WARM UP INQUIRY (PRIMARY)

INQUIRY-BASED LEARNING
A Resource of SurreySchoolsONE

The Foil Challenge: Create an Eating Tool

Kindergarten-Grade 4
(adapted from Hasso Plattner Institute of Design at Stanford University)

What: A quick challenge to introduce K-Grade 4 students to practical inquiry and design thinking

Why: To get students excited about a question and practice a cycle of the inquiry process

When: As part of an introduction to inquiry

Prerequisite Skills:
- The ability to communicate about food and ask questions about food
- The ability to fold and mold aluminum foil

Materials Needed:
- Aluminum and note paper (optional).
- Materials may be modified as desired

Who Needs to Be There?
- At least 2 students and 1 teacher - up to a full classroom of students, divided into groups of 2.

Duration: 10-15 minutes

Phase I - A Real Question

Provocation & Curiosity
- Explain the three phases of the inquiry process and explain that today, you and they will be asking a real question that no one knows the answer

to, chasing down their own answers in small groups and sharing what they've found.
- Have a selection of utensils visible to students: spoons, forks, ladles, chopsticks, pickle forks, etc.
- Ask students what kinds of foods each utensil is suited for.
- Brainstorm a list of the classes' favorite foods.

Introduce the Inquiry Question
- Write the following inquiry question on a board: *"Can We Invent a New Utensil to Help Our Friends Eat Their Favorite Foods?"*
- Tell students that they will be interviewing each other about their favorite food and then designing and building a new utensil to help their partner eat that food. Older students can design a utensil to easily eat two or three favorite foods, (e.g. soup, ice cream and sushi)
- Put students into pairs and interview one another about their favorite food(s). (If possible, ask them to pick at least one food that has some family or cultural significance for them.)

Phase II - Chasing the Question

Research
- Students might want to record interview information on a piece of notepaper. They should take a few quiet minutes to design their new utensil on paper before they make a tinfoil prototype. For older students, ask them to make a couple of designs, so they have a backup.
- Give each person a square of tinfoil. You can emphasize that almost anything can be used for a low-fi prototype, and that they'll be surprised at what they can do with it. Everyone designs. You tell them when to stop.

Skills Based Mini-Lessons
- Adults can circulate and help model discussion and planning where needed. Different groups will have different design strategies, so visiting each table and explicitly asking about their process while they're engaged is a good way to help them remember for later discussion.

Phase III - Beyond the Question

- Partners present their designs and prototypes to each other and receive feedback so they can "tweak" their designs, then the whole group can share out, with people showing the utensil designed for them.

- *Point out where groups are improving their original design based on partner feedback. Cycles of improvement are an important part of inquiry!*

Reflection & Follow-Up

- Debrief students about the activity. Ask about their process, how they felt about hands-on research and how it felt to engage with a question that has no definitive answer.
- Highlight their strengths as a class and the fact that they were engaged in the process. Explain that the content of their inquiry work is not assessed, only the skills and competencies they develop while doing it. You might point out one or competencies that they developed during this inquiry.
- If they're not already familiar with the inquiry process, you can show them how they used all of the inquiry skills:
    - engaging with an interesting question,
    - working with a group to find creative answers
    - recording & analyzing their findings and
    - reporting out in their chosen way.
- If there are any questions that came from the activity, point out that they could be the questions for another cycle of inquiry!