



# Project Based Learning

IN THE CLASSROOM

solution  
fluency

Project Ideas  
Year 10–12

PBL (Project-Based Learning) is a big part of modern learning environments. It takes students on a cool journey of creativity, exploration, and real-world relevance. But what does PBL look like in the classroom? How do we do it with students? The *PBL in the Classroom* guides that we've developed at the Global Digital Citizen Foundation will help. They contain PBL classroom project ideas for year K–5, 6–9, and 10–12. Each guide contains 8 ideas for awesome projects—that's two for each core subject.

These ideas are useful for all year levels, but what if it's not for your specific grade? No problem—you can fully customize these ideas to suit any year you want. For example, this book features a Mathematics project called "Where the Heart Is" in which students take an old home and update it with a new look and feel. Here's how you can apply it to other year levels:

- **Primary**—basic math, working with shapes, art and modelling
- **Middle**—application of algebraic and geometric models, measurement, graphic design principles
- **Secondary**—advanced algebra, industrial education, interior design

These concepts are also cross-curricular in nature, and can be adapted to other subject areas.

**Solution Fluency** is the process for PBL. It's a way for students to learn problem solving skills and to become successful with any challenge. If you don't know about Solution Fluency or need some resources, visit [globaldigitalcitizen.org](http://globaldigitalcitizen.org) for more information.

So, if you're ready to explore some PBL projects, then let's get to the ideas. Happy learning with PBL!





SCIENCE / TECHNOLOGY

# Star Performance

*Take on the role of a personal trainer and develop an exercise and nutrition program for turning an athlete into a winner!*

## The Scenario

Every athlete needs expert training and high-quality nutrition for peak performance. As one of the best trainers in the business, star athletes come to you for advice. Imagine knowing your expertise can turn a budding contender into the star of their profession!

This project allows you to develop skills in biology, chemistry, and kinesiology and produce a top sport-specific training and nutrition regimen for a fledgling athlete. Research the sport and then build the plan from the ground up. Make your client a sports superstar!

## Resource Links

[Training Programs](#)

[Kinesiology Basics](#)

[Nutrition Basics](#)

[Athletic Training](#)

[USADA Nutrition Guide](#)

[Coach.ca Sports Nutrition](#)

[Training Templates—Higher Faster Sports](#)

What goes into training and improving the performance of a professional athlete?



# $\pi$ MATHEMATICS

## Interview with a Genius

*Probe into some of the greatest mathematical minds in history as you conduct an interview and witness a live demonstration of a genius at work!*

### The Scenario

The greatest math minds in history were men and women of true genius. What would you give to spend time with one of these great achievers? Better yet, how would it be if you could interview them for yourself, and see them demonstrate their theories personally?

Use presentation skills, literary talents, and your understanding of complex mathematical theories in practice to present your interview with a genius. Talk about their life and their accomplishments. Call on your friends to assist in research and to play the roles of interviewer and genius in your project!

### Resource Links

[Famous Mathematicians](#)

