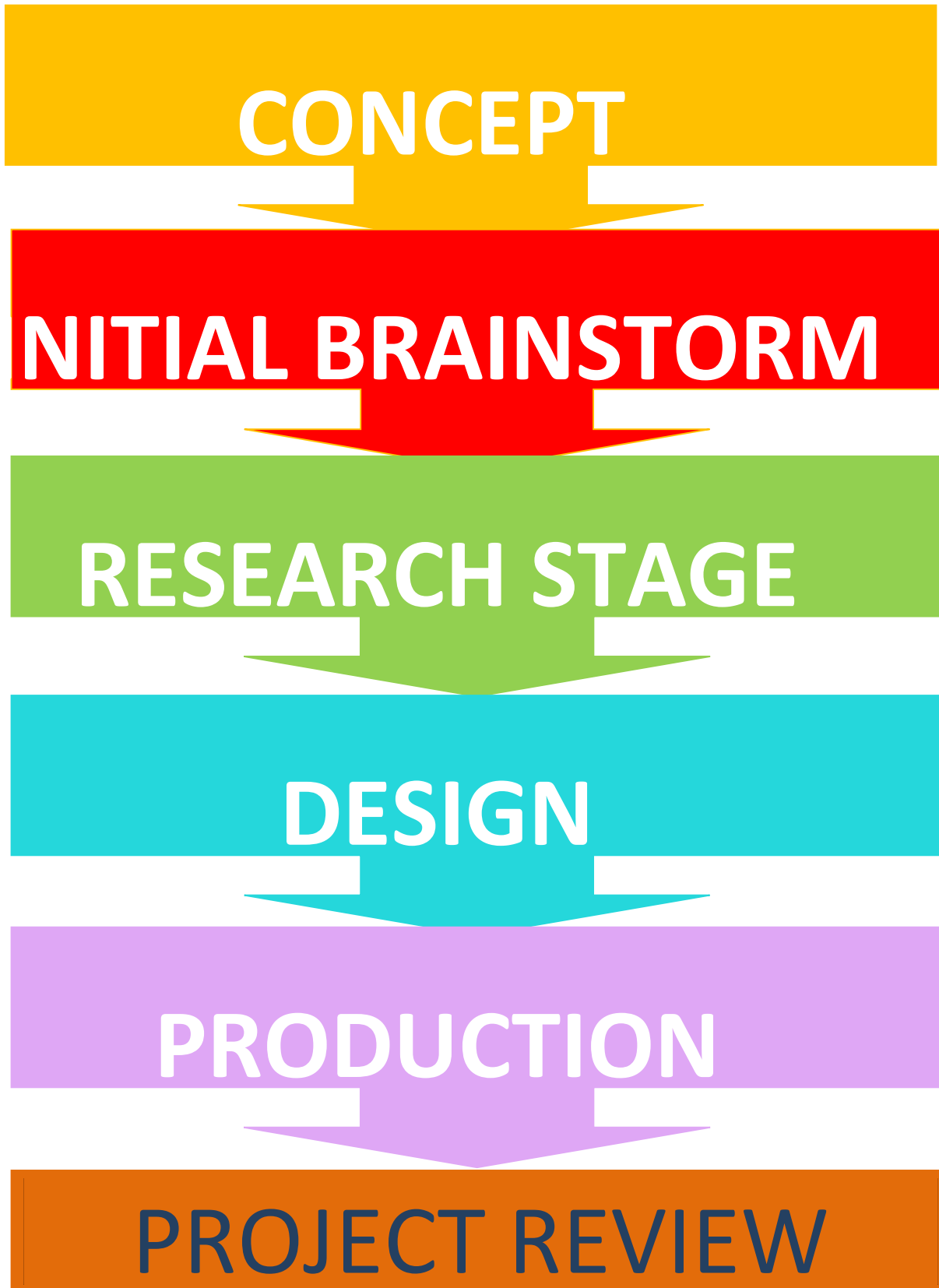


Appendix G- MSTE PROJECT PATHWAY



STEP 1: INTRODUCE PROJECT CONCEPT

- Define the need.
- What must you produce?
- What must you design?
- Do you have a project idea? (Maybe something totally new)
- What is the project?
- Is this an annual project? Something new to this setting? Or a prototype?

STEP 2: INITIAL BRAINSTORM

- What prior knowledge do you have about this type of project?
- Create a needs list.
- Initial analysis of problems.
 - Perceived difficulties/ Possible solutions.
 - What I know/ What I do not know.
 - I need these materials/ I do not know what materials I need.
 - I have these skills/ I do not have these skills.
- How do you think the problem might be solved?
- What types of careers are related to this project?
- Create initial designs – rough sketches- no or few measurements.

STEP 3: RESEARCH STAGE

- Search all the sources available
- Consider existing designs.
- Ask questions.
- Get an understanding of Dimensions
- Understand the related science.
- Investigate the materials that you want to use.
- What safety issues will there be?

STEP 4: DESIGN STAGE

- Is the project pre-designed?
- Create paper or computer based designs. (Rough)
- Draw plans. (Higher Quality)
- Include measurements for everything.
- Write the specifications.
- Compare drawings to needs list.
- Check measurements for practicality.
- Ensure tools are capable of task.
- Consider non-traditional materials.
- Consider the “style” of your design. Create beauty when possible.

STEP 5: PRODUCTION

- Do not start until safety has been considered.
- Source materials.
- Measure repeatedly and compare to design.
- Follow logical steps.
- Pay attention to aspects of precision – careful measuring, marking, cutting, finishing, etc.
- Be prepared to make alterations during this stage – problems sometimes arise.
- Look for efficiencies. Can multiple pieces be manufactured at the same time?
- Exercise caution with materials usage – waste nothing.

STEP 6: PROJECT REVIEW

- Comparison with original design.
- Comparison with cohorts' projects.
- Testing.
- Error Analysis
- Recommendation of improvements in design or production.
- Recommendation of change of materials.
- Presentation/ Defense of design.
- Cost analysis
- Publishing
- Were there safety issues?
- Final Assessment Level

