### 22. Engaging Students in Cognitively Complex Tasks Involving Hypothesis Generation and Testing

The teacher engages students in complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation) that require them to generate and test hypotheses.

#### Teacher Evidence
- Teacher engages students with an explicit decision making, problem solving, experimental inquiry, or investigation task that requires them to generate and test hypotheses
- Teacher facilitates students generating their own individual or group task that requires them to generate and test hypotheses

#### Student Evidence
- Students are clearly working on tasks that require them to generate and test hypotheses
- When asked, students can explain the hypothesis they are testing
- When asked, students can explain whether their hypothesis was confirmed or disconfirmed
- Student artifacts indicate that they can engage in decision making, problem solving, experimental inquiry, or investigation

#### Scale Levels: (choose one)
- Innovating
- Applying
- Developing
- Beginning
- Not Using
- Not Applicable

#### Scale

<table>
<thead>
<tr>
<th>Engaging students in cognitively complex tasks involving hypothesis generation and testing</th>
<th>Innovating</th>
<th>Applying</th>
<th>Developing</th>
<th>Beginning</th>
<th>Not Using</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapts and creates new strategies for unique student needs and situations.</td>
<td>Engages students in cognitively complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation) and monitors the extent to which students are generating and testing hypotheses.</td>
<td>Engages students in cognitively complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation).</td>
<td>Uses strategy incorrectly or with parts missing.</td>
<td>Strategy was called for but not exhibited.</td>
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#### Reflection Questions

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<tr>
<td>What are you learning about your students as you adapt and create new strategies?</td>
<td>How might you adapt and create new strategies for organizing students to complete cognitively complex tasks?</td>
<td>In addition to engaging students in groups for cognitively complex tasks, involving hypothesis generation and testing, how can you monitor the extent to which students are generating and testing hypotheses?</td>
<td>How can you engage students in cognitively complex tasks involving hypothesis generation and testing?</td>
<td>How can you begin to incorporate some aspect of this strategy in your instruction?</td>
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