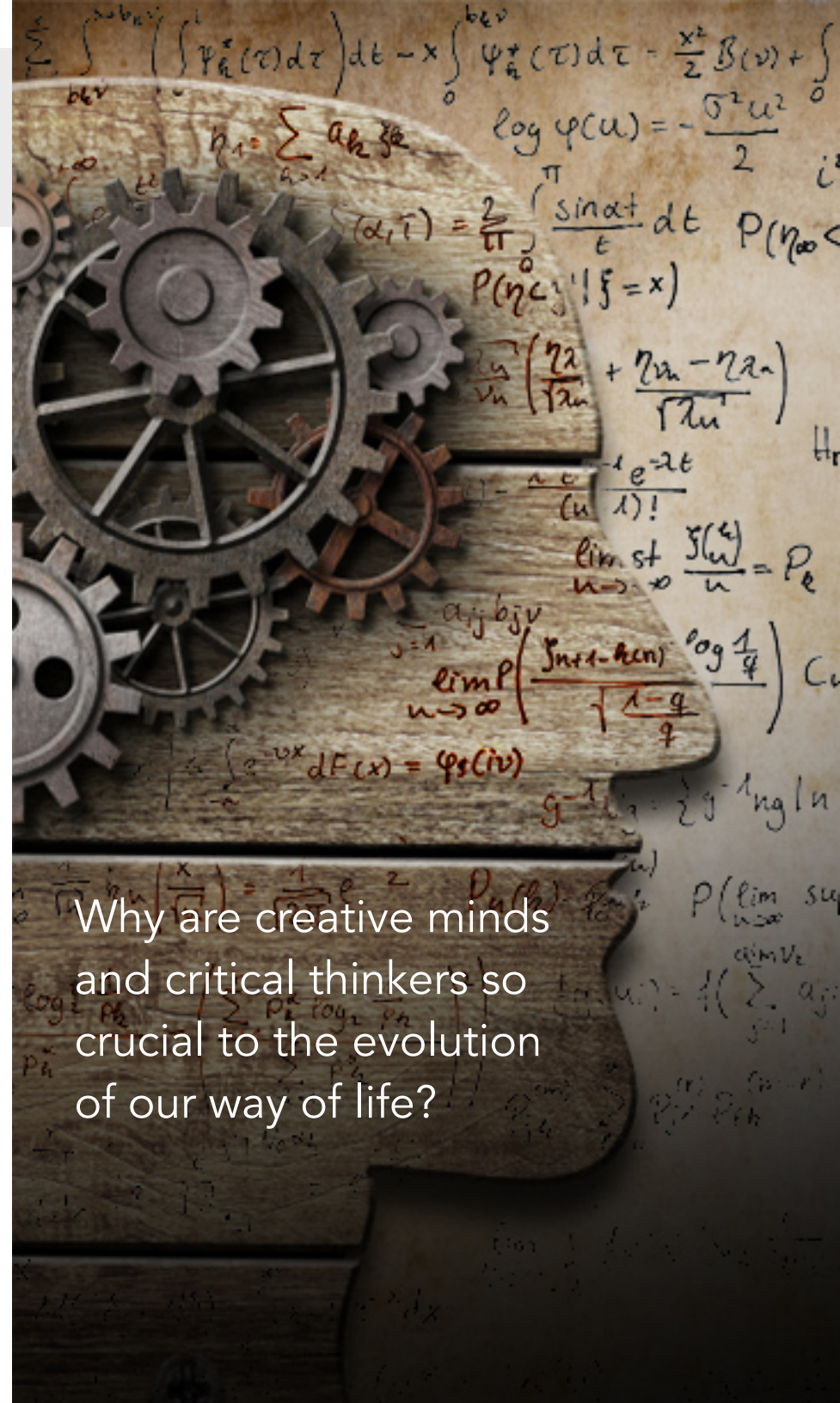
[Wikipedia—List of Mathematical Theories](#)

[Albert Einstein Radio Interview \(1940\)](#)

[Interview Questions/Answers](#)

[Mindtools.com](#)

[The STAR Method for Interviewing \(PDF\)](#)



Why are creative minds  
and critical thinkers so  
crucial to the evolution  
of our way of life?



SOCIAL STUDIES

# Mind Your Business

*Show your entrepreneurial side and reveal your potential for prosperity as you take your passions and build a successful business from them!*

## The Scenario

Everybody has something they love to do and are very good at. You've heard it said before—"You should do that for a living!" Here's a question: What if your passion was your livelihood? What would your business format look like?

Demonstrate the prowess you have for business planning and your understanding of economics by creating your own business. Pick your passion and formulate how it would look as a business. Then research how to develop it as workable plan. Get your mind on business!

## Resource Links

[Investopedia](#)

[Business Plans](#)

