Primary Action Plan-2019-20

STUDENTS' ACHIEVEMENT (Attainment & Progress) **Maintain Outstanding Attainment and Progress in Science**					**Leader: Head of Science – Ms Jenitha Lewis** **SLT in Charge- Head of Primary -Ms. Sharmistha**	
Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
❖ To maintain outstanding attainment and progress in Primary Science.	• **<u>Challenge:</u>** - Facilitate challenge (extension tasks) for **all** groups of students, with ample time for in-depth discussions and embedding students' mastery skills. - Talented students challenged with extended independent research tasks, deep critical thinking and application questions, STREAM-based projects in STREAM Café. • **<u>Support:</u>** Provide support and early intervention to **focused groups** (especially ensure consistent appropriate in-class support to students of determination, G&T students) **<u>In-depth concept development:</u>** Ensure consistency in organization of laboratory tasks and ensure ample time for deeper discussions to enable students to communicate their scientific findings in detail. The students are carrying out investigation in the labs to ensure deeper understanding. **End of Year Prediction for WA (Working Above) for 2019-20:** Year 2 – 67% WA Year 6 – 77% WA	Termly Action time, June 2019 Monitoring frame – Sept to Dec 2019 Evaluation every 6 weeks	▪ Time for PD/Modelling by outstanding practitioners as needed by the dept. ▪ Reviewed SOW, Rubrics, Student IEPs, ILP sheet, TLPs, Data Analysis ▪ Samples of student-work and self- and peer-marked rubrics. ▪ CAT4 and PTS data ▪ Personalized lesson plans ▪ Lesson observation logs, lesson observation, and feedback	▪ Most students achieve above curriculum standards in Science and most students make better than expected progress from their starting points. ▪ Most students perform according to their potential in both internal and external assessments.	Science HODs, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Lesson observation data is being evaluated. An improvement in internal attainment and external examination data trends for all year groups across the school.

Reviewed on 14th October 2019

Primary Action Plan-2019-20

STUDENTS' ACHIEVEMENT (Learning Skills) **Developing in-depth communication skills and use of learning technologies in Primary Science**					**Leader: Head of Science Department** **SLT: Ms. Sharmistha, HOP**	
Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
❖ To enhance learning skills in Science consistently with a greater focus on 1.3.2 and 1.3.4. (1.3.2: Students' interactions, collaboration, and **communication skills** 1.3.4: Further enhance innovation and **use of learning technologies)**	▪ **<u>Communication skills:</u>** Ensure frequent opportunities for students to present their learning through in-depth discussions with rigorous use of scientific terminology, enhancing their communication skills. ▪ **<u>Learning technologies:</u>** Ensure regular, consistent and innovative use of learning technologies in lessons, evident through lesson observations.	Ongoing	▪ Time for PD/Modelling by outstanding practitioners as needed by the department (innovation) ▪ Reviewed SOW, rubrics, student IEPs, ILPs, ▪ Time for lesson observations and feedback ▪ Team teaching	▪ Most students will be able to communicate their understanding of concepts in depth, as evidenced through their notebook work and lesson observations. Most students are innovative, enterprising and independent learners and they can find things out for themselves using a variety of different sources. They use learning technologies independently effectively, evidenced through regular monitoring.	Science HODs, HOKS, HOS, LAB members monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	In the process of ensuring, all teachers have one to one counselling with each child of the end of year PT scores and new CAT4 scores. Ongoing: The Teacher is discussing with the students of the scores and set targets for improvement. Increased opportunities are seen for embedding 1.3.2 and 1.3.4 and increased progress.

Reviewed on 14th October 2019

Primary Action Plan-2019-20

STUDENTS' ACHIEVEMENT (Attainment & Progress) **Maintain Outstanding Attainment and Progress in Science in Phase 1**	**Leader: Head of Science Department** **SLT: Ms. Sharmistha, HOP**

Foundation Stage

- **To use thought probing questions and use simple scientific vocabulary.**
- **Consolidate learning through effective plenary.**
- **Planning focussed time in lessons to meet the objectives.**

Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
❖ To maintain attainment and progress to Outstanding in Foundation Stage.	• Further deepen the students' understanding of scientific concepts through **probing questions (Think aloud questions)** and use simple scientific vocabulary to explain their observations.	Ongoing	▪ Time for PD/Modelling by outstanding practitioners as needed by the dept. ▪ Reviewed SOW, Rubrics, Student IEPs, ILP sheet, Data Analysis	▪ Most students achieve above curriculum standards in Science and most students make better than expected progress from their starting points.	Science HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Most students confidently explore and investigate simple scientific experiments. They were able to draw simple drawings and state in simple language.
	• Consolidate learning through effective plenary. Include science topics as extended writing tasks (cross-curricular link with English).	Monitoring frame – Sept to Dec 2019	▪ Samples of student-work and self- and peer-marked rubrics. ▪ Personalized lesson plans			Lesson observation data is being evaluated.
	• Plan focused time in lessons to further embed Science knowledge and skills.	Evaluation every 6 weeks	▪ Lesson observation logs, lesson observation, and feedback	▪ Most students perform according to their potential in both internal and external assessments.	HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	An improvement in internal attainment and external examination data trends for all year groups across the school.

