Project Plan ANONYMOUS VERSION

University of British Columbia

EDCP 331 and EDUC 450

December 2016

Topic: **Explosions!**

PROJECT PLAN

Topic	Explosions!

Class Description	- Number of children: 23
	- Based on imperfect visual interpretation:
	  o Genders are balanced
	  o Culturally diverse
	- High needs for 1:1 support
	  o Four students with Individual Education Plans
	  o Other students require individualized support.
	  o One EA is designated full time to two children.
	  o Another EA is in twice per week for two students (never during our lessons).
	  o Six students classify for learning assistance.
	- Teacher reports the class is "young"
	  o Struggle to listen and to follow instructions
	  o Struggle with transitions
	- High energy classroom
	- Vocal with opinions and call-outs
	  o Teacher has to stop frequently to keep children on task, to complete instructions and during read-alouds.
	  o High requirement for structure, routine and classroom management.
	- Class is also vibrant and engaged:
	  o Curious
	  o Creative
	  o Energetic
	  o Enthusiastic
	  o Students take initiative (e.g. pursue independent research when interested)
	- Class is working on acting as a team.

Overarching Rationale	Explosions link to the new curriculum by the British Columbia Ministry of Education (BCME) (2016): **Big idea: "**Individuals have rights and responsibilities as global citizens." (BCME, 2016) **Core Competencies:** o Communication (e.g. sharing in the class)

	○ Thinking (e.g. considering questions and new information, engaging in group and individual activities, critical thinking and reflection) ○ Personal and social (e.g. considering personal and social responsibilities) **Curricular Competencies:** ○ "Recognize the causes and consequences of events, decisions or developments" (e.g. explosions in the world) (BCME, 2016) **Content:** ○ "Relationships between people and the environment in different communities" (e.g. diverse natural and human-made explosions in the world) (BCME, 2016) ○ Key question: "What types of environmental challenges to do people face in different communities" (e.g. volcanoes) (BCME, 2016) **Overarching Objectives:** ○ To help children understand explosions, including key terminology and the difference between naturally formed explosions and human-made explosions (e.g. volcanoes vs. sparklers). ○ To help children understand the rights and responsibilities of individuals regionally and globally regarding explosions (esp. safety). ○ To help children understand the geographical and cultural diversity of explosions around the world, and their impacts in peoples' lives (e.g. celebratory cultural use, use in construction, environmental challenges faced by some communities, etc.)

Strategies/Activities	**LESSON ONE** - Viewing sparklers with a focus on safety - Viewing sparklers with a focus on learning about explosions through our senses **LESSON TWO** - Watching a film of an exploding/active volcano - Exploring relevant vocabulary through a pairing words/definitions exercise (e.g. Explosion, energy, human-made, naturally occurring, volcano, lava, erupt, chemical reaction) **LESSON THREE** - Reviewing (via slideshow) naturally occurring explosions (i.e. volcanoes, super novas, lightning starting a forest fire, solar explosions), with a focus on impacts on people as well as safety - Reviewing human made explosions (i.e. fireworks, rockets, making fires with flint, explosions to build tunnels in the Fraser Canyon / dynamite, sparklers, bombs/nuclear explosions), with a focus on impacts on people as well as safety - Writing and drawing activity about the impacts of explosions in our lives and in others' lives **LESSON FOUR** - Watching and debriefing volcano demonstration, with a focus on the social and physical impacts (positive and negative, past and present) of volcanoes - Watching "I Lava You" video, with a focus on explosions in art/culture/storytelling - Sharing learning take-aways from the 4 weeks
Resource Critique	- "I Lava You" video o This sweet video is easily accessible on YouTube and was a fun way to close our sessions. While perhaps not scientifically rigorous, it was a useful way both to introduce the idea of volcanoes as impactful in art and storytelling (i.e. in culture), and to help us balance the dialogue between negative and positive impacts of volcanoes. - Oxlade, C. (2005). *150 great science experiments*. London: Anness Publishing Limited. o We based our volcano models off of an experiment outlined in this book. We really appreciated the simplicity of making a sand-based volcano (rather than using clay, paper mache, etc.). The visuals and instructions were basic and helpful. There are many simple "recipes" available online as well.
Basic Assessment	- Students were generally engaged with an participated in the lessons and activities (our primary class, who chose the topic of explosions, was more engaged than our secondary class) - Some students engaged in independent research on the topic (e.g. bringing in books) - Students in both classes wanted to repeat the final experiment over and over (i.e. the volcano) - When we checked in at the start of each lesson to re-cap our learning on the topic students

