

AMATHOLE EAST DISTRICT

GRADE: 4
SUBJECT: NATURAL SCIENCES AND TECHNOLOGY

TERM THREE 2025
FAT- PRACTICAL TASK

Name: _____

Class: _____ Date: _____

School: _____ Teacher: _____

FAT	Activity / Form	Learner's mark	Learner's %
5.	Practical		
TOTAL		30	

Natural Sciences and Technology

Formal Assessment Task

Term: 3

Practical Task: No 03

Knowledge Strands:

Marks: 30

Energy and Change & Systems and Control

Grade: 4

Topic: Musical Instruments



Instructions

1. You will complete the practical activity in class under supervision.
2. Complete all activities as per instruction from your teacher.
3. Use a pen for writing.
4. All sketches must be done in pencil.

Major Process and Design Skills:

*Access information *Recall information *Observe *Compare *Measure *Sort *Classify
*Identify problems *Raise questions *Design *Make / Construct *Evaluate and or improve products
* Communication

Read the Design Scenario below and complete the instructions 1-7.

Your class must participate in a musical concert. The Creative Arts teacher has asked that each class form musical bands with between 4 and 6 members. Each band member must make their own musical instrument based on the knowledge and skills gained from studying energy and change and Systems and Control. The band must have a variety of instruments and must use plucking, blowing and beating as the input.

Your instrument has the following specifications:

- Be made from recyclable materials
- Differ from the other band members
- It must make a sound by beating or blowing or by plucking strings.
- You must be able to play at least two different sounds.

Your instrument has the following constraint:

- You must make it in class.

(You may collect material at home and bring it to class)

1. Design Brief

Write a design brief below where you identify which type of instrument you are going to make as part of your band. Complete the following

I must design and make a

.....
.....

.....that will useas the input to produce a..... (1)

2. Investigate

The next step in the Design Process is to investigate further and do some extra research about the instrument that you are going to make. You can use books and the internet to do your research. You can also interview a person who plays a musical instrument to find out how the instrument works.

Answer the following questions when doing research about your instrument:

2.1 How do you play the instrument?

.....
.....
.....
..... (2)

2.2 What materials is it normally made from?

..... (2)

2.3 What type of recyclable materials could you use to make your musical instrument?

.....
.....
.....
..... (2)

