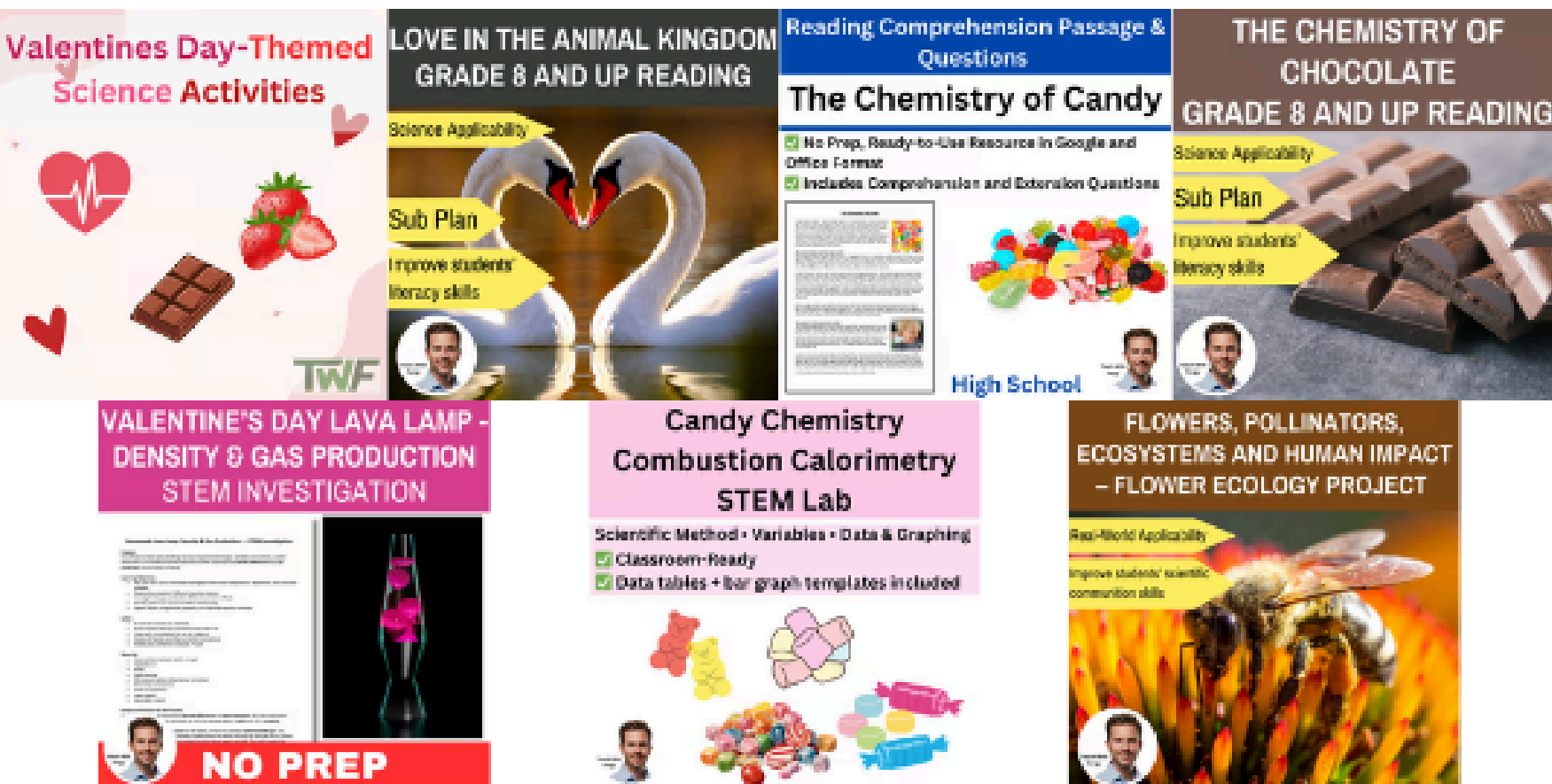
Your Bundle

What You Get

NO-PREP. JUST PRINT TO GO!