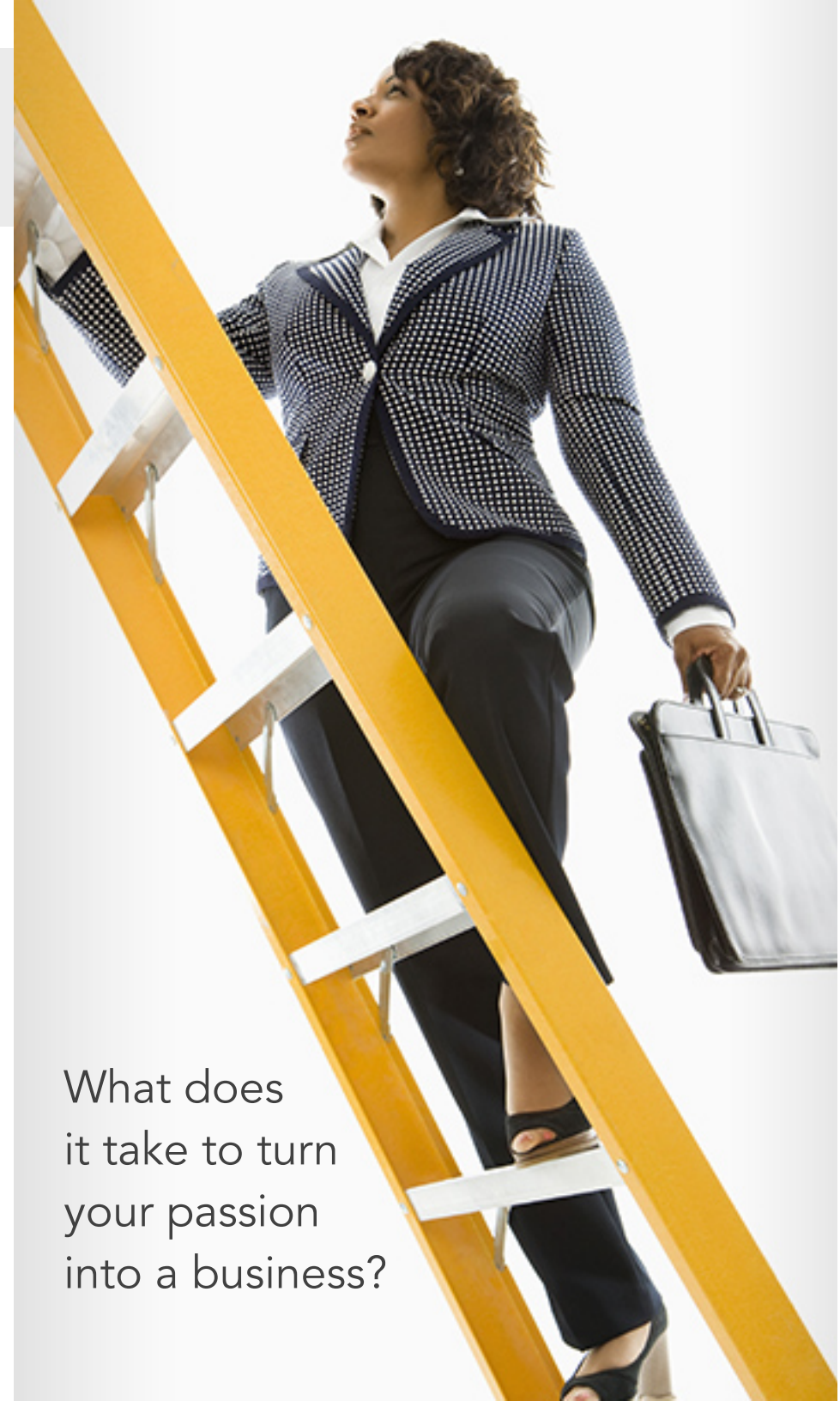
[Turning a Passion Into a Business](#)

[Planning Templates](#)

[Fastco Design: Finding Your Passion](#)

[How to Start a Business With Only \\$100 in the Bank—forbes.com](#)

[Realizing True Wealth](#)



What does  
it take to turn  
your passion  
into a business?



# Designing William

*Step into the slippers of Shakespeare and create a modern retelling of a scene from one of his classic plays. Grab a skull, a sword—and a cellphone!*

## The Scenario

The works of William Shakespeare have many themes that parallel the struggles and triumphs of modern life. It's actually easy to relate to a lot of what Shakespeare had to say about life and the people we live it with. What Shakespearean play or character defines *you*?

Reimagine the Bard by adapting a scene from one of his plays for modern times. Translate the language into modern English while keeping the original meaning intact. Record it, film it, or act it out as a live performance. Shakespeare gets a makeover—literally!

## Resource Links

["No Fear" Shakespeare](#)

[Understanding Shakespeare](#)

