

The **EQ** Guidebook

FOR UNDERSTANDING AND CREATING
ESSENTIAL QUESTIONS



About the Book

An “essential” question is a question that leads us to explore the background of a problem and choose from various plans, strategies, or possible courses of action to generate a complex applicable solution. A good essential question:

- inspires a quest for knowledge and discovery;
- encourages and develops critical thinking processes;
- leads students to engineer real-world solutions for real-world problems;
- is all about *possibilities*.

In this book, we’ll use a practical experiment—we’ll be turning a non-essential question into an essential one. We’ll also give you some handy tips and 2 useful tools to help you with building your own EQs.

The standard we’ll be working with is from the [New Zealand Science Curriculum](#), Level 4, in the strand called Planet Earth and Beyond:

Investigate the water cycle and its effect on climate, landforms and life.

On the following pages, we’ll begin with our non-essential question, and take the journey to developing it into an essential one. So let’s get essential!



Do rainstorms create moisture?

Ask yourself, has this question:

- Caused contemplation or any serious inquiry?
- Inspired other questions and ideas or meaningful discussions?
- Motivated the learner to think about creating something to solve a problem or meet a challenge?
- Really taught us *anything*?

Not really! It's just an empty question—completely non-essential. Let's see what we can do to change that ...

BOOST
YOUR
EQ

1. Start with your curriculum and what you're passionate about teaching.
2. Make the question challenging to students—avoid simple Yes or No questions.
3. Remember, if students can "Google it" then it's not essential.
4. Try to create a sense of deep curiosity around your question.

How do rainstorms create *rain*?

Now the question is a bit better. It calls for some investigation and a search for knowledge. The problem is it can still be answered very quickly with some light research, and a one-paragraph answer or a diagram. Something has been *learned*, but nothing has really been *discovered* or *created*.

Another variation would be just as investigative, but also too limited in nature:

What is a rainstorm?

A fair enough question, but still not engaging. Again, it can easily be answered with a quick Web search.

How can we take this one further and give it even more substance?

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1. Guide students toward knowledge quests.
2. Use the 6 basic questions: *Who, What, Where, When, Why, & How?*
3. Lead students towards taking ownership of the problem.
4. Build collaborative challenges.

How does the rain from rainstorms benefit ecosystems?

We're now giving rise to deeper thinking, broader questions, and more in-depth research. This is about discovering how different systems are affected by storms, and this will lead to other considerations. Overall, it's a fine question.

But does it inspire, engage, and push us to visualize? *Is it as good as it could be?*

How can we take this even higher into really deep inquiry and creativity, and make it into a quest for engineering a solution to an intriguing problem?

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1. Challenge your kids to stretch their research skills with EQs that really explore an issue.
2. Try creating questions with potentially more than one possible solution.
3. Incorporate real-world challenges (ex: using links to current events.)

How could we live without the rain from rainstorms?

Now we've got something *really* essential. What would it mean to life on Earth, human and otherwise, if there was suddenly no rainfall ever again?

Who and what would be affected by the absence of rain? Think ecosystems, agriculture and food production, business, and the beauty of nature itself. How would all these things be affected? What ways can students solve this problem with ingenuity and creativity?

Or, how about this: **There are clouds in the sky ...**

This now provides a change of focus. It can allow for the investigation of different types of clouds, the study of rain and weather systems, and the importance of rain, to name a few things. The links to the curriculum can also be made easily.

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1. Devise questions that instantly give rise to other questions.
2. Add cross-curricular activities that allow the lesson projects to make use of other subjects.
3. Make sure your EQ links back to your curricular objectives.

EQ Matrix

This tool grades questions on a chart of 1 to 5 using different criteria. Place a checkmark and notes in each box as you think about the question. A score of 40 is a good EQ, and 8 means you've got to make the question more essential. Practice with a partner or even your students—get them to grade some essential questions!

	Not answerable with Yes/No or with a simple search	Inspires meaningful discussion and brainstorming	An in-depth knowledge quest is involved	A solution must be both created and applied	Gives rise to many other questions	Clear connection to curricular objectives	Cross-curricular and real-world connections	Inspires critical thinking and knowledge development
ESSENTIAL	5							
	4							
	3							
NON-ESSENTIAL	2							
	1							
	Can be answered with Yes/No or a simple search	No discussion, brainstorming needed	No knowledge quest involved	No applicable solution needs to be created	Does not give rise to other questions	No apparent curricular connections	No cross-curricular and real-world connections	No critical thinking leading to broader knowledge

EQ Activities

This worksheet features 4 learning activities that will help you to work on your essential question. Starting with your curriculum, work through the stages and refine your EQ based on the suggested criteria. (There are text fields you can type in right on the form for making your notes.)

Learning Activity 1

Select an area of the curriculum that you are passionate about and jot down the curriculum statement and other relevant details.

Write down your essential question.

Learning Activity 2

Brainstorm the different challenges/problems that you could see based on this aspect of the curriculum. Reflect on which are suitable for the age group you're teaching.

How would you refine your EQ based on this?

Learning Activity 3

Go back to your brainstorm and add in where you might see these challenges in the real world. Reflect on which are suitable for this age group, and if the context/situation is relevant.

Filter your challenges and refine your EQ.

Learning Activity 4

Consider how to make these challenges relevant and interesting for students. What is the timeframe/budget? What equipment and technology are available to use?

Select your challenge and refine your EQ (if required).

Pack Your EQs into Powerful Plans!

You've got EQs in mind, and it's time to put them to good use. We've got some plans for you!

[The Solution Fluency Activity Planner](#) is an exciting collaborative tool for creating and exploring lesson plans that engage, inspire, and enable today's modern students.

- Access thousands of inquiry and PBL units
- Create your own custom lesson plans
- Align with your curricular standards
- Collaborate with a global network of educators

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