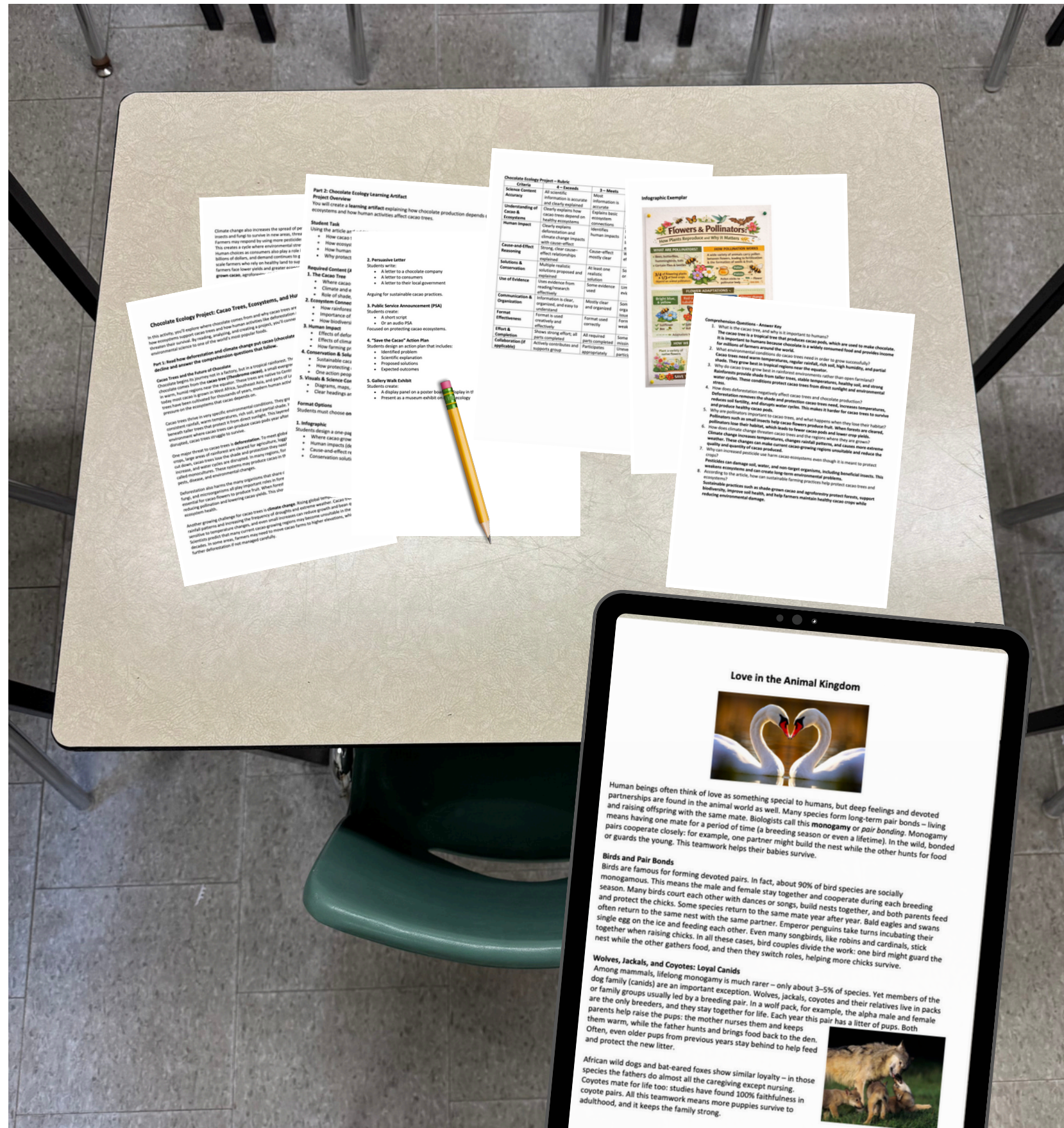
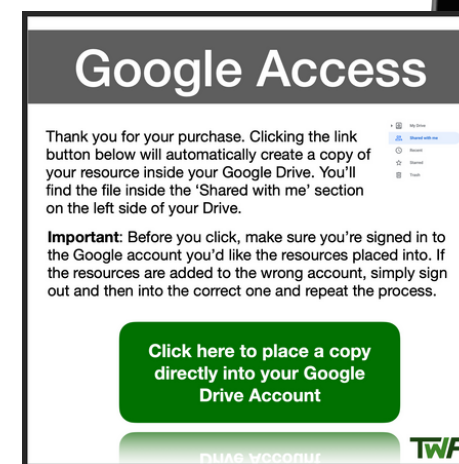
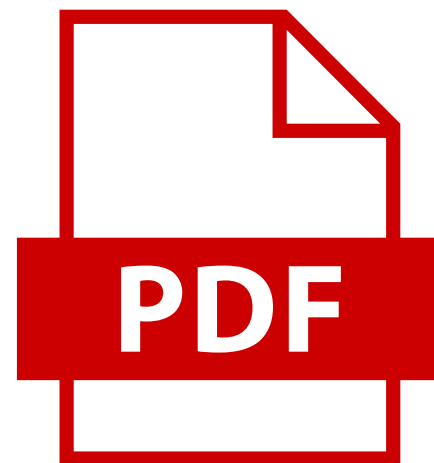
Hands-On Activities

- Special Valentine's Day-Themed Activities with fun connections
- Multiple Topics: Matter Properties, Environment, Animal Behavior



At School or at Home

The activities are fully digital and are editable.



Ways to Use this Resource

1. As a week-long Valentine's Day science mini-unit.
2. As standalone activities that can be dropped into existing chemistry, life science, or ecology units (each works well no matter the season).
3. For hands-on lab days that reinforce abstract concepts like reactions, and physical properties.
4. As sub plans or emergency lessons with clear directions and low-prep materials.
5. In digital, print, or hybrid classrooms with flexible formats.
6. For cross-curricular lessons connecting science with literacy and real-world issues.
7. As enrichment or extension activities for early finishers or advanced learners.

As a special bonus, I want to send you a few resources that you can use in your classroom tomorrow. Completely free and geared towards what you teach!



Just



and then choose what you teach!

thanks
**for your interest
in this resource!**



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