	remembered the activities and take-away messages - Students art work ("Explosions in Life" handout) reflected understanding of the topic - Students expressed their learning when we shared on the final day: o "I learned that there are different types of volcanoes, like under the sea and above the sea" o "I learned that there are different kinds of explosions – human made and naturally occurring" o "I learned that stars explode" o "I learned that the sun has explosions" o "I learned that volcanoes can affect people, and not just the people who live around them" o "I learned that explosions are dangerous" o "I learned about sparklers" o "I learned that volcanoes can sink and change" (based on the "I Lava You" video) o "I learned that volcanoes create rocks" o "I liked the sparklers" o "I liked the volcanoes that erupted, and that it was pink" (referring to our demo) o "I liked watching the volcano video from last week" o "People use lava rocks" o "I learned that the volcano we had when we added vinegar and baking soda it exploded. It was a chemical reaction"

LESSON PLAN NUMBER ONE

<table>
<tr>
<td>Subject Area:

Social Studies

Grade level:

2</td>
<td>Lesson Number: 1

Materials:
White board and markers (school)
Sparklers (teacher use only): available at dollar stores
Lighter (teacher use only): available at dollar stores
2 pairs of goggles for teacher candidates (school)
Post its (school)
5 big pieces of paper (school) – ideally coloured
Masking tape or big magnets to hold the big paper</td>
<td>Inquiry Question: How can we describe explosions using our senses first?

Relevant Previous Learning:
Experiences with heat
Experiences with explosions (e.g. visiting volcanoes, seeing fireworks, seeing sparklers) or reading about them/seeing them in films</td>
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<tr>
<td colspan="2"><u>Project plan:</u>
Big idea: “Individuals have rights and responsibilities as global citizens.” (BCME, 2016)
Core Competencies:
Communication (e.g. sharing in the class)
Thinking (e.g. considering questions and new information, engaging in group and individual activities, critical thinking and reflection)
Personal and social (e.g. considering personal and social responsibilities)</td>
<td><u>Project plan:</u>
Curricular Competencies:
“Recognize the causes and consequences of events, decisions or developments” (e.g. explosions in the world) (BCME, 2016)
Content:
“Relationships between people and the environment in different communities” (e.g. diverse natural and human-made explosions in the world) (BCME, 2016)
Key question: “What types of environmental challenges to do people face in different communities” (e.g. volcanoes) (BCME, 2016)</td>
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<tr>
<td colspan="2"><u>Project plan overarching objectives:</u>

To help children understand explosions, including key terminology and the difference between naturally formed explosions and human-made explosions (e.g. volcanoes vs. sparklers).</td>
<td><u>Lesson 1</u> learning objective:

To build a sensory (smell, sound, sight, feel*) understanding of explosions. *Students will not touch the sparklers but will use their imaginations, prior knowledge and logic.
To build a foundation of safety knowledge pertaining to</td>
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</table>

○ To help children understand the rights and responsibilities of individuals regionally and globally regarding explosions (esp. safety). ○ To help children understand the geographical and cultural diversity of explosions around the world, and their impacts in peoples' lives (e.g. celebratory cultural use, use in construction, environmental challenges faced by some communities, etc.)	explosions.

Vocabulary: Flammable, senses (see, hear, smell, feel, taste)