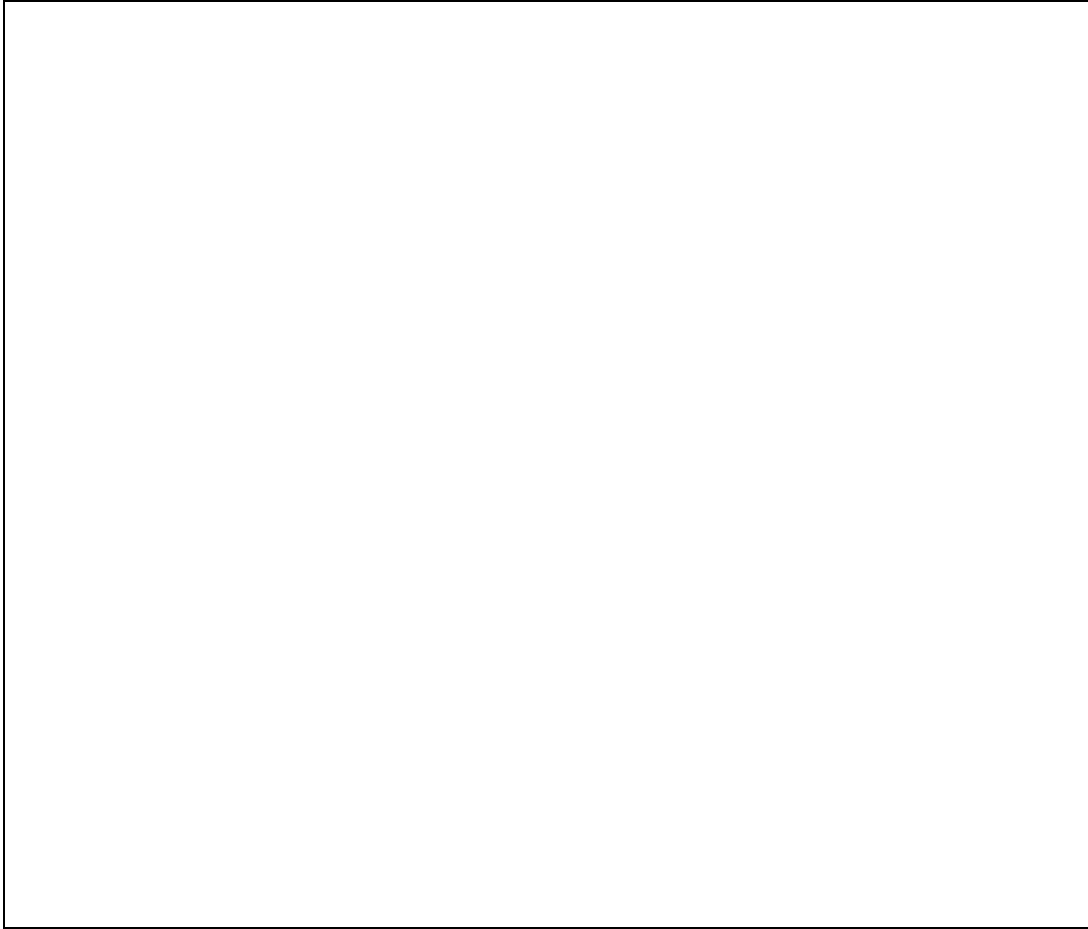
(6)

3. Design

3.1 Design Idea

Now that you know a bit more about the instrument you want to make, draw a rough sketch in the space below of what you think it could look like.

(2)



3.2 Planning for making

Answer these questions:

3.2.1 What shape and size will your instrument be?

(2)

3.2.2 What recyclable materials will you need to make it?

(2)

3.2.3 What tools and equipment will you need to make it?

(2)

