Rubrics

RUBRICS

Understanding Rubrics

A rubric is a tool developed and used to assist learners, their teachers and the community to understand the learning that will need to be demonstrated for achievement at different levels.

A rubric has clearly identified ***performance criteria***. In a rubric, performance criteria is expanded to incorporate ***performance levels or indicators***. Evidence is crucial in the use of rubrics.

A Rubric can be:

Holistic: Allows for the judgement of the evidence all at once.

Analytical: Criteria is placed into specific skills/knowledge/understandings ie. technical, terminology, data use, application, etc.

Example: Energy Transfer - Science Outcome 4.4

This holistic rubric was developed by Karen Bond in consultation with the students. The task is outlined to show how the rubric matches the intended learning.

Key Idea:
Students use the concept of the transfer of energy to investigate and explain phenomena and changing patterns of events in the natural world.

Activity

From the materials provided, plan and make a device that will transport a hard boiled egg a distance of at least one metre. Draw an energy chain for the transformation and/or transfer energy involved in transporting the egg using your device. Evaluate your device and investigate ways to improve the distance covered by the egg for your device.

Energy Investigation

Task: Using KNEX and other simple materials which will be provided, how can you construct a device that will transport a hard boiled egg a distance of at least one metre without damaging the egg?

Preamble: In previous lessons you would have discovered that energy can be transferred and transformed, however you cannot create energy nor destroy energy. This is the 'law of conservation of energy'. You will be using this law in your investigation.

Note: Your device must be completed and tested within two lessons (< 100mins).

OUTSTANDING	ACCOMPLISHED	DEVELOPING	BEGINNING
The evidence demonstrated the achievement of the identified outcome and provides some contributing evidence for the outcome at the next standard.	**The evidence demonstrated the achievement of the identified outcome.**	**There was not enough evidence to demonstrate achievement of the identified outcome.**	**The evidence demonstrated achievement of the outcome in the previous Standard.**
All previous level is evident Identifies input and output energies clearly in the energy chain Provides recommendations that are workable and explains their viability using the concepts of force, work and power	Fulfils the requirements to cover at least one metre in distance Egg arrives undamaged Uses only the available materials Completes task in 100-minute lesson/s Produces a viable energy chain Successfully determines devices efficiency Provides at least two workable recommendations for improvements	Fulfils the requirements to cover at least one metre in distance Egg arrives but sustains some damage Uses only the available materials Completes task in 100-minute lesson/s Provides an energy chain, but it may not necessarily be viable May or may not successfully determine devices efficiency Provides one or more recommendations for improvement that are not necessarily viable	Device may not fulfil the requirement to cover at least one metre in distance Egg arrives but it may or may not sustain some damage Completes task in 100-minute lesson/s Uses only the available materials Discusses the force/s that transfer the energy

Example: Shrek - Arts Outcomes 2.1, 2.3 and 2.4

Developed by Martha Botha, a teacher, who works in a Special Class at Para Hills Primary School

Martha developed a number of rubrics to use with various tasks throughout the unit. These allowed the students to know what they needed to do to be successful, reflect on their performance and what they could do to improve future performances.

This analytical rubric was developed for making a Shrek Mask.

CATEGORY	4	3	2	1	Score
Creativity	Totally original design, no element is an exact copy of designs seen in source material.	Most of the mask elements are unique, but one element may be copied from source material.	Some aspects of the mask are unique, but several elements are copied from source materials or other students.	The mask is a copy of a mask seen in source material or one made by another student (80% or more of elements are copied).	3
Attractiveness / Craftsmanship	The mask shows that the creator took great pride in his/her work. The design and construction look carefully planned. The item is neat (free of unwanted bumps, drips, marks, and tears).	The mask shows that the creator took pride in his/her work. The design and construction look planned. The item has a few flaws (unwanted bumps, drips, marks, tears), but these do not detract from the overall look.	The design and construction were planned. The item has several flaws (unwanted bumps, drips, marks, tears), that detract from the overall look.	The mask looks thrown together at the last minute. It appears that little design or planning was done. Craftsmanship is poor.	3
Details	Mask details are all easily viewed and identifiable from across the classroom.	Most mask details are easily viewed and identifiable from across the classroom.	Most mask details are easily identified when the mask is seen close-up.	Many mask details are too small or are not clear.	4
Knowledge about Culture/Story	The student can answer three questions correctly about how the mask relates to the culture or story being studied.	The student can answer two questions correctly about how the mask relates to the culture or story being studied.	The student can answer one question correctly about how the mask relates to the culture or story being studied.	The student does not understand how the mask relates to the culture or story being studied.	4
Time and Effort	Class time was used wisely. Much time and effort went into the planning and design of the mask. It is clear the student worked at home as well as at school.	Class time was used wisely. Student could have put in more time and effort at home.	Class time was not always used wisely, but student did do some additional work at home.	Class time was not used wisely and the student put in no additional effort.	4
Working With Others	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player.	4
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Useful websites for rubrics:

http://www.middleweb.com/rubricsHG.html

http://rubistar.4teachers.org/index.php

http://www.education.vic.gov.au/studentlearning/assessment/preptoyear10/tools/rubrics.htm

http://school.discovery.com/schrockguide/assess.html

http://www.ncsu.edu/midlink/ho.html

http://edtech.kennesaw.edu/intech/rubrics.htm

SHARING EXEMPLARS

This is when the teacher shares student work from another class, previous years, other schools etc. The selected exemplars are chosen to represent the qualities that differentiate high quality work from low quality work.

There is also discussion of the strengths and weaknesses that can be seen in each example to help students internalise the characteristics of high quality work.

The teacher and students can develop a rubric or list of criteria which show the characteristics of quality work, which in turn, is used to assess the students' work.

Examples:

Write an explanation of how and why photosynthesis occurs

You need to:

- identify or define the meaning of the term *photosynthesis*
- explain the process involved, indicating the raw materials required and the products formed
- include a diagram of a leaf cross-section, showing in which cells photosynthesis occurs
- on the diagram identify other structures which facilitate the process of photosynthesis
- use accurate scientific language
- use language appropriate for an explanation, eg present tense
- use accurate writing conventions (complete sentences, paragraphing, correct spelling, grammar and punctuation)
- make at least one draft before presenting your final finished version
- Reread your draft to ensure that your writing actually really explains to a new reader how or why photosynthesis occurs.

From "Addressing Literacy in Science". A Middle years Resource. By Mike Dumbleton and Ken Lountain. Curriculum Corporation. 2002. Page 26.

An annotated extract from a written text.

Procedure or goal to be achieved

List of materials and equipment required.

Instructions in sequenced steps, with the first word often indicating the action required

Additional steps and diagram

Making a Burglar Alarm

You will need:

1 electromagnet	tin snips
1 dry cell battery (9 volt)	some aluminium foil
some strips of tin	electrical wire
a buzzer	1 nut
a pair of pliers	1 bolt

What to do:

1. Attach a length of electrical wire to one pole of the electromagnet.
2. Attach the other end of the wire to a strip of tin. This will act as part of your switch.
3. Attach a second length of wire to the negative terminal of the battery at one end and to a strip of tin at the other. This will act as the base plate for your switch.
4. Attach another length of wire to the positive pole of the battery and then to the nut.
5. Thread the bolt through the nut. This will act as your contact breaker.
6. Fold a strip of tin into a 'Z' shape.
7. Cut a 1-cm-wide strip of tin and…
8. ……

From "Addressing Literacy in Science". A Middle years Resource. By Mike Dumbleton and Ken Lountain. Curriculum Corporation. 2002. Page 28.

Discussion about documentary filming techniques

Discuss the merits of the filming and production techniques used in *Cardboard Castles*, the documentary about street kids

Identification of issue to be discussed

Cardboard Castles provided viewers with a fascinating insight into the lives of street kids in a large Australian city. However, while what they filmed was extremely interesting, some of the filming techniques made me wonder whether the producer was more concerned with style or content.

Arguments for stating how techniques were used positively

The use of a hand-held camera gave the documentary a very natural feel. It meant that the filming and the interviews didn't seem staged or set up. The camera often moved to the person who was speaking after they had started, rather than being focussed on them before they began. The use of subjective shots also helped you see things from the kids' eyes as they walked round the back streets and into the awful places where some of them slept.

Also…….

Arguments for stating how techniques were used negatively

However, all the scenes in the documentary were tinted with an eerie, greenish light which gave the impression that the world of the street kids was one of unnatural colours and shadows that reflected weird adolescents. The end product would have been very different if the kids had been filmed in the natural light of day. The producer also used loud heavy metal music with 'advisory' lyrics even though the kids mentioned other artists they liked. ……

Position a concluding viewpoint

Whilst there were a number of effective filming and production techniques which made the documentary interesting, overall I think that……..

From "Addressing Literacy in the Arts". A Middle years Resource. By Mike Dumbleton and Ken Lountain. Curriculum Corporation. 2002. Page 28.

Useful websites for finding examples of student work:

http://cms.curriculum.edu.au/assessment/at/matrix.asp

http://www.lasw.org/

http://www.tki.org.nz/r/assessment/exemplars/