



Dear 6th Grade Parents,

It is an annual tradition that all 6th graders in IUSD complete a Science Fair project as a culminating event in their upper grade Science Lab experience. In the past, students would collectively conduct a single common “sample” Science Fair project in Science Lab with their Science Specialist, who would walk them through the process of completing an IUSD Science fair-worthy project. Students then often took much *in-class* time to digitally research possible topics of interest, and then they collected most of the data and conducted data analysis *outside* of class, relying primarily on the skills gained in their previous years of Science Lab experience and the support of their parents to complete their project.

This year, Science Specialists are excited to share a revised 6th grade Science Fair project with students. This project design has been two years in the making, with several successful pilots at various school sites last year. The Science Specialists are confident that students and parents alike will be excited for the changes in this year’s project. Firstly, the revised project is much more aligned with the instructional practices outlined by the *Next Generation Science Standards*, which encourages students to *explore* scientific concepts through true inquiry experiences *before explaining* them through direct instruction. Hence the research portion of the project is moved to after the data collection. Secondly, the project is much more aligned to the developmental level of sixth graders, without lowering performance expectations, by providing more in-class support for students. This support will not only result in a project that is part of the Energy & Matter unit, it will assist students in producing a science fair- worthy project and walk them through the processes they may use over the next six years when they may choose to independently submit (non-required) projects to the IUSD Science Fair in 7th through 12th grades.

Some main differences in this newly revised unit from the traditional science fair project include:

1. The Rube Goldberg project is no longer an option. Instead, teams will choose either an **inquiry** or **engineering** project. For the inquiry project, students will collect data in order to answer a scientific question. For the engineering project, students will propose solutions in order to solve a problem, and make improvements upon original designs.
2. While groups who choose an engineering project may spend some time up-front conducting online research to aid in the design process, in general most students will spend less time up-front digitally researching topics.
3. Instead, students will build a collective basis of understanding within their first 6th grade unit of study, *Energy & Earth’s Systems*. Students will then be guided by their teacher to use question formulating techniques that will encourage them to focus their attention and interests upon a particular question to investigate for their science fair project. As the part of the *Energy & Earth’s Systems* unit, students will work *in groups* to conduct inquiry based investigations and collect data *in class* to answer their question.
4. *After* the data collection, students will conduct digital research to seek evidence that will connect big science ideas and principles to explain their data.
5. All students will be required to work within a group, in class, to submit a group project in groups of 2 or 3 students. We understand that some topics may lend themselves to some data collection outside of class (i.e growing plants, surveys involving large numbers of people, etc.), and yet even in these cases plans will be made between students and their Science Specialist for the majority of experimental design and data analysis to be conducted during class time.
6. The project guidelines for the required 6th fair science fair project are aligned with the Orange County Science & Engineering Fair guidelines, found at <http://www.ocsef.org/competition-information/rules-and-regulations>.

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7. While the project's main emphasis is on *process* and *Next Generation Science Standards Science & Engineering Practices*, the 6th grade projects produced will be worthy of entering the IUSD Science Fair, should they be selected by the process at their school site that will be delineated by their Science Specialist.
8. Every Science Specialist is teaching the *Energy & Earth's Systems* unit and 6th grade Science Fair project as part of the standard curriculum for 6th grade Science Lab.
9. The in-class, group science fair project is a graded project. The project grade will no longer appear as a separate grade on the student's report card. Rather, it will be incorporated into the student's overall trimester one report card grade for Science Lab.
10. If students wish to conduct a more traditional (optional & ungraded) science fair project outside of class, either solo or with a partner or two, they may do so **in addition** to their in-class project. This is for students who have an interest to do more and go further. Science Specialists will provide support and offer feedback. The optional project will not receive a grade.
11. Should a student's in-class project *and* their outside project *both* be selected to participate in the IUSD Science Fair, they will be asked to commit firmly to one or the other. This is due to the fact that the county fair will only allow one project per student to move on from our fair to the county. This allows more students overall to participate in both the district and county fairs. Last year we had 434 projects (600 students total) participate in the IUSD Science Fair alone.
12. In the event that a group project moves on to the district and/or county fairs without a student who was previously on the research team (because that student chose to submit an individual project), the team will be required to provide recognition for that student's contributions in an *Acknowledgements* section of the project.

If you have any questions about this year's 6th Grade Science Fair Project, you are encouraged to first contact your child's Science Specialist directly, and then to reach out to Kristen Winn or Lisa Gordon with further questions.

Sincerely

Lisa Gordon
Coordinator of Science
Irvine Unified School District

Kristen Winn
Director of STEM
Irvine Unified School District

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