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| **Rube-Goldberg Machine**  **Task:** Create a Rube-Goldberg Machine that involves a total of 5 energy transfers and/or transformations. Incorporate as many different types of kinetic and potential energy into your machine as possible.  Materials can be selected from those available from class or can be brought from home. Try to make your project in a way that minimizes waste.  **Challenges:**   1. Use water to power one component of your machine. 2. Use elastic, electrical, or magnetic potential energy to help power your machine.  |  |  |  | | --- | --- | --- | | **Developing** | **Proficient** | **Extending** | | ☐ 3-4 energy transfers and/or transformations | ☐ At least 5 energy transfers and/or transformations | ☐ At least 5 energy transfers and/or transformations  ☐ Completes one of the challenges successfully | | ☐ Does not run smoothly; requires multiple adjustments by group members during the run | ☐ Is relatively free of errors; has been troubleshooted and tested sufficiently | ☐ Is error-free and runs smoothly OR  ☐ Is especially creative, imaginative, or awesome and thus deserves extra credit | | ☐ Some inaccuracies evident in group members’ understanding of the different energy types in the machine | ☐ Group members can all describe the energy transfers and transformations in the machine | ☐ Group members can all demonstrate a good understanding of the energy transfers/ transformations in the machine | |  | **Rube-Goldberg Machine**  **Task:** Create a Rube-Goldberg Machine that involves a total of 5 energy transfers and/or transformations. Incorporate as many different types of kinetic and potential energy into your machine as possible.  Materials can be selected from those available from class or can be brought from home. Try to make your project in a way that minimizes waste.  **Challenges:**   1. Use water to power one component of your machine. 2. Use elastic, electrical, or magnetic potential energy to help power your machine.  |  |  |  | | --- | --- | --- | | **Developing** | **Proficient** | **Extending** | | ☐ 3-4 energy transfers and/or transformations | ☐ At least 5 energy transfers and/or transformations | ☐ At least 5 energy transfers and/or transformations  ☐ Completes one of the challenges successfully | | ☐ Does not run smoothly; requires multiple adjustments by group members during the run | ☐ Is relatively free of errors; has been troubleshooted and tested sufficiently | ☐ Is error-free and runs smoothly OR  ☐ Is especially creative, imaginative, or awesome and thus deserves extra credit | | ☐ Some inaccuracies evident in group members’ understanding of the different energy types in the machine | ☐ Group members can all describe the energy transfers and transformations in the machine | ☐ Group members can all demonstrate a good understanding of the energy transfers/ transformations in the machine | |