Lesson Plan Guide

*Updated 1/15/16*

**Lesson Plan Stipend Qualification**

A lesson plan stipend of $125 is available to practicing North Dakota teachers who create lesson plans for individual STEM kits available in the MSU STEM Kit Collection.

In order to receive the stipend, you must do the following:

1. Contact Donalee Stand with your intent to create a lesson plan and work with her to determine which kits are in need of a lesson plan.
2. Check out the kit using KitKeeper.
3. Use the STEM Collaborative Cataloging Project’s Official SPARKS Grant Lesson Plan Template, found on the MSU STEM Collaborative Cataloging Project’s website. There you will also find the rubric used to evaluate lesson plans.
4. Submit your lesson plan electronically to Donalee Strand.
5. You lesson will be evaluated by a peer. If editing is required, the lesson plan and the lesson plan rubrics with comments will be sent to you to allow for resubmission.
6. After your lesson plan is approved you will need to fill out the SPARKS Grant Lesson Plan Stipend Request Form, found on the MSU STEM Collaborative Cataloging Project’s website.
7. Submit a review/comment about the STEM kit to the KitKeeper website.

**Lesson Plan Evaluation Stipend Qualification**

A lesson plan stipend of up to $100 is available to North Dakota teachers who evaluate the lesson plans created for this project.

In order to receive the stipend, you must do the following:

1. Contact Donalee Strand with your interest in evaluating lesson plans for this project.
2. Once a lesson has been assigned you will need to check out the associated STEM kit using KitKeeper.
3. Evaluate the lesson using the Official SPARKS Grant Lesson Plan Rubric and Lesson Plan Guide.
4. Send completed rubric and required comments to Donalee Strand.
5. If the lesson was determined to be publishable with edits, review edits after the lesson plan is resubmitted.
6. After your evaluation is approved you will need to fill out the SPARKS Grant Lesson Plan Evaluation Stipend Request Form, found on the MSU STEM Collaborative Cataloging Project’s website.
7. Submit a review/comment about the STEM kit to the KitKeeper website.