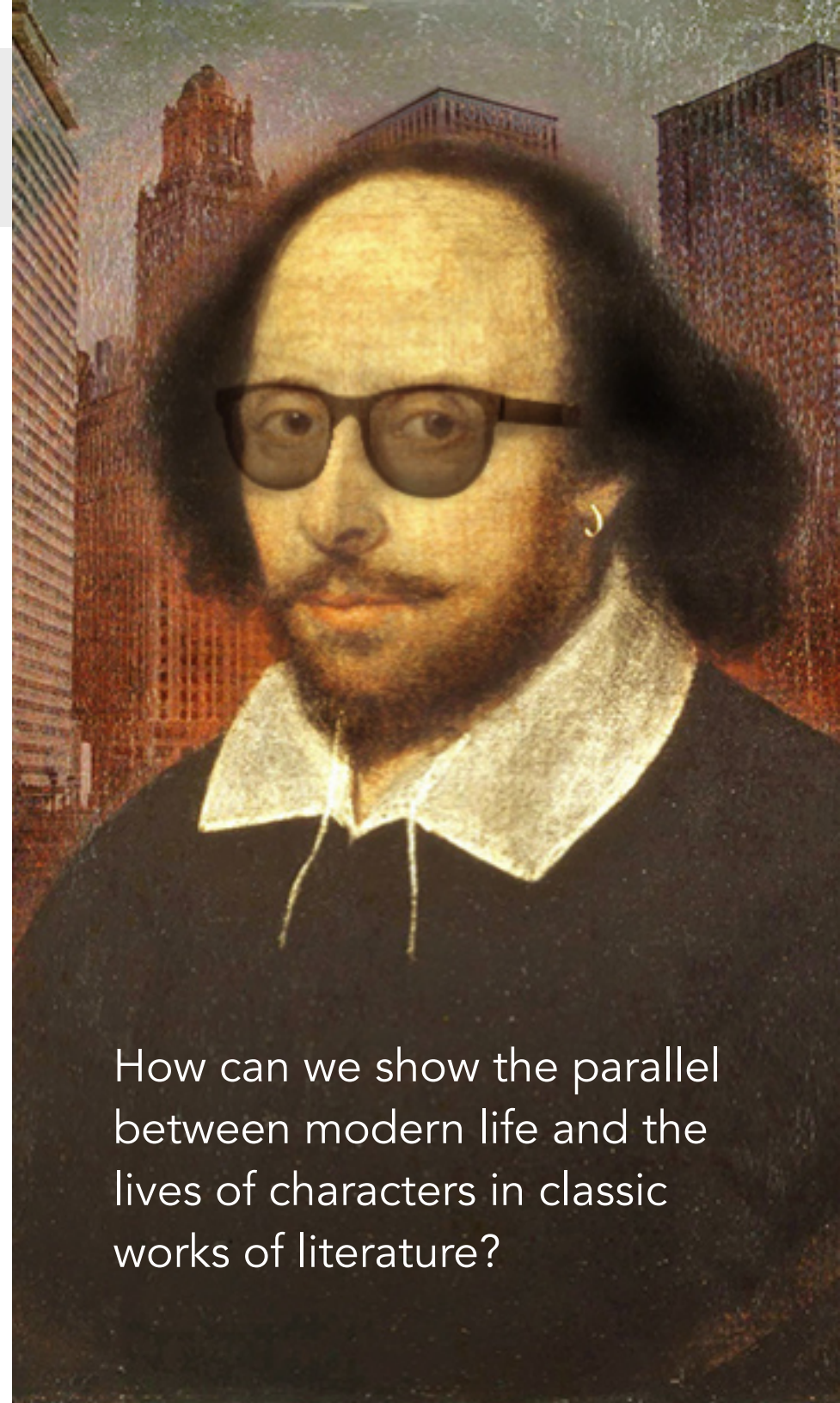
[Playwriting 101](#)

[John August—How to Write a Scene](#)

[16 Movies You Didn't Know Were Based on Shakespeare](#)

[Shakespeare's Complete Works](#)

[Shakespeare Online](#)



How can we show the parallel between modern life and the lives of characters in classic works of literature?



SCIENCE / TECHNOLOGY

# Core of the Matter

*Go on an expeditionary voyage to the center of the planet! Document your journey of research into what makes the Earth a living thing.*

## The Scenario

Imagine being at the vanguard of a voyage unlike anything you've been on before. Your path leads to the Earth's core, and along the way you are collecting knowledge about life within the planet itself. Now it's time for you to describe your journey in detail.

Profile what you discover about the inner planet and how it functions as you detail your voyage through the Earth. Present your journey through video, animation, and other engaging media. You and your crew are about to go deep within the planet and discover the world unseen by us all. Your voyage begins now—welcome aboard!