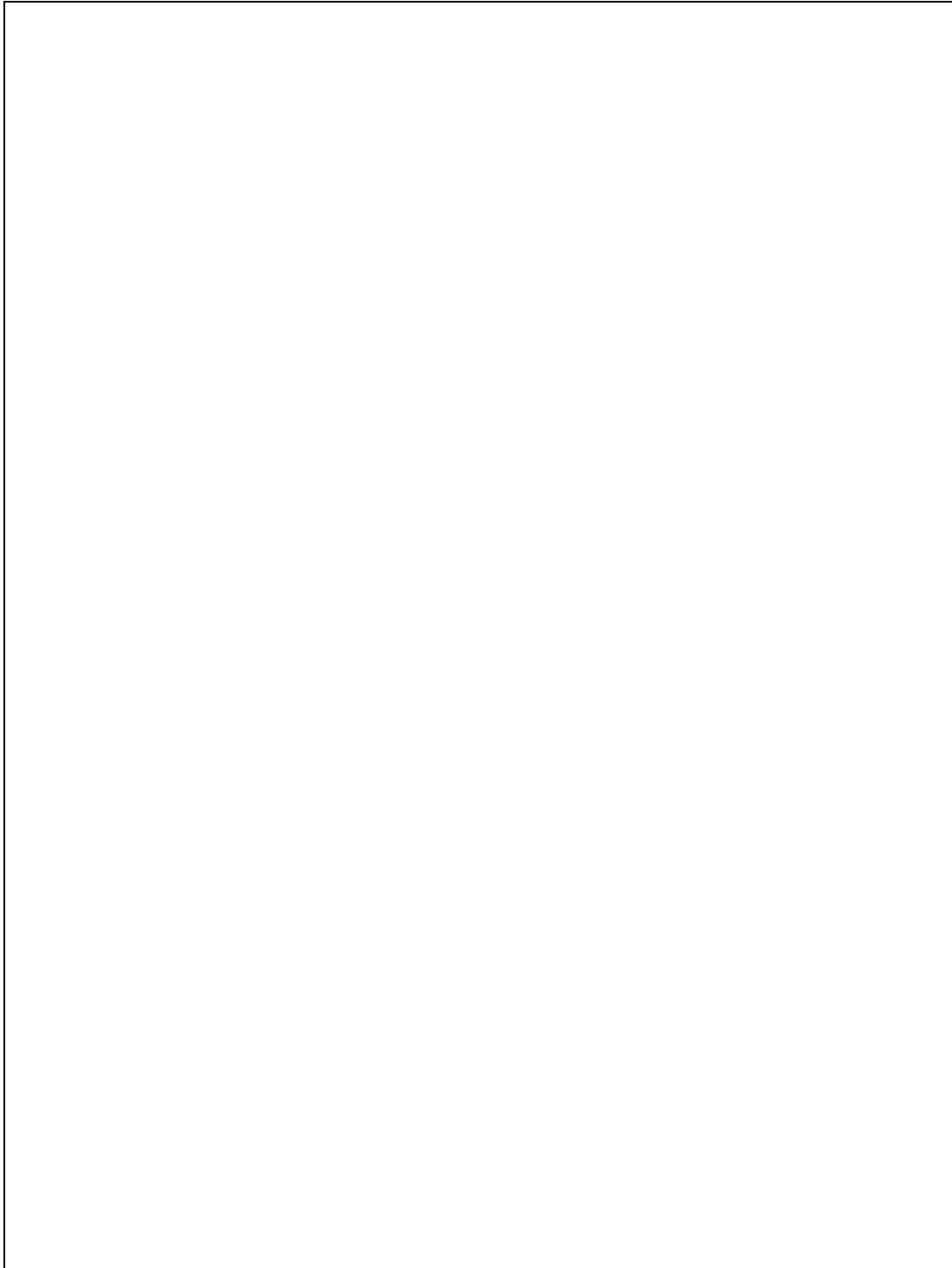
(6)

4. Final Design

Use the space below to draw your final design of your musical instrument. Make sure you are happy with your design idea and have listed the types of recyclable materials you will use to make your instrument and the actual size.

- Label your final drawing showing what materials you will use for the different parts.
- Indicate any three dimensions.

(4)



5. Make

Use all the resources and planning notes and make the musical instrument in class. (5)

6. Evaluate

Answer the following questions about your musical instrument after you have finished making it and testing to see if it can be played.

- 6.1 Does your musical instrument look like your initial design?
If not, explain why not.

_____ (1)

- 6.2 How do you play your instrument?

_____ (1)

- 6.3 Can you play two different sounds (notes) on your instrument? If not, why can't you?

_____ (1)

- 6.4 How would you improve your design so that your instrument makes a better sound or is easier to play?

_____ (2)

- 6.5 Can your band play a tune using the instruments that you made?
Describe what it sounds like.

_____ (5)

7. Communicate

- 7.1 Present your musical instrument and written work to your teacher.

_____ **Total: (30)**

FORMAL ASSESSMENT

Marking Guideline

This section must be completed by the teacher.

Name of Learner: _____ Class: _____

Formal Assessment Tool

Question Reference	Criteria: The learner is able to:	Mark out of	Comments
1.	write a design brief	/ 1	
2.	access information	/ 6	
3.1	sketch an initial design	/ 2	
3.2	plan for making	/ 6	
4.	draw and label a suitable final design	/ 4	
5.	make a model accurately, neatly and safely	/ 5	
6.	evaluate a solution	/ 6	
	TOTAL	/30	
Overall comment			

Signature: Teacher _____

Date: _____

Mark: / 30

TEACHER GUIDE

A.