[Kit Name] Lesson Plan

*Highlighted areas are not required for the lesson plan stipend.*

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| **Context** (InTASC 1,2,3) | | | | | | | | |
| **Lesson Plan Creator:** | | | | **Description of Class:**  *To be filled in by individual teachers implementing the lesson plan*  Describes the students in the class providing information that may include: Class demographics, class size, diversity (cultural, socio-economic, special needs, etc.), a broad description of the class | | | | |
| **Date:** *To be filled in by individual teachers implementing the lesson plan* | | | |
| **Lesson Topic:** A short statement of the lesson’s focus  *Examples: [Rules and etiquette of baseball], [Area of a trapezoid]* | | | |
| **Grade Level:** Intended audience of the plan | | | | **Student Profiles:**  *To be filled in by individual teachers implementing the lesson plan*  Select specific areas appropriate to the lesson topic that you want to target for identified student(s) and the characteristics (both academic and behavioral) to be considered in planning the lesson to meet his/her needs.  *Example: Leroy ADHD: 10 minutes maximum time on task, works well with manipulatives and peer modeling, struggles with abstract ideas* | | | | |
| **Duration:** Length of time planned for this lesson | | | |
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| **Desired Results** (InTASC 4) | | | | | | | | |
| **Purpose:** The purpose statement answers for the student, Why is the lesson important? Why do I need to know this?   * Do we need prompts? * Sample statements? * Know, Understand, and Do | | | | | | | | |
| **Evaluation Rubric** | | | | | | | | |
| **Elements** | **Ready for Publication** | **Publishable with Minor Editing** | | | **Publishable with Major Editing** | | | **Not Publication Quality** |
| **Purpose** | Includes a well-explained purpose for learning that supports students’ understanding of how objectives have endurance & leverage | Includes purpose state that explains why student need to know the content of the lesson | | | Purpose for learning is stated but lack specificity and/or application | | | Purpose statement is insufficient in assisting students to understand how the objectives has endurance and leverage |
| **Standards:** Write out the entire standard(s) that the lesson addresses. If applicable include [Standards for Literacy in History/Social Studies, Science, and Technical Subjects, Grades 6-12](https://www.nd.gov/dpi/uploads/87/ELA_JUN0811.pdf), [Library and Technology Content Standards](https://www.nd.gov/dpi/uploads/87/lib_tech.pdf), or other [North Dakota Content Standards](https://www.nd.gov/dpi/schoolstaff/assessment/unit/).  *Example:**NDMCS (North Dakota Mathematics Content Standards) 7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.* | | | | | | | | |
| **Evaluation Rubric** | | | | | | | | |
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| **Standards** | Alignment of objectives and instruction with standards is accurate & reflects more than one content area | Standard(s) chosen align with lesson objective(s), assessment, or learning plan | | | Alignment with standards is partially accurate and/or incomplete | | | Standards are present but lack alignment or are inaccurately aligned with the lesson |
| **Objectives:** Well written objectives are SMART.  Must be SPECIFIC  Must be MEASURABLE (active verbs, Blooms)  Must be ATTAINABLE  Must be RELEVANT  Must be TIMELY  *Example: Student will tell and record time on a digital clock and analog clock to the hour and half hour with 90% accuracy.* | | | | | | | | |
| **Evaluation Rubric** | | | | | | | | |
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| **Objectives** | Well written objectives are specific, measurable, attainable, realistic, and are incorporated with standards, assessment, and learning plan | Satisfactory objective(s) are specific, measurable attainable, realistic, and aligned with standards, assessment, and learning plan | | | Marginal objective(s); lack one or more of the following qualities: specific, measurable attainable, and/or realistic & partially reflects the standards | | | Objective(s) are incomplete (lacking multiple qualities-specific, measurable attainable, and/or realistic) and lack a clear connection to standards |
| **Student Profile Objectives:** *To be filled in by individual teachers implementing the lesson plan*  Well written objectives are SMART.  Must be SPECIFIC  Must be MEASURABLE (active verbs, Blooms)  Must be ATTAINABLE  Must be RELEVANT  Must be TIMELY  *Example: Student will tell and record time on a digital clock and analog clock to the hour..* | | | | | | | | |
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| **Assessment Evidence** (InTASC 6) | | | | | | | | |
| **Evidence of meeting desired results:** What assessment(s) will you use to know if the students have met the lesson objectives? Evidence is used to support, verify and document learning. This could be summative or formative that teachers design, adapt, or select. Formative assessment measures if the students are meeting the objectives during the lesson. These are often called checks for understanding. Summative assessment measures if the students have met the intended objectives at the end of the lesson. Formative and summative assessment methods can be interchangeable.  *Example: An ungraded quiz used as a formative assessment might also be used as a summative assessment at the end of a lesson or unit. Work formatively checked during lessons might be summatively assessed in a portfolio.* | | | | | | | | |
| *Examples of Formative Assessment:*   * Oral question and answer period * Short, ungraded, written quiz * Hand signals🡪thumb up (correct); thumb down (incorrect); thumb to the side (unsure) * Learning scales (4, 3, 2, 1) * Observation * Demonstration of the skill * Short writing assignment * Pre or post tests * Muddiest point * Exit slip * Think-aloud * Dialogue/discussion | | | | *Examples of Summative Assessment:*   * Problem-based learning * Tests * Quizzes * Academic prompts * Performance tasks * Porfolios | | | | |
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| **Evidence of meeting desired results** | Comprehensive assessment methods are equitable, clearly measure the standard and objectives and are sophisticated given the instructional strategies | Assessment demonstrates student knowledge / understanding of the lesson objectives | | | Acceptable assessment methods measure the standard and objectives and limited given the instructional strategies | | | Incomplete assessment methods that do not directly measure standard and objectives; unclear in connection to instructional strategies |
| **Student Profile Evidence:** *To be filled in by individual teachers implementing the lesson plan*  Sometimes the assessment evidence for the student profile describe in the context section is different than that for the rest of the students. Assessment methods should measure if students have met the student profile objectives. The assessment should be individualized to the students strengths and weakness and be equitable. Sometimes it may be appropriate for the student evidence to be the same as the others students in the course. At other times the evidence may be different.  *Example: Consider the lesson objective “the student will tell and record time on a digital clock and analog clock to the hour and half hour.” Students without a disability may do this on a worksheet or demonstration with an actual clock. A student with cerebral palsy who can’t move their arms may demonstrate they can do this orally using an assistive communication device.* | | | | | | | | |
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| **Learning Plan** (InTASC 4,5,7,8) | | | | | | | | |
| **Instructional Strategy: (Check all that apply)** | | | | | | | | |