Part of lesson	Min.	Teacher Activity	Student Activity	Questions Teacher will Pose. Modifications/Extensions as needed (potential problems)
Introduction and Hook:	10 if outside	○ Intro: Our names, our overall topic (chosen by the students), expectations (listening, still hands, planted feet). E.g. "what are the ways you show Mrs. X that you are listening?" ○ Sparkler demo (outside) – go through safety checks (hair up, goggles on, students back) ○ Debrief	○ Observe sparkler demo ○ Share their knowledge and ideas	○ In advance: what do you think will happen? ○ What just happened? ○ What would you call that? ○ How did we do that safely? (What did you observe) (Including disposal of sparkler)
Body	25 minutes	○ Sensory exploration ○ Define senses (for gathering information about the world around you) ○ Posters up (I see: I smell: I hear: I feel: Safety rules) ○ Hand out post its (5 – one as extra): ask students	○ Share observations with the class ○ Each child gets 5 (1 is an extra) post-it notes and gets to write one descriptor for each sense & the safety rules learned ○ Post its are put on big pieces of paper on the white board, labeled by sense	○ What did you SEE? ○ What did you SMELL? ○ What did you HEAR? ○ Why DIDN'T we let you FEEL? ○ What SAFETY RULES did you learn?

		not to touch them, and to leave pens at top of desk when not writing. ○ Go through each poster one at a time (First define the sense. Second get examples from the demo (prompt them: size, colour, shape, movement, etc.). Third they write one and put it up on the board. Fourth debrief the board.) ○ We don't write up "feel" – and talk instead about WHY we didn't let them feel it.		
Closure (Summary, review, celebration, what comes next?)	5 minutes	○ Wrap up: thanks, and acknowledge we have explored explosions using our senses. ○ We have also talked about responsibility for safety. It's Halloween soon (possibly Diwali?) and sparklers and fireworks will be around so it's good for you to be aware of safety! ○ Next week we will continue with explosions	○ Reflect on questions and share with partner (pair and share)	○ What did you learn from the sparkler demo and today's activity with our senses? ○ What are you excited to learn more about?
Enacted learning ("enactivism": learning BY doing, learning IS doing, learning is RELEVANT): Choosing and writing their descriptive words, placing words on the sensory boards				
Assessment:			**Reflections once lesson is complete**:	

- Do the words chosen by students make sense in relationship to the sparkler activity - Were the students engaged (information to guide future lessons)	- To get student's attention vary techniques: clapping pattern, counting down from 5, raise hand, compliment the kids following the requests etc. - We had more than enough to do, but our back up activity was drawing explosions. - Also consider time of year for lesson (e.g. Halloween, Diwali)

References:

British Columbia Ministry of Education. (2016, June). *Social studies 2.* Retrieved from https://curriculum.gov.bc.ca/curriculum/social-studies/2

LESSON PLAN NUMBER TWO

<table>
<tr>
<td>Subject Area:

Social Studies

Grade level:

2</td>
<td>Lesson Number: 2

Materials:
○ Short 30 second video of an explosion(s) (Teacher Candidates)
○ Word and matching definition posters to match (Teacher Candidates)
○ Word and definition group worksheets (Teacher Candidates)</td>
<td>Inquiry Question: What are explosions and what are the key terms related to explosions?

Relevant Previous Learning:
○ Lesson 1 (observing Sparkler Demo and using senses to understand and describe explosions; safety & responsibility regarding explosions)
○ Experiences with explosions (e.g. visiting volcanoes, seeing fireworks, seeing sparklers) or reading about them/seeing them in films</td>
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<td colspan="2"><u>Project plan:</u>
Big idea: “Individuals have rights and responsibilities as global citizens.” (BCME, 2016)
Core Competencies:
○ Communication (e.g. sharing in the class)
○ Thinking (e.g. considering questions and new information, engaging in group and individual activities, critical thinking and reflection)
○ Personal and social (e.g. considering personal and social responsibilities)</td>
<td><u>Project plan:</u>
Curricular Competencies:
○ “Recognize the causes and consequences of events, decisions or developments” (e.g. explosions in the world) (BCME, 2016)

Content:
○ “Relationships between people and the environment in different communities” (e.g. diverse natural and human-made explosions in the world) (BCME, 2016)
○ Key question: “What types of environmental challenges to do people face in different communities” (e.g. volcanoes) (BCME, 2016)</td>
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<td colspan="2"><u>Project plan overarching objectives:</u>

○ To help children understand explosions, including key terminology and the difference between naturally formed explosions and human-made explosions (e.g. volcanoes vs. sparklers).
○ To help children understand the rights and responsibilities of individuals regionally and globally regarding explosions (esp. safety).
○ To help children understand the geographical and cultural</td>
<td><u>Lesson 2</u> learning objective:
○ To help children to understand what explosions are, and that there are human-made and naturally occurring explosions.
○ To build relevant vocabulary and deepen their understanding of explosions.</td>
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diversity of explosions around the world, and their impacts in peoples' lives (e.g. celebratory cultural use, use in construction, environmental challenges faced by some communities, etc.)	