## Resource Links

[National Geographic Education](#)

[Earth's Structure](#)

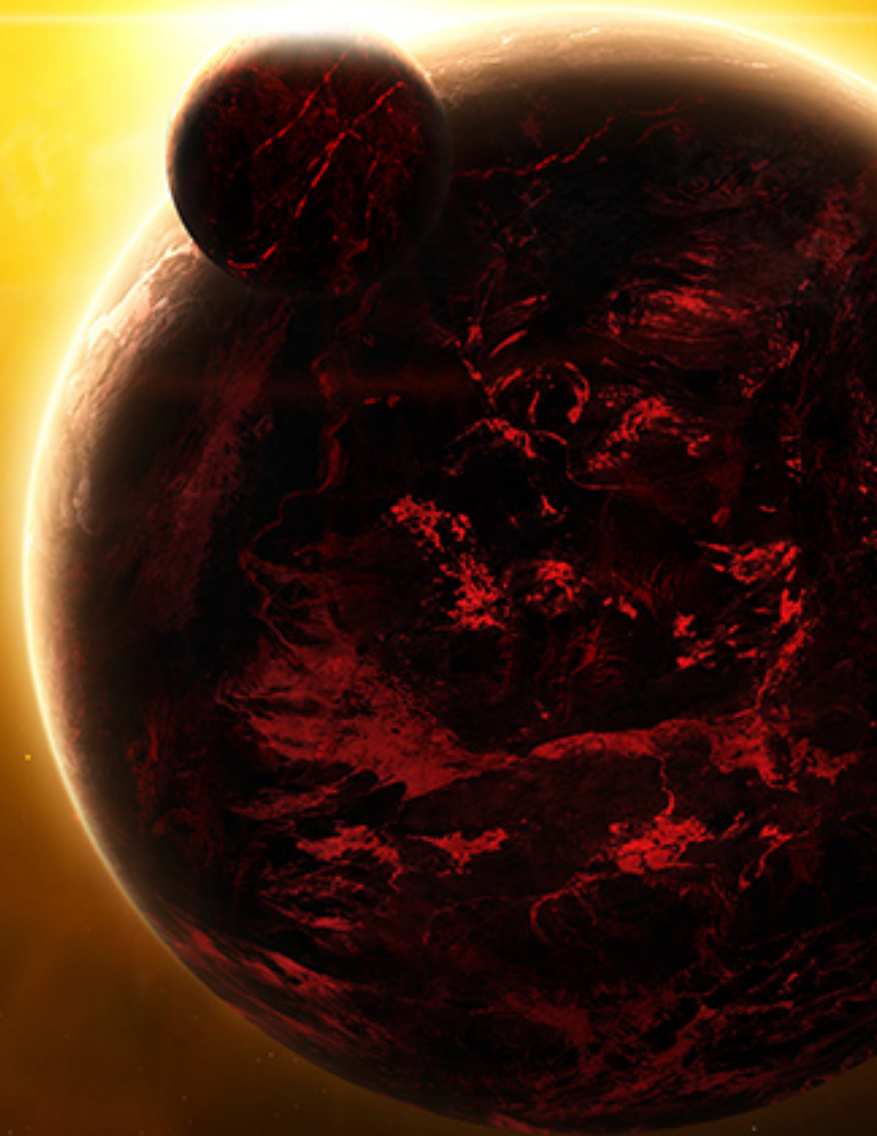
[NASA Home Page](#)

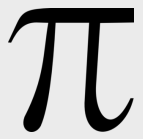
[Inside the Earth](#)

[Wikipedia: Travel to Earth's Center](#)

[New Scientist: Massive "Ocean" Discovered Towards Earth's Core](#)

How would understanding the function of our planet's core help us learn to become more environmentally friendly?





MATHEMATICS

# Where the Heart Is

*Discover how essential algebra is to building and redesigning homes as you recondition an older house into a new living space!*

## The Scenario

Fix-up home projects require specific and precise calculations in order to be effective. One wrong number and sometimes the job has to be done all over again! What calculations do you need to make when you are remodelling an old home with a new updated look?

Give an older home a brand new look in this project. Sketch out a list of what you need to rebuild or replace, and then determine all the supplies you need and their costs. Then profile your home redesign and the steps you take in your own stunning presentation format!

## Resource Links

[HGTV Home Page](#)

[Home Renovation Estimate Calculator](#)

[Better Homes and Gardens: Home Improvements](#)

[25 DIY Fundamentals](#)

[41 Creative DIY Hacks To Improve Your Home](#)

[Small Notebook: Finding Fixable Homes](#)

[Tip Junkie: Home Improvement Binder](#)



How are math calculations used in making our homes and surroundings more beautiful?