| **Direct:** Instruction strategies that are teacher led to provide structure and sequence throughout the teaching or presentation-frequently pair direct instruction with other instructional models and strategies. It begins the process of gradual release in the form of “I do”, “We do” and “You do”. Associated strategies include:   * Explicit teaching * Drill and practice * Lecture * Demonstrations * Guided practice for reading, listening, viewing   **Indirect:** A student-centered approach to teaching that warrants high levels of student engagement. Teachers support and facilitate learning by providing learning environments that encourage decision-making, critical thinking, and other independent learning skills.   * Problem solving * Inquiry * Case studies * Concept mapping * Reading for meaning * Cloze procedures   **Independent:** Students actively construct learning as they develop self-reliant skills in while guided or supervised by an instructor (ETS, 2014).   * Learning contracts * Research projects * Learning centers * Computer supported instruction * Distance learning   **Experiential:** A student-centered model, experiential learning supports the application and analysis of concepts as students enter into learning experiences designed for the student by the teacher, or created by the student.   * Role play * Simulation * Field trips * Research process * Experiments * Practicums, clinical experience, student teaching * Games * Observations   **Interactive:** Students and teachers share through participation and discussion in this model of instruction. Students and teachers develop skills in listening, observation, interpersonal skills and interventions (Byers, et al., 2009) which promote learning attitudes and enhance relationship building skills (Hattie, 2009)   * Cooperative learning groups * Discussions * Peer practice * Debates * Interviews * Brainstorming | | | | | | | | |
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| **Instructional Strategy** | Clear evidence of exemplary use of multiple research-based instructional strategies (direct, indirect, independent, experimental, or interactive) that match all objectives, content, & context | Research-based teaching strategies are use in the lesson plan and support differentiated instruction | | | Use of research-based instructional strategies within the lesson provide students limited support in meeting learning objectives | | | Research-based strategy may be selected but implemented incorrectly or is ineffective for objectives, content and context |
| **Technology Use(s): (Check all that apply)** | | | | | | | | |
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| **Students Interact**   * ActivBoard * Email * Clickers * Google Docs * Tablets/Applications | | | **Aligned Goal**   * Does the tech serve a utilitarian purpose that meets the goals of the lesson? * Is it meaningful for the lesson? * How is it tied into the activity? | | | | **Differentiated Instruction**   * Is the technology being implemented to support the needs of diverse learners? * Example: Using clickers/applications that include visual, audio, and/or text? | |
| **Collect Data**   * Is the instructor utilizing technology to collect student data? * Example: Utilize Word to create assessment documents * Spreadsheets/Graphs/Charts to organize data * Incorporating graphic organizers *(Example: KWL charts)* * Example: Use Class Flow, Kahoot to test prior knowledge or summarize | | | | | | | **N/A**  Does not apply. There may be instances or lessons where technology is not necessary or appropriate for technology. Choose this box if that is the case | |
| **Evaluation Rubric** | | | | | | | | |
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| **Technology Use** | Exemplary use of technology to enhance instructional strategies and assessment to fully support all students reaching objectives | Use of technology sufficiently supports objectives and content of the learning plan. | | | Minimal use of technology to carry out instruction or assessment. | | | Use of technology is ineffective to support instruction and/or assessment |
| **Hook and Hold:** Also known as the anticipatory set, previewing launch or introduction. It is the first item to occur in your Procedures. How will you grab the students’ attention? How will you put them in a receptive frame of mind for learning? How will you convey a purpose for the activity? Consider this to be the “hook” for getting your students EXCITED about what they will learn!  *The hook might be…*   * *A question to ponder* * *An experiment* * *An oral cutting from a book* * *A brainteaser* * *Demonstration* * *Prop* * *Visual (video or image)* * *Oral reading from a book* | | | | | | | | |
| **Evaluation Rubric** | | | | | | | | |
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| **Hook & Hold** | Hook and hold engages students, stimulates curiosity and establishes a purpose | Hook and hold connects to the lesson and engages learners | | | Students are minimally engaged by the hook and hold | | | Hook and hold is attempted but does not engage learners |
| **Procedures:** What specifically will you do during your lesson? This is the core of the lesson. In this section number list the sequence of steps to follow to implement the lesson. List activities and strategies you will use to accomplish the objective in sequential order.  Be sure to list the procedures in a numerical or bulleted format.  Procedures should be specific enough for the reader of the lesson plan to teach the lesson. | | | | | | **Materials:** | | |
| **Evaluation Rubric** | | | | | | | | |
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| **Procedures**  **(includes materials)** | Procedures and detailed, logically sequenced, and follow the appropriate process given the chosen instructional strategy, cognitive level and grade; include exemplary use of delivery in small chunks, modeling, guided practice, and checks for understanding throughout the lesson | Procedures are appropriate and logically sequenced for instruction and include satisfactory delivery in small chunks, modeling, guided practice, and checks for understanding. | | | Procedures lack specificity and/or logical sequence, appropriate cognitive level, appropriateness for grade level; include minimal delivery in small chunks, modeling, guided practice, and checks for understanding. | | | Procedures are vague and/or do not contain the cognitive level necessary for content or grade level; limited inclusion of small chunks, modeling, guided practice, and/or checks for understanding. |
| **Summary:** Incorporate the Evidence of meeting desired results   * Students can share what was learned, can demonstrate what was learned, a sequential question on the activity can be asked * If an activity has been a specific part of the lesson, this summary should connect the activity to the content being supported through the activity   After the formative/summative statement…Example: “think, pair, share’, ask questions, open sharing, “wows and wondering” | | | | | | | | |
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| **Summary** | Summary activity is connected to lesson objective(s), provides clear summary of what students have learned (assessment), ties main points into a coherent whole and provides preview of future lesson. | Lesson plan summary helps students organize their learning, reinforce major points and clarify any confusion | | | Minimal summary activity that describes the lesson activities | | | Attempts a summary activity |
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| **Reflection** (InTASC 9) | | | | | | | | |
| **Reflect On:** *To be filled in by individual teachers implementing the lesson plan*   * *Preparation* * *Planning* * *Teaching* * *Student Engagement and Participation* * *Evidence of Student Learning* | | | | | | | | |
| **This project was made possible in part by the Institute of Museum and Library Services. [SP-02-15-0044-15]** | | | | | | | | |