Reviewed on 14th October 2019

Primary Action Plan-2019-20

STUDENTS' ACHIEVEMENT (Attainment & Progress) **Maintain Outstanding Attainment and Progress in Phase 2**	**Leader: Head of Science Department** **SLT: Ms. Sharmistha, HOP**

Key Stage 1

- To secure scientific enquiry skills (facilitate in-depth discussions for the enquiry zone in Little Explorers, with greater focus on developing the students' independent enquiry skills) in Year 1
- To enhance scientific enquiry skills in Year 2.

Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
❖ To maintain Outstanding attainment and progress in Key Stage 1 Science. ❖ **Addressing Gaps:** - Year 1: secure scientific enquiry skills - Year 2: Embed scientific enquiry skills from term 1	• **Year 1:** Facilitate in-depth discussions for the enquiry zone in Little Explorers, with greater focus on developing the students' independent enquiry skills). • **Year 2:** ➢ **<u>Modification of curriculum:</u> (done✓) SOW already modified to accommodate:** scientific enquiry skills / investigations from term 1. ➢ Facilitate in-depth discussions of fair test in term 1 science. • **<u>Support:</u>** Provide support and early intervention to **focused groups** (especially ensure consistent appropriate in-class support to students of determination, G&T students)	Termly Action time, June 2019 Monitoring frame – Sept to Dec 2019 Evaluation every 6 weeks	▪ Time for PD/Modelling by outstanding practitioners as needed by the dept. ▪ Reviewed SOW, Rubrics, Student IEPs, ILP sheet, Data Analysis ▪ Samples of student-work and self- and peer-marked rubrics. ▪ Personalized lesson plans ▪ Lesson observation logs, lesson observation, and feedback	▪ Most students achieve above curriculum standards in Science and most students make better than expected progress from their starting points. ▪ Most students perform according to their potential in both internal and external assessments.	Science HODs, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	The use of the Little Explores Zone and Learning zones provided opportunities to enhance students' knowledge and understanding and application of concepts An improvement in internal attainment and external examination data trends for all year groups across the school.

Primary Action Plan-2019-20

1 STUDENTS ATTAINMENT AND PROGRESS: NATIONAL AGENDA PARAMETERS **To further raise attainment and progress in NAP**	**Leader: Head of Science Department (Primary)** **SLT: Ms Sharmistha, HOP**

Year 3

- To address gaps in knowledge- Earth Science in Year 3
- To explain scientific reasoning with real life.

Prioritised Objectives	Actions	Time Frame	Resources	Success Criteria	Monitoring & Evaluation	Comments
Benchmark Assessments (TIMSS, PTS, CAT4) ❖ **TIMSS 2019** • **Content Domain:** Addressing gaps in knowledge- Earth Science • **Cognitive Domain: Reasoning** To further enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings.	**Modification of curriculum: (done ✓)** ➢ **SOW already modified to accommodate:** Earth Science (Rocks, soil, fossils) along with in-depth student-led activities and thorough discussions in lessons. **In lessons:** ➢ **Provision in lesson plan through starter/ mid-plenary/ plenary to enhance students' understanding and reasoning:** • Starter – Concept cartoon to provide question based enquiry • Mid plenary/ plenary – TIMSS style questions to gauge progress • Challenging students to create questions ➢ **Raise challenge through differentiated activities and effective questioning to enhance:** • Reasoning skills of the students by giving them appropriate Thinking Time • Critical thinking and application of concepts in real world scenarios ➢ **Scientific Literacy / Reading in Science:**	Ongoing	▪ PD sessions/ Modelling by outstanding practitioners as needed. ▪ Reviewed SOW, rubrics, student IEPs, ILPs, revised lesson plans, data analysis, samples of student-work and self- or peer-marked rubric. ▪ Time for lesson observations and feedback ▪ Internal assessments ▪ Learning walks ▪ Home learning Useful links: https://www.education.com/worksheets/third-grade/earth-science/	▪ Most students demonstrate secure levels of understanding of Earth Science concepts (rocks and soil, fossils) as evidenced by their performance in ongoing assessments (AFL/ Summative) and evaluation in rubrics, and apply their factual knowledge to practical situations and real life scenarios using scientific terminology in their explanations. ▪ Most students demonstrate deep thinking and reasoning skills and	Primary Science HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Students consistently make meaningful connections between areas of learning and use these to deepen their understanding of concepts, and demonstrate success in applying their skills to real life situations.

Primary Action Plan-2019-20

❖ **Progress Test Science** • To raise PTS performance/ attainment in year 3 science. • **PTS Gaps identified:** Composition of soils, comparing soils, fossils, forming an aim • **Internal Assessment results:** Address gaps identified in internal assessments	• Reading tasks/ resources to extract information (ongoing) • Greater use of scientific vocabulary **Addressing PTS Gaps:** • Analyse and use PTS data to identify strengths and gaps to inform planning: (soils, fossils, forming an aim) • Ensure all teachers' subject knowledge and delivery of concepts is secure for the above-mentioned gap topics. • Regularly practice MCQ's/ questions and ensure content knowledge is secured through AFL strategies. **Scientific Enquiry in lessons:** