IB Physics YEAR 2 - Unit 3 (IA) Planner

Teacher(s)	Cole Phillips	**Subject Group and Course**	Group 4 - Physics		
Course Part and Topic	Internal Assessment	**SL or HL / Year 1 or 2**	SL Year 2	**Dates**	3 weeks
Unit Description and Texts		**DP Assessment(s) for Unit**			
• During this unit students will plan and carry out their IA investigation alone. • Students will be expected to design their own experiment that they have designed by themselves.		• IA Proposal (Year 1) • IA Checkpoints (Year 2) • IA rough draft (Year 2) • IA final draft (Year 2)			

INQUIRY: establishing the purpose of the unit

Transfer Goals

List here one to three big, overarching, long-term goals for this unit. Transfer goals are the major goals that ask students to "transfer" or apply their knowledge, skills, and concepts at the end of the unit under new/different circumstances, and on their own without scaffolding from the teacher.

Students may use the following content from the course:

- Theme A: Space, time, and motion
- Theme B: The particulate nature of matter
- Theme C: Wave behaviour
- Theme D: Fields
- Theme E: Nuclear and quantum physics

Students will develop the following skills:

- Effectively develop research questions
- Devising reliable and valid methodology
- Effectively incorporate required safety and ethical guideline into experimentation
- Construct testable hypotheses
- Organize and analyze data using prescribed statistical tests

ACTION: teaching and learning through inquiry

Content / Skills / Concepts - Essential Understandings	**Learning Process** *Check the boxes for any pedagogical approaches used during the unit. Aim for a variety of approaches to help facilitate learning.*
<u>Students will know the following content:</u> ● Theme A: Space, time, and motion ● Theme B: The particulate nature of matter ● Theme C: Wave behaviour ● Theme D: Fields ● Theme E: Nuclear and quantum physics <u>Students will develop the following skills:</u> Differentiation: ● Affirm identity—build self-esteem ● Value prior knowledge ● Scaffold learning Extend learning Details: Growth will be monitored using formative assessments by instructor and self-assessed using provided bulls-eye rubric. Remediation/ extension will be conducted through homework activities and investigations conducted in class.	Learning experiences and strategies/planning for self-supporting learning: ☒ Lecture □ Socratic seminar ☒ Small group/pair work ☒ PowerPoint lecture/notes ☒ Individual presentations □ Group presentations □ Student lecture/leading □ Interdisciplinary learning Details: *Students will learn through a combination of presentations, small group work, practice problems, and lab work.* ☒ Other(s): *practice problems, lab work* **Formative assessment(s):** *IA Checkpoints*

	Summative assessments:
	Differentiation: ❏ Affirm identity - build self-esteem ✓ Value prior knowledge ✓ Scaffold learning ✓ Extend learning Details: ● *SWD/504 – Accommodations Provided* ● *ELL – Reading & Vocabulary Support* ● *Intervention Support* ● *Extensions – Enrichment Tasks and Project*

Approaches to Learning (ATL)

Check the boxes for any explicit approaches to learning connections made during the unit. For more information on ATL, please see the guide.

✓ Thinking
❏ Social
✓ Communication
✓ Self-management
❏ Research

Details:

Students will be continuously challenged to develop higher-order thinking skills as they take prior knowledge, combine it with new content, and analyze the data they collected to reach a conclusion.

Students will begin to prepare for the IA and group 4 project.

Students will communicate their findings to their peers in the form of small-group presentations.

Language and Learning	TOK Connections	CAS Connections
Check the boxes for any explicit language and learning connections made during the unit. For more information on the IB's approach to language and learning, please see the guide.	*Check the boxes for any explicit TOK connections made during the unit*	*Check the boxes for any explicit CAS connections. If you check any of the boxes, provide a brief note in the "details" section explaining how students engaged in CAS for this unit.*
❑ Activating background knowledge ✓ Scaffolding for new learning ✓ Acquisition of new learning through practice ✓ Demonstrating proficiency Details: *Concepts throughout topic 3 build into understanding final concepts and labs.* *Students will complete practice problems* *Students will produce a full scatter plot with high and low gradients as demonstration of learning.*	❑ Personal and shared knowledge ✓ Ways of knowing ❑ Areas of knowledge ❑ The knowledge framework Details: When does modeling of "ideal" situations become "good enough" to count as knowledge?	❑ Creativity ✓ Activity ❑ Service Details: *Students will actively be carrying out experiments involving specific heat capacity.*

Resources

List and attach (if applicable) any resources used in this unit

- Schoology Course Page
- IB Physics Guide First Assessment 2025
- Textbook TBD - evaluation of resources
- Van de Lagemaat, R. www.inthinking.net: Andorra la Vella, Andorra, 2019
- Discovery Education Physics Resources

Additional resources from old syllabus

- Hodder Study and Revision Guide for the IB Diploma
- Hodder IA Internal Assessment for Physics

REFLECTION: considering the planning, process, and impact of the inquiry

What worked well *List the portions of the unit (content, assessment, planning) that were successful*	**What didn't work well** *List the portions of the unit (content, assessment, planning) that were not as successful as hoped*	**Notes / Changes / Suggestions** *List any notes, suggestions, or considerations for the future teaching of this unit*