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MASHUP

Grade level	6th–8th, with extensions for 9th–10th
Content areas covered	**ELA with integration opportunities in math,** science, digital media, and art
Total time	6–12 hours
Learning targets	Deeper Learning competencies: Master core academic content (d, e, f, g, h) Think critically and solve complex problems (e, h) Work collaboratively (a)
Standards	CCSS.ELA-LITERACY.W.8.3, W-3a, W-3b, W-3c, W-3d, W-3e, W-4, W-5 **CCSS.Math.Content.6.RP.A.1** **CCSS.Math.Content.7.RP.A.2** **CCSS Mathematical Practice Standards 1, 2, 4**

Experience snapshot	Students will begin by analyzing various examples of hybrids, and then differentiate between hybrids (that involve crossbreeding via sexual reproduction) and mashups (the combination of two unlikely things). Students will then be asked to create a mashup, a fictional short story that uses narrative techniques to describe what happens when content concepts are applied to unrelated, real-world contexts. Through writer workshops and peer reviews, students will create a high quality piece of writing to publish. This lesson is best done at the end of a unit or project, once students feel confident with content and are ready to apply it in non-routine ways. **Special Edition: Students will use New York Hall of Science's (NYSCI) Noticing Tools iPad app, Fraction Mash, to complete a math assignment that turns their mashup into an image to study proportions and fractions embedded in their image.**

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Prepare	• Collect and compile images of different hybrids (plants, animals, fruits, and so on) to project for a whole class discussion, or print images if you prefer small group discussions. • Complete teacher handout #1 with student lists and then cut strips. • Calendar out benchmarks for narrative writing. • Prepare narrative writing workshops. • If you are planning to collaborate with other teachers on this project (see Phase IV ideas below), make contact with them before beginning this lesson. • **Download and experiment with the Fraction Mash app. Review the "Paraffe, Pandaphant, Pengorse" lesson at http://noticing.nysci.org/lesson/paraffe-pandaphant-pengorse-analyzing-fractions-and-redefining-a-whole/. Consider reviewing educator tips for Noticing Tools apps here: http://noticing.nysci.org/tips.**

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FACILITATOR MOVES

Phase I (30–45 minutes)

1. Collectively define what a hybrid is by following these steps:
    - Show photos of hybrids on a projector for a whole class discussion or print images and put them at tables for small group discussions.
        - Examples include: cars, grapples (a kind of fruit), goldendoodle dogs, and so on.
        - You can also print the two components that make up the hybrid and ask students to match them up.
    - Ask the class, “What are these examples of?” (Students should say, “Hybrids”.)
    - Help students come up with a collective definition of a hybrid that involves the crossbreeding of two unlikely/different things. Depending on grade level/content area, you can discuss that true cross-breeding requires sexual reproduction. Explain that a mashup does not necessarily require sexual reproduction, but it does involve putting two unlikely things together. Write this definition in a place that the class can return to often.

STUDENT ACTIONS

Phase I

- Collectively define a hybrid.
- Articulate the difference between a hybrid and a mashup.
- Brainstorm idea banks.

FACILITATOR MOVES

Phase I *(continued)*

2. Have students create content and idea banks by listing topics that are related to their unit of study and topics that are unrelated.
   - In small groups, have students generate a list of important people, places, theories, findings, processes, and terms related to their current unit of study. This becomes the "content" bank.
     - For each category, go around the room and have each group share out one item from their list.
     - Have group members rotate who shares to ensure that everyone has an equal chance to speak.
     - Hold students accountable to listening to their peers by not allowing repeat information to be stated.
   - Next, have students generate a list of famous people, well-known theories, findings, processes, and popular places that are completely unrelated to each other and to the current unit of study. This becomes the "idea" bank.
     - Collect these brainstorms from the groups, without sharing them out loud.