SOCIAL STUDIES

# An Online Odyssey

*Learn the cultures of the ancient world and how they relate to their modern counterparts by using technology to create a then-and-now comparison!*

## The Scenario

Societies of the past can have tremendous influence on their future generations. Practices, beliefs, and outlooks carry forward as cultures evolve. How similar can old and new versions of the same culture be, and what kind of global awareness can evolve from this?

Explore the evolution of an ancient culture and compare the ancient and modern versions side-by-side on a custom webpage. Take time to immerse yourself in the beauty of a foreign land and its people. Build an informative website that honours the diversity in our world!

## Resource Links

[BBC History](#)

[Ancient Civilizations and Modern Man](#)

[Ancient Civilizations](#)

[Wikipedia: Sociocultural Evolution](#)

[ScribD: Anthony D. Smith's "The Ethnic Origins of Nations"](#)

[Website Tools](#)

[7 Online Website Builders for Students to Explore](#)

How can learning about ancient cultures help us build a mindset of true global citizenship awareness?





# Time Investigators

*Investigate the scene of an historical crime in true CSI style! Create a state-of-the-art profile from the most famous crime scenes in history.*

## The Scenario

The assassination of Abraham Lincoln; the death of Julius Caesar; Jack the Ripper's famous rampage in Whitechapel. Where was the crack team from *CSI* when we needed them? The task of bringing modern methods to bygone crimes has now fallen to you!

Create an accurate and detailed crime scene report from one of the many famous crimes of our history. Discover how these scenes are approached and managed, and apply your knowledge to a scene from the past. Use illustration, writing, and science to persuade the police forces of the past to see things *your way*!

## Resource Links

[25 Unsolved Crimes](#)

[8 Most Famous Assassinations in History](#)

[Crime Scenes](#)

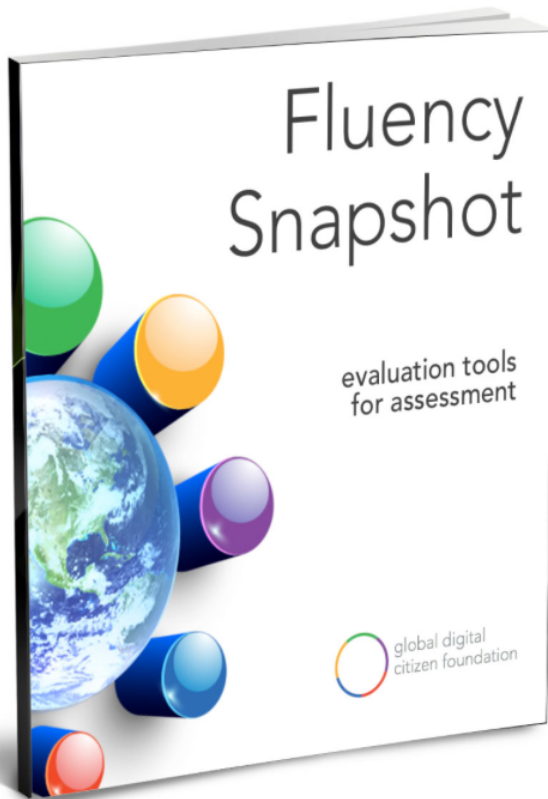
[Basics of Forensic Science](#)

[Persuasive Writing](#)

[Written Documentation at a Crime Scene](#)



How can investigative reports be structured to be both informative and persuasive?



## Download a FREE COPY of the Fluency Snapshot

With PBL, your students need to know how developed their skills are, and we want to help you. The Fluency Snapshot is a perfect companion for PBL assessment, and it's *yours for free!*

Use these 21st Century Fluencies assessment tools for:

- Developing a baseline
- Student self-evaluation
- Measuring performance
- Cultivating understanding

*Get Your Copy **HERE!***

The [Global Digital Citizen Foundation](#) is a non-profit organization dedicated to cultivating responsible and ethical global citizens for a digital world. The GDCF helps teachers to instill these values in their students and guide them towards creating a better world for themselves and for others. Our focus is on [the 21st Century Fluencies](#), which are outlined extensively in the book *Literacy is Not Enough* (Crockett, Lee et. al.; 2011). We have also developed extensive resources and [exceptional professional learning programs](#). For more information, please visit our [website](#).



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