What time is it?

Grade Level/s:	Subject/s:	Type:	Author:
3, 4	Mathematics,Science,Technologies	Unit Plan	Wendy Branson

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What time is it?
In this unit students will create a time telling device that does not use electricity or batteries.

Single Lesson Plan

Defining The Problem

Task:

Introduce the unit by showing a video of an Indian Village School that has no power. Talk about how the power outages in our local community made me wonder how I would get to school if our power didn't come back on. Would I sleep in? Would I miss school? What might happen to my students? How would having no clock affect my life? Step One: Define the problem What is the problem? ASK - during the 'Define the problem' stage students (with and without teacher support) ask questions to: • Define the problem • Identify any restrictions associated with the problem i.e. no electricity, no batteries Investigate approaches to the same/similar problem that others have used (with or without success)

Activity:

At this stage the teacher's role is to lead, question and prompt (where necessary - in multiple lessons IF necessary). This will look different in EVERY CLASSROOM and with individual or groups of STUDENTS. When defining the problem use a combination of: ASK questions as a WHOLE CLASS, Small groups, THINK PAIR SHARE, individual questions (then shared) and use some teacher led questions. What restrictions do we have? ASK ASK: Do we have design restrictions? ASK: Do we have budget restrictions? ASK: Do we have time restrictions?

Resources:

YouTube: https://www.youtube.com/watch?v=owHF9iLyxic (https://www.youtube.com/watch?v=owHF9iLyxic) https://www.youtube.com/watch?v=fxJWin195kU (https://www.youtube.com/watch?v=fxJWin195kU) THE LEARNING PIT - Posters and "PIT" for students to plot their engagement and personal challenge against. Growth Mindset Posters - for personal growth and goal setting during unit - refer to constantly.

Imagine - finding a solution

Task:

Brainstorm ALL POSSIBLE AND IMPOSSIBLE solutions - NO MATTER HOW CRAZY IMAGINING is a process used to collect ideas that COULD later be used to solve a problem.

Activity:

Brainstorming should be done without regard for feasibility. Brainstorming should occur with other and with a specific purpose. The best ideas are often the most off-the-wall. In this stage we encourage our students to THINK OUTSIDE THE SQUARE.

Resources:

Brainstorm methods: THINK PAIR SHARE From: http://comprehensionrstrategies.weebly.com/think-pair-share.html (http://comprehensionrstrategies.weebly.com/think-pair-share.html) STICKY NOTE REFLECTION Sticky Note reflection -categorize ideas - individually or in teams/groups (project) This can be done on WINDOWS using Microsoft Paint backgrounds and the snipping tool OR with real sticky notes and displayed for reflection later or alternatively photographed. Leonardo DaVinci's famous heads and famous caricatures are an example of the random variations of the human face made up of different combinations of a set number of features. He would first list facial characteristics (heads, eyes, nose, etc.) and then beneath each list variations. Next he would mix and match the different variations to create original and grotesque caricatures. Below is a hypothetical example of a box similar to one that DaVinci might have constructed: - See more at: http://creativethinking.net/leonardo-davincis-ideabox/#sthash.0UaVZNuj.dpuf (http://creativethinking.net/leonardo-davincis-ideabox/#sthash.0UaVZNuj.dpuf) Mind Mapping As above

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Curriculum
South Australian TfEL:

2.1 develop democratic relationships

2.2 build a community of learners

2.3 negotiate learning

2.4 challenge students to achieve high standards with

Domain 2: Create safe conditions for rigorous learning

3.1 teach students how to learn

3.2 foster deep understanding and skilful action

3.3 explore the construction of knowledge

3.4 promote dialogue as a means of learning

Domain 3: Develop expert learners

4.1 build on learners' understandings

4.2 connect learning to students' lives and aspirations

4.3 apply and assess learning in authentic contexts

4.4 communicate learning in multiple modes

Domain 4: Personalise and connect learning

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