STUDENT ACTIONS

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FACILITATOR MOVES

Phase II. Prepare for students' selections from the idea and content banks (30 minutes)

3. After class, go through the lists generated by students from both the idea and the content bank. Select terms most appropriate for this lesson and write them into teacher handout #1.
   - Print terms from the content bank on one colored piece of paper and terms from the idea bank on a different colored piece of paper.
   - Cut out individual strips. Take six envelopes and put each column's strips in separate envelopes. You should now have three envelopes from the content bank (people, places, other) and three from the idea bank (people, places, other).

STUDENT ACTIONS

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FACILITATOR MOVES

Phase III (2–3 hours)

4. Have students pick their combinations for their mashup.
   - Hold each envelope and walk around to small groups. Let each group pick one piece of paper from each of the six envelopes.
     - To modify for younger grades, have students only pick one piece from the content bank envelopes and one piece from the idea bank envelope.

5. Have students make combinations using the strips they picked.
   - In small groups, have students mix up and chart out combinations using student handout #1. Remind them that every content bank term must be paired with an idea bank term.

STUDENT ACTIONS

Phase III

- Pick strips from the idea banks to make combinations, using student handout #1.
- Make mashup combinations.
- Brainstorm story ideas using student handout #2.
- Plan out story using student handout #3.
- Learn about narrative writing techniques to prepare to write the mashup story.

FACILITATOR MOVES

Phase III *(continued)*

6. Have students brainstorm and plan their story.
   - Once students have created their combinations, ask them to identify their favorite one. This will become the basis of their mashup story.
     - Show inspiration for mashup stories or write your own. See CraftED Curriculum's Pinterest board: CCSS, NGSS Resources for examples of children's mashup books to show students a similar model for their mashup.
   - Model the process of taking three idea bank strips and turning them into a mashup story idea.
     - You can model this process alone or have students add to the storyline as a class.
     - Review the elements of a story and the definition of a short story, so students are familiar with the language on student handout #2. For example, tell students that a short story features a few characters and focuses on a single incident with the hopes of evoking a particular mood.
     - Have students begin to plan out their mashup story using student handout #2.
     - Roam around the room consulting with small groups.
   - Collect brainstorms and provide diagnostic feedback, ensuring that students are setting themselves up to write a good story.
   - Have students complete student handout #3 to storyboard their approved plans.
     - For guidance on the "draw-label-caption" strategy referenced in student handout #3, see CraftED Curriculum's User Guide. In addition to diagnostic feedback from you, you may also consider peers providing feedback on early story plans and ideas. For help facilitating peer feedback see CraftED Curriculum's Foundational Strategy: Collaborative Feedback

STUDENT ACTIONS

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Phase IV (2–5 hours)

7. Have students begin writing a first draft of their mashup story.

8. Have students participate in workshops to teach and/or revisit narrative writing techniques, as defined by CCSS.
   - Dialogue, pacing, description, and reflection to develop experiences, events and, characters. (W-3 b)
   - Organizing an event sequence that unfolds naturally and logically. (W-3 c)
   - How to use transition words, phrases, and clauses. (W-3 c)
   - Writing introductions to contexts and conclusions. (w-3 a)
   - For more information on conducting workshops, see CraftED Curriculum's User Guide.
   - Have students write in stages so you can provide diagnostic feedback often and ensure they are on the right track.
     - For example, periodically review individual pages, sections, or frames that are produced from student handout #3.
   - Use check for understanding #1 to additionally check for content mastery.
   - Students can also use footnotes to cite content material. If they do, offer a workshop on how to write footnotes.
   - Have students revise multiple drafts of their story using self and peer revisions.
     - For help leading self and peer revisions, see CraftED Curriculum's Foundational Strategy: Collaborative Feedback.
   - **At this time students can be simultaneously working on the "Paraffe, Pandaphant, Pengorse" lesson in math class/hour. After completing this activity using two animals (as the NYSCI lesson suggests), students can move on to use two images from their mashup story to analyze the math involved in their image.**

STUDENT ACTIONS

Phase IV

- Write story.
- Revise story.

