EDUCATOR'S STRATEGY GUIDE

Start using **Stop-Motion Animation** across the curriculum

HB ANIMATION STUDIO Kit

Stop-Motion Animation Workshop

Hamilton Buhl

Introduction

The purpose of this guide is to help teachers successfully integrate stop-motion animation productions into their classrooms. It has been designed to be used in conjunction with **HamiltonBuhl's Animation Studio Kit**.

Learning to create stop-motion animation is easy, enjoyable and can be readily adapted to different age groups and settings. We encourage teachers to employ this creative technique in their classrooms.

Reasons to Use Technology in Your Classroom

There are many good reasons to integrate technology in your classroom. In *Integrating Educational Technology into Teaching* (2009), authors Margaret D. Roblyer and Aaron H. Doering identify four main benefits:

1) motivated students
2) enhanced instructional methods
3) increased productivity
4) acquisition of technical skills

The HB Animation Studio Kit and Lesson Plans support these objectives as follows:

• Motivate Students

- Encourages high-level learning—helps focus students' attention;
- Helps students see relevance of subject matter by applying abstract theory and skills to real-world practice;
- Promotes active application of materials;
- Provides incentive for students to produce optimal works through electronic publishing to websites.

• Enhance Instructional Methods

- Provides opportunities for exploration and collaborative problem-solving;
- Helps students visualize difficult concepts or topics;
- Helps learners visualize/make connections between skills and real-life applications;
- Allows students to study subjects in unique and interesting ways;
- Provides access to alternate and distance-learning opportunities;
- Helps improve media literacy skills.

• Increase Productivity

- Provides speedy access to information sources;
- Encourages self-directed learning and ownership of the learning process;
- Saves money on consumable materials.

• Acquire Technical Skills

- Helps students improve their "information age" skills: technology literacy, information literacy and visual literacy.

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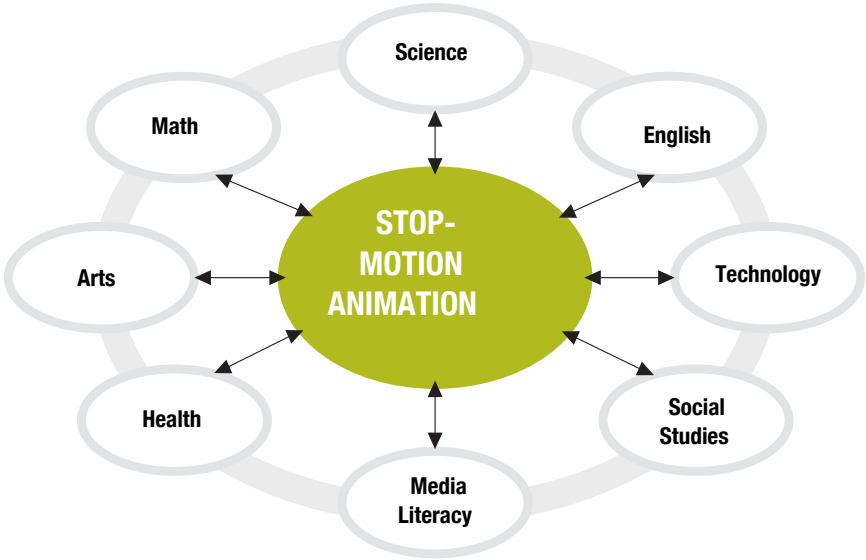
Start Using Stop-Motion Animation Across the Curriculum

Stop-motion animation is not an activity restricted to art or technology classes. We advocate that any classroom can integrate this technology, as long as there is a topic that supports a good idea for a story or lesson. Stop-motion animation can be incorporated into classrooms from cross-curricular and interdisciplinary perspectives, as stop-motion animation activities can be easily shared between different but complementary classroom subjects. Common themes may overlap.

Fig. 1. Stop-Motion Animation: A Cross-Curricular Activity



Target subject areas include:

- English
- Math
- Science
- Social Studies
- Health
- Arts (Art, Music, Theatre)
- Technology
- Media Literacy (for advanced curriculums—grades 7 and up)

How Do We Integrate Stop- Motion Animation Across the Curriculum?

The information in the following table provides ideas to help you integrate stop-motion into the various target subject areas. Examples of previous works in each subject area are also included.

Table 1.

SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
1. ENGLISH	**CREATING STOP-MOTION ANIMATION CAN PROMOTE:** • The expression of English-language concepts and topics—a visual way of storytelling using symbols and movement to promote meaning. **STUDENTS MAY CREATE ANIMATION THAT:** • Interprets a scene or passage from a movie, novel, poem or play; • Recounts a story that seeks to preserve cultures and traditions; • Re-enacts a short fable, legend or myth. **EXAMPLES** **The Cave: An Adaptation of Plato's Allegory in Clay (3 min 11 s)** **The Crow and the Pitcher (59 s)** **Edward Scissorhands in Claymation (1 min 7 s)** **Stopping by Woods on a Snowy Evening (2 min 5 s)** **The Necktie (12 min 17 s)** **The ErlKing (5 min 2 s)**

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SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
2. MATH	**CREATING STOP-MOTION ANIMATION CAN PROMOTE:** • Visualization of math concepts to make abstract ideas more concrete and help students visualize solutions to problems; • Connections between abstract geometry and objects in the real world; • A better understanding of the nature and properties of transformations and symmetry through the creation of artistic objects. **STUDENTS MAY CREATE ANIMATION THAT:** • Visually exemplifies how math can be used to solve real-world problems, e.g. take measurements, make conversions, work with fractions, decimals, percentages, estimation, volumes, measure mass, motion, weight, balance; • Visually exemplifies mathematic principles such as the isosceles triangle, pi, or Pythagorean theorem; • Demonstrates the transformation of objects; • Illustrates a strategy. **EXAMPLES** **Math Geometry Angles (1 min 33 s)** **Stop Motion Rubik's Cube (1 min 10 s)** **Math Art (1 min 30 s)** **Stop Motion Square Roots (1 min 57 sec)**

SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
3. SCIENCE	**CREATING STOP-MOTION ANIMATION CAN:** • Provide a means of rendering a scientific concept in a visual format, thus helping to make it more easily understood; • Help students visualize complex scientific concepts in motion, to show how these concepts actually work (e.g., movement of atoms). **STUDENTS MAY CREATE ANIMATION THAT WILL:** • Help them visualize a part of the human anatomy and how it works; • Help them visualize a molecular structure or growth of plants or animals, e.g., butterfly metamorphoses, how fertilization occurs, bees pollinating flowers; • Help them visualize how levers, pistons or pulleys work; • Simulate chemical reactions; • Help them visualize molecular concepts, electrons, protons or microscopic work. **EXAMPLES** **Gas Exchange Claymation (2 min)** **Facilitated Diffusion Stop Motion Animation Project (15 s)** **Cell Mitosis Stop Motion Movie (37 s)** **Runaway (9 min 10 s)**

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SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
4. SOCIAL STUDIES	**CREATING STOP-MOTION ANIMATION CAN PROMOTE:** • Visual representation of complex and abstract historical or geographical concepts; • The study and depiction of cultural and historical roots; • The exploration of social issues and problems to promote change; • The exploration of events from different perspectives; • The representation of different peoples, places and environments. **STUDENTS MAY CREATE ANIMATION THAT:** • Tells stories about lives, events, places, environments or eras; • Visually depicts world discoveries or significant historical events; • Represents a certain time period in relation to a famous historical figure; • Depicts controversial topics such as world disasters or wars; • Depicts geographical concepts. **EXAMPLES** ☝ **Mount St. Helens Eruption Claymation (47 s)** ☝ **The Destruction of Pompeii (2 min 19 s)** ☝ **Black Soul (9 min 47 s)** ☝ **Wapikoni mobile – Le vieil homme et la rivière (5 min 9 s)**

SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
5. HEALTH	**CREATING STOP-MOTION ANIMATION CAN PROMOTE:** • Visual aids as a powerful means of displaying health-related information; • Empowerment of students to make improved health choices; • Students seeing connections between ideas about health and real-life practices; • Students advocating for good health practices; • Self-reflection and increased motivation for students to lead healthier lifestyles. **STUDENTS MAY CREATE ANIMATION THAT:** • Depicts a healthy activity or lifestyle; • Addresses a social or self-esteem issue; • Presents a health promotion topic; • Addresses unhealthy behaviours—such as bullying, smoking, addiction, eating disorders, peer pressure; • Provides a lens into the consequences of poor health choices, e.g., lung cancer, obesity, osteoporosis or heart disease. **EXAMPLES** ☝ **Stop-Motion Animation – Eat Healthy (1 min)** ☝ **It All Adds Up! (2 min 3 s)** ☝ **Bullying – School Project (1 min 59 s)** ☝ **Smoking Kills – Stop Motion (23 s)** ☝ **The Sniffing Bear (7 min 47 s)**

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SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
6. ARTS/MUSIC/ THEATRE	**CREATING STOP-MOTION ANIMATION CAN PROMOTE:** • Exposure to new and exciting modes of communication and artistic expression; • Unique and innovative opportunities for students to share artistic skills; • The expression of unique capabilities and creativity in the production of artworks; • Unique aesthetic emotional responses to problem-solving; • The exploration of different art perspectives; • The association of the arts to related cultures and traditions. **STUDENTS MAY CREATE ANIMATION THAT:** • Provides a representation of an artwork from a particular era or place; • Provides examples of different art forms; • Portrays an interpretation of a dance or art technique; • Tells a theatrical story; • Reproduces and reinterprets original animated artistic works. **EXAMPLES** **Drip Clay Animation (2 min 3 s)** **Claymation, Stop Motion Animation, Heartbeats (1 min 59 s)** **Breakdance Claymation (14 s)** **Boogie-Doodle (3 min 28 s)** **Empreintes/Imprints (6 min 3 s)**

SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
7. TECHNOLOGY	IN GENERAL: • Provides students with exposure to alternate types of technology; • Provides students access to infinite amounts of information; • Helps generate creative solutions to problems; • Encourages critical thinking, creativity and self-expression; • Encourages perseverance, patience and problem-solving strategies; • Provides support for other areas of the curriculum; • Encourages interdisciplinary and cross-curricular work; • Encourages unique abilities and technological expertise that will enable students to compete in a global society.

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SUBJECT	IDEAS FOR STOP-MOTION ANIMATION INTEGRATION
8. MEDIA LITERACY	IN GENERAL: • Encourages students to explore new literacy practices and methods of self-expression using technology; • Improves student engagement in project preparation using the Internet; • Encourages students to become critical consumers of digital information; • Improves students' abilities to perform critical analysis; • Improves students' abilities to interpret visual images.

Some possible class combinations for interdisciplinary instruction include:

- Math, Science, Health and Technology
- Arts, Technology, Media Literacy and English
- Math, Social Studies and Technology
- English, Music, Technology and Arts

References

Roblyer, M.D., & Doering A.H., (2009). *Integrating Educational Technology into Teaching* (5th ed.). New Jersey, USA: Allyn & Bacon, Inc.

Pearson Education, The Assure Model
wps.prenhall.com/wps/media/objects/1579/1617793/ASSURE/ASSURE.PDF

Learning Telecollaboratively, Lesson Plan Models
clifmims.wetpaint.com/page/Lesson+Plan+Models

Standards Addressed

Common Core

CCSS.ELA-Literacy.W.7.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

CCSS.ELA-Literacy.W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

CCSS.ELA-Literacy.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

CCSS.ELA-Literacy.W.11-12.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

CCSS.ELA-Literacy.SL.7.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

CCSS.ELA-Literacy.SL.8.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

CCSS.ELA-Literacy.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-Literacy.SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

ISTE

ISTE: Knowledge Constructor, 3a, 3c, 3d Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

ISTE: Innovative Designer, 4a, 4b, 4c, 4d Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

ISTE: Creative Communicator, 6a, 6b, 6c, 6d Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

ISTE: Global Collaborator, 7a, 7b, 7c, 7d Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.