- Make sure that the learners understand the key concepts about Energy and Change and that a musical instrument is a system that converts input movement energy into an output sound energy.
- Use instruments during your teaching to demonstrate the above principles. Invite a musician to play for the learners.
- Learners must touch, listen and feel the energy movement.

B.

- Read the two case studies with the learners and bring the instruments to life. Talk about how they are made, what materials they are made from, the size in millimetres and describe the shape of the instruments.
- The case studies provided in Section B give learners a resource to use as part of their research. The illustrations will help them to design their own instrument.
- The case studies also give learners information to respond to some of the instructions.

C.

- Read the Design Scenario with the learners and ask key questions to make sure they understand the problem they need to solve.
- Learners must now understand the terms *specification* and *constraints*, and relate these to their project.

You need to decide if the learners will write on the handout or complete the instructions in their NST exercise books.

Revise some of the drawing and labelling skills taught for the previous Technology practical.

Tasks 1-7

Learners complete tasks 1-7 under your instruction and supervision in class.
See marking guideline for assessing learners' responses to the instructions.

Note:

To help learners manage their resources ask them to bring recyclable material from home and store in the classroom. You will need to provide learners with minimum equipment to make the musical instrument in your class e.g. rulers, pencils, scissors, adhesive tape, tools like a hammer, saw etc. can also be used.

Suggestions for models are:

- Plastic containers with rubber bands over a hole can make a suitable "guitar".
- A rattle can be made from a closed container with small stones sealed inside.
- A tin with a cover over the opening can be used as a drum.
- Metal bottle tops strung together can make a rattle.
- A flute can be made from rolled paper straws or plastic straws.

PS: Technology is about developing learner creativity (not their parents). Encourage them to think differently.

Marking Guideline			
Question Reference	Criteria: The learner is able to:	Mark out of	Allocate marks as follows
1.	write a design brief	/ 1	Allocate 1 mark if the learner names a suitable instrument and lists the correct input energy. E.g. I must design and make a <u>drum</u> that will use <u>beating</u> as the input to produce a <u>sound</u> .✓
2.	access information	/ 6	
	2.1		Allocate two marks for describing correctly how the named instrument will be played.✓✓
	2.1		Allocate two marks for naming suitable materials for the named instrument. ✓✓
	2.3		Allocate two marks for listing suitable recyclable materials to make a similar instrument in class. ✓✓ e.g. sucker stick, tins, plastic containers,
3.1	sketch an initial design	/ 2	Allocate two marks for a rough sketch of an instrument that looks like the named instrument in the design brief.✓✓
3.2	plan for making	/ 6	
	3.2.1		Allocate one mark for a description of the shape ✓ and one mark for suitable measurements listed. ✓
	3.2.2		Allocate two marks for listing materials that will be suitable for the final product. ✓✓ These may be similar to those listed in 2.3 above.
	3.2.3		Tools listed as follows: Allocate one mark for measuring, cutting or shaping ✓ e.g. rules, scissors, saw etc. Allocate one mark for listing other equipment for making and or joining✓ e.g. glue, tape, string, rubber bands etc..
4.	draw and label a suitable final design	/ 4	Allocate marks as follows: Two marks for a neat drawing that looks like the named musical instrument✓✓ One mark for suitable labels✓ One mark for suitable dimensions ✓
5.	make a model accurately, neatly and safely	/ 5	Allocate marks as follows: Two marks for making a finished musical instrument ✓✓ One mark for using the material suitably✓ Two marks for a neat and attractive model✓✓
6.	evaluate a solution	/ 6	
	6.1		Allocate one mark if the learner has responded "Yes" and the model does look the design, or give one mark if the learners said "No" but can explain what went wrong with the making. ✓
	6.2		Allocate one mark if the learners describe how the made instrument will be played. ✓
	6.3		Allocate two marks if the instrument can make two different notes or if not they must explain why not. ✓✓
	6.4		Allocate two marks for reasonable improvements suggested. ✓✓
	TOTAL	/30	
Overall comments			