FACILITATOR MOVES

Phase V (2–6 hours)

9. Final production options for this lesson include:
   - Publish story collections in a book using online platforms such as Lulu or Blurb.
   - Modify individual stories for a children's board book that can be created online at www.pintsizeproductions.com, or designed by hand using a ready to go blank board, sold at Barnes and Noble, or a similar template found at www.instructables.com.
   - **Using Photoshop or a free program such as Fotor, edit images created in NYSCI Fraction Mash related to student mashup stories to create a cover for students' published writing. Ask students to include a mathematical statement (similar to an artists' statement) in which they describe the math involved in the final image.**

STUDENT ACTIONS

Phase V

- Share story with an audience.

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Phase V *(continued)*

10. Disseminate student learning:
    - Have students host a story hour at the local library where they read their work to young children and share what they learned over the course of the project.
    - Collaborate with an art teacher to have students create artwork that corresponds with their stories.
    - Consider integrating ELA and science into this lesson by doing a biology unit on variation or adaptation. (NGSS LS4.C, LS3.B, MS-LS1-3)
    - For older students (9th–10th grade), introduce complex forms of fiction for their narrative writing. (CCSS.ELA-LITERACY.W.9-10.3)
    - Have students create an interactive display at a content-related location in the community. Examples include a zoo, historical museum, local state park, library, or community park.
    - **Submit final student stories and images to appear on the NYSCI blog to highlight how students used the Noticing Tools app. Email Douglas Moore directly at dmoore@nysci.org for more information.**

STUDENT ACTIONS

CHECK FOR UNDERSTANDING—INDIVIDUAL WRITTEN ASSESSMENTS

#1.	Write a short fictional story about your mashup. Use narrative techniques to strengthen your writing. Introduce characters, establish a setting, develop the narrator, establish a point of view, and use transitional language for sequencing events. Tip: See CraftED Curriculum's Pinterest board: CCSS, NGSS Resources for a link to sample Smarter Balance assessments to use for this prompt/assignment.

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Teacher Handout #1: Idea bank strips

Content people	Content places	Content theories, ideas, influences
John Locke	*Paris*	*Revolution*

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Non-content people	Non-content places	Non-content theories
Supreme Court Justice Sonia Sotomayor	*Preschool*	*Natural selection*

Name(s): _____

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Student handout #1

Use the strips you pulled to make as many combinations as possible. Place the strips in the spaces below.

Content	Non-content	Content

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Non-content	Content	Non-content

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Name(s): _____

Story title: _____

Student handout #2: Planning and brainstorming your mashup

By now you have identified three of your favorite ideas from the idea bank to create your mashup. Your task is to write a short story about your mashup that features narrative techniques. Use the prompts below to help you brainstorm and plan your story.

1) Introduce the context.
    a) Describe the setting.
        i) Where and when does the story take place? _____
        ii) What does it look like? _____
        iii) How will the characters experience the setting? Be specific. _____

    b) Who are the cast of characters?
        i) Character 1: _____
            (1) Describe their physical features: _____
            (2) Describe their personality: _____
            (3) How significant is this character to the storyline? _____
        ii) Character 2:
            (1) Describe their physical features: _____
            (2) Describe their personality: _____
            (3) How significant is this character to the storyline? _____
        iii) Character 3: _____
            (1) Describe their physical features: _____
            (2) Describe their personality: _____
            (3) How significant is this character to the storyline? _____

    c) From what point of view will the story be written or told? _____

    d) How will our class content be integrated into this story? _____
        i) How might you introduce your reader to our class content in a natural way, so it feels like part of the story?
        _____

2) What is your story's overall mood or tone? _____
    a) How will you impart that mood to your reader? _____

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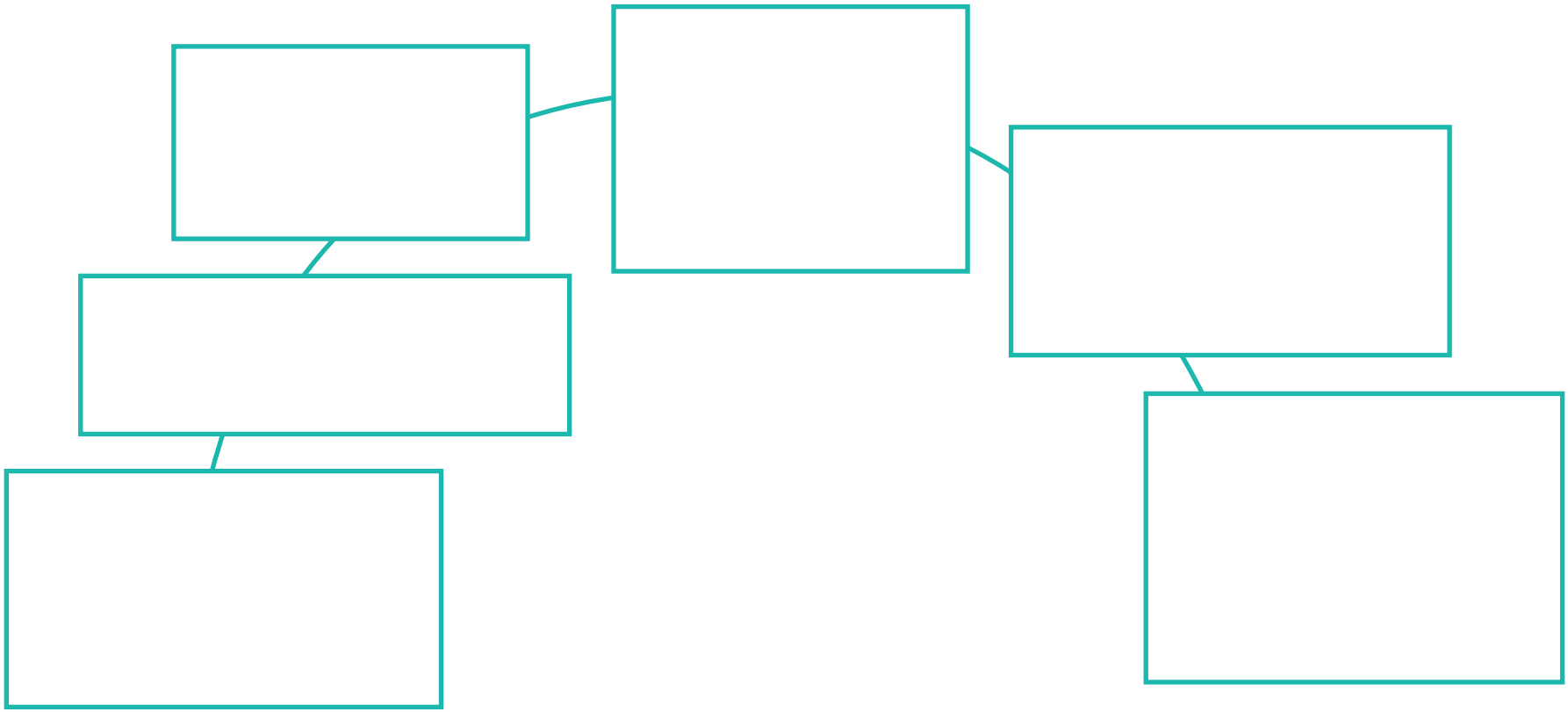
3) Determine the sequence of events—focus on one incident.

a) Identify the story's main incident: _____

b) Chart the chain of events. Consider using the following outline to help you: rising action, climax, solution.

first => then => and so => as a result => ultimately =>



Name(s): _____

Story title: _____

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Student handout #3: Storyboard

Using the "draw-label-caption" strategy, complete the storyboard below. For help implementing this protocol, see CraftED Curriculum's User Guide.

1.	2.	3.	4.
5.	6.	7.	8.