Vocabulary: Explosion, energy, human-made, naturally occurring, volcano, lava, erupt, chemical reaction

Part of lesson	Min.	Teacher Activity	Student Activity	Questions Teacher will Pose. Modifications/Extensions as needed (potential problems)
Introduction and Hook:	5 minutes	○ Set up video/slideshow ○ Brain break (Knife, fork, spoon, spatula) & calming breathing/stretching ○ Recap (we explored explosions using our senses) ○ Intention (to build our understanding of explosions by looking at key words) ○ Short video (45 seconds) of a volcano	○ Share memories from last class ○ Watch video & share observations (teacher prompted)	○ What did we do last visit? ○ Using your imagination, what do you notice watching this film? (See, feel, hear, smell…)

Body	30 minutes	○ Definitions (see separate sheet): pairing words and definitions first in small groups and then debriefing/discussing as a full class on the board	○ Share their knowledge and ideas re definitions
			  ○ Discuss in groups
			  ○ Then share as a class and agree on definition pairings
				○ What is an explosion?
				○ What is energy?
				○ What are examples of explosions?
				○ Etc.

Closure (Summary, review, celebration, what comes next?)	5 minutes	○ Wrap up: thanks, and acknowledge we learned more about what explosions are and key terms to describe them. ○ Next week we will continue with explosions	- Pair and share re take-aways	○ What stood out to you from today's exploration of explosions?

Enacted learning ("enactivism": learning BY doing, learning IS doing, learning is RELEVANT): Brain break movement; Sharing their ideas in

groups and with the class; Physically matching definitions in small and large groups	
Assessment: - Were the students engaged with the activities? - Were they able, for the most part, to pair words and definitions? - Did they demonstrate mental flexibility in discussion (e.g. changing "incorrect" answers)	**Reflections once lesson is complete**: - We had planned 2 additional activities for this lesson, but the word pairing and class discussion were so rich that we chose to give them more time. - Based on feedback, for our second class we pre-loaded the students more thoroughly regarding "how" to work as a team in the pairing activity and also advised them up front that 2 definitions would be similar (and so they would have to think carefully and look for evidence). - We also chose to put a brain break in for our second class based on what we heard what other groups' feedback had been. - In our second less we asked the same question each time after the groups gave their answers: WHY did you choose that definition (e.g. evidence)? - Also based on feedback in the second lesson we had the groups answer in order and then discuss (i.e. each group gave a definition twice – 4 groups, 8 definitions).

Definitions for teachers (see separate sheet for printable definitions)

Energy:

- **The invisible power that lets things change and move.**
- Energy is all around us.
- Examples: We use energy to walk, to cook food, to learn, and to play.
- There are 2 types of energy: stored (potential) and working (kinetic).
- Our bodies turn food into energy so that we can live.

Explosion:

- **A sudden and violent release of a lot of energy in a small area.**
- Pieces may be sent flying
- Alternate: When a lot of energy is released in a small area over a small amount of time, often violent, sudden and loud.
- E.g. volcanoes, fireworks, dynamite

Chemical reaction:

- **A physical change when two or more substances meet.**

Volcano:

- **An opening in the earth where very hot melted rock pushes up from underground.**
- There are 5 different volcano shapes (e.g. can be shaped like mountains, or can be cracks).
- Can be underwater and aboveground.
- Found all over the world.

Lava:

- **Hot melted rock that comes out of a volcano.**
- Lava is also the hard rock that forms once it has cooled and hardened after leaving the volcano

Eruption:

- **To suddenly send out rocks, lava, and ash.**
- Can verbally name the second meaning if appropriate (e.g. to act/move suddenly and strongly)

Human-made:

- **Made by people rather than by nature.**

Naturally occurring:

- **Made by nature rather than by people.**

References:

British Columbia Ministry of Education. (2016, June). *Social studies 2.* Retrieved from https://curriculum.gov.bc.ca/curriculum/social-studies/2

Langley, A. (2006). *Hurricanes, tsunamis, and other natural disasters.* New York, NY: Kingfisher Publications.

Merriam-Webster. (2016). Retrieved from http://www.merriam-webster.com/dictionary/

Oxlade, C. (2005). *150 great science experiments*. London: Anness Publishing Limited.

Technological Solutions, Inc. (10, 2016). *Physics for kids: Energy.* Retrieved from http://www.ducksters.com/science/energy.php

LESSON PLAN NUMBER THREE

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<tr>
<td>Subject Area:

Social Studies

Grade level:

2</td>
<td>Lesson Number: 3

Materials:
PowerPoint with pictures of natural and human-made explosions (Teacher Candidates)
Worksheet: “Explosions in life” (Teacher Candidates) and a completed example
Pencils & pencil crayons (school/students)
“I lava you” video (Teacher Candidates)
Quiet music to play off computer</td>
<td>Inquiry Question: What are explosions and what explosions can be found around the world?

Relevant Previous Learning:
Lesson 1 (observing Sparkler Demo and using senses to understand and describe explosions; safety & responsibility regarding explosions)
Lesson 2 (key definitions in explosions)
Experiences with explosions (e.g. visiting volcanoes, seeing fireworks, seeing sparklers) or reading about them/seeing them in films</td>
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<td colspan="2"><u>Project plan:</u>
Big idea: “Individuals have rights and responsibilities as global citizens.” (BCME, 2016)

Core Competencies:
Communication (e.g. sharing in the class)
Thinking (e.g. considering questions and new information, engaging in group and individual activities, critical thinking and reflection)
Personal and social (e.g. considering personal and social responsibilities)</td>
<td><u>Project plan:</u>
Curricular Competencies:
“Recognize the causes and consequences of events, decisions or developments” (e.g. explosions in the world) (BCME, 2016)
Content:
“Relationships between people and the environment in different communities” (e.g. diverse natural and human-made explosions in the world) (BCME, 2016)
Key question: “What types of environmental challenges to do people face in different communities” (e.g. volcanoes) (BCME, 2016)</td>
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<td colspan="2"><u>Project plan overarching objectives:</u>

To help children understand explosions, including key terminology and the difference between naturally formed explosions and human-made explosions (e.g. volcanoes vs. sparklers).
To help children understand the rights and responsibilities of individuals regionally and globally regarding explosions (esp.</td>
<td><u>Lesson 3</u> learning objective:
To continue to help children to understand what explosions are, and that there are human-made and naturally occurring explosions.
To support children in reflecting on how explosions affect their lives and their family’s lives.
To support children in reflecting on how explosions affect others in the world.</td>
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safety). ○ To help children understand the geographical and cultural diversity of explosions around the world, and their impacts in peoples' lives (e.g. celebratory cultural use, use in construction, environmental challenges faced by some communities, etc.)	

Part of lesson	Min.	Teacher Activity	Student Activity	Questions Teacher will Pose. Modifications/Extensions as needed (potential problems)
Introduction and Hook:	5 minutes	○ Set up slideshow (& video) ○ Recap (we explored key terms for explosions) ○ Intention (to reflect on how explosions affect each of us and others around the world)	○ Share memories from last class	○ What did we learn about last visit?
Body	30 minutes	○ Introduce worksheet activity (slideshow will give you ideas for the worksheet): show example ○ Slideshow of explosions around the world (cultural and geographical diversity): Human-made (e.g. cultural celebrations, construction) and naturally occurring (e.g. volcanoes) and discussion ○ Invite drawing/writing on worksheet (play quiet music) ○ *"I lava you video" (if time)*	○ Watch slideshow and invite comments (note: have them pair and share for fireworks) ○ Group brainstorm to review questions & ideas for worksheet ○ Individually write and draw (example of impacts on self/family, impacts on others) ○ Pair and share ○ *Watch video (5 minutes) (if time)*	○ What are examples of explosions (human-made & naturally occurring)? ○ Where can we find explosions? ○ How do explosions affect our lives? Others' lives?
Closure (Summary, review, celebration, what comes next?)	5 minutes	○ Wrap up: thanks, and acknowledge we learned more about what explosions are, and how they occur around the world. ○ Next week we will continue	- Pair and share	○ What stood out to you from today's exploration of explosions?

		with explosions, our last day!		

Enacted learning ("enactivism": learning BY doing, learning IS doing, learning is RELEVANT): Brainstorming as a class about explosions around the world and their impacts; Drawing explosions and writing about them and their impacts

Assessment:	**Reflections once lesson is complete**:
- Were the students engaged with the activities? - Were they able to come up with examples of explosions around the world and their impacts? - Were their drawings and writings relevant to the lesson?	- Highlight one side of the worksheet and have the students focus on finishing one side (e.g. Explosions in MY life) (didn't have time for most students to complete both sides) - The children pointed out explosions we had missed (e.g. bombs/nuclear explosions) and we remembered others ourselves (e.g. matches for lighting fires) - Ongoing practice asking questions before giving answers - We received feedback that the students were excited and engaged and that the discussion with the slideshow went well - Ongoing practice pre-loading expectations: e.g. "We are going to be watching slides and discussing what we see. When you are learning you need thinking time. We will be seeing slides and hearing information. You may find that you want to share a lot of things. We will be able to take ideas from 2-3 children, but then please save your ideas as there will be time to discuss in pairs and small groups later." (A teacher's suggestion for wording) -

References:

British Columbia Ministry of Education. (2016, June). *Social studies 2.* Retrieved from https://curriculum.gov.bc.ca/curriculum/social-studies/2

LESSON PLAN NUMBER FOUR

<table>
<tr>
<td>Subject Area:

Social Studies

Grade level:

2</td>
<td>Lesson Number: 4

Materials:

2 pre-made volcanoes and supplies for group demos (in 2 classes)

<table>
<tr><td>2 tubs</td><td>Sand</td></tr>
<tr><td>White vinegar (1/2 cup each) (slowly pour and stir – to make it last longer)</td><td>Water (to wet sand)</td></tr>
<tr><td>Baking soda (4 T each)</td><td>Red food colouring</td></tr>
<tr><td>2 beakers</td><td>Measuring cup</td></tr>
<tr><td>Funnel</td><td>Stirring stick</td></tr>
<tr><td>Colourful blocks to represent buildings</td><td></td></tr>
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“I Lava You” video (Teacher Candidates)
Worksheet: “Explosions in life” (Teacher Candidates) (to finish if time)
Pencils & pencil crayons (school/students)
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<td>Inquiry Question: What are explosions and what explosions can be found around the world?

Relevant Previous Learning:

Lesson 1 (observing Sparkler Demo and using senses to understand and describe explosions; safety & responsibility regarding explosions)
Lesson 2 (key definitions in explosions)
Lesson 3 (human-made and naturally occurring explosions)
Experiences with explosions (e.g. visiting volcanoes, seeing fireworks, seeing sparklers) or reading about them/seeing them in films
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<td colspan="2"><u>Project plan:</u>
Big idea: “Individuals have rights and responsibilities as global citizens.” (BCME, 2016)
Core Competencies:

Communication (e.g. sharing in the class)
Thinking (e.g. considering questions and new information, engaging in group and individual activities, critical thinking and reflection)
Personal and social (e.g. considering personal and social responsibilities)
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<td><u>Project plan:</u>
Curricular Competencies:

“Recognize the causes and consequences of events, decisions or developments” (e.g. explosions in the world) (BCME, 2016)

Content:

“Relationships between people and the environment in different communities” (e.g. diverse natural and human-made explosions in the world) (BCME, 2016)

Key question: “What types of environmental challenges to do people face in different communities” (e.g. volcanoes) (BCME, 2016)

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<tr>
<td colspan="2"><u>Project plan overarching objectives:</u></td>
<td><u>Lesson 4</u> learning objective:

To continue to help children to understand explosions
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○ To help children understand explosions, including key terminology and the difference between naturally formed explosions and human-made explosions (e.g. volcanoes vs. sparklers). ○ To help children understand the rights and responsibilities of individuals regionally and globally regarding explosions (esp. safety). ○ To help children understand the geographical and cultural diversity of explosions around the world, and their impacts in peoples' lives (e.g. celebratory cultural use, use in construction, environmental challenges faced by some communities, etc.)	○ To support children in reflecting on how explosions affect others in the world, using volcanoes as a case sample. ○ To conclude our lesson, acknowledging that explosions play a big role in our lives as humans (so much so that they get used in story telling – e.g. "I Lava You" video)

Part of lesson	Min.	Teacher Activity	Student Activity	Questions Teacher will Pose. Modifications/Extensions as needed (potential problems)
Introduction and Hook:	5 minutes	○ Set up video ("I Lava You") ○ Recap (we learned about human-made and naturally occurring explosions; we talked about how explosions affect us and others; we explored key terms for explosions; we had a sparkler demonstration and explored explosions using our senses; we talked about safety) ○ Intention (to focus on one example of explosions and discuss how this type of explosion affects people around the world)	○ Share memories from previous classes	○ What have we been talking about? (The theme of our previous lessons?) ○ What did we talk about last class? And in the class before that? And in the first class?
Body	30 minutes	○ Introduce activity (we are going to look at a model of an explosion: this one is made by humans, but in real life	○ Generate predictions for the demo ○ Watch volcano demonstration (rules clear) ○ Group discussion about what we	○ Arrange students on the carpet so that everyone can see the demo ○ What do you think might happen? ○ What did we notice during the

		these are naturally occurring) ○ This is an intro demonstration. ○ Discussion: what do we notice (use senses and imagination)? How do you think volcanoes affect people around the world? ○ Watch "I Lava You" video (6 minutes) ○ *Finish worksheets (if time)*	notice in the demo ○ Group brainstorm re: how volcanoes affect people around the world (past and present; positively and negatively) ○ Watch "I Lava You" video (volcanoes are so impactful they even get used in art and storytelling) ○ *Individually write and draw on worksheet from Lesson 3 (impacts on others) (if time)* ○ *Pair and share (if time)*	demonstration (use senses and imagination)? ○ How do volcanoes affect the lives of people around the world (past and present; positively and negatively)? ○ Where are some places that volcanoes exist? ○ There are approx. 1500 active volcanoes around the world ○ Approx. 500 million people live near active volcanoes ○ "Ring of fire": Arc in the Pacific Ocean of 400+ volcanoes: Japan, Russia, Chile, India, Mexico, Ecuador, Columbia, USA (Washington, Hawaii, Oregon, California), Costa Rica, Indonesia, Philippines, Guatemala, Papua New Guinea ○ Other: Antarctica, Iceland, Canary Islands, Italy, Democratic Republic of the Congo, Greece, Caribbean Islands, Spain, New Zealand
Closure (Summary, review, celebration, what comes next?)	5 minutes	○ Wrap up: thanks, and acknowledge we learned about what explosions are, that there are human-made and naturally occurring explosion, how they occur	- Pair and share	○ What stood out to you from our 4 weeks of exploring explosions?

		around the world and the positive and negative impacts they have on people. We also learned about using our senses to describe explosions and about safety regarding explosions. ○ Thank them for their curiousity – we learned so much because of them!		

Enacted learning ("enactivism": learning BY doing, learning IS doing, learning is RELEVANT): Debriefing as a class about what we observe during the volcano demonstration; Brainstorming as a class about the impacts of volcanoes on people; *Drawing explosions and writing about them and their impacts (i.e. finishing worksheets from Lesson 3) (if time)*

Assessment: - Were the students engaged with the activities? - Were they able to come up with examples of explosions around the world and their impacts? - Were their drawings and writings relevant to the lesson?	**Reflections once lesson is complete**: - Not enough time to return to the worksheets – they were so engaged with the demo, discussion and video - Choosing to not do the worksheets was wise we think, but we were sad with group one to not get to hear from each child about what they learned (e.g. a circle exit versus pair and share). - We added a spontaneous brain break after the demo/before the movie – having them walk to the other end of the room and act out (simultaneously) volcano movement (rumble, explosion) and then slowly returned to the carpet like lava

References:

British Columbia Ministry of Education. (2016, June). *Social studies 2.* Retrieved from https://curriculum.gov.bc.ca/curriculum/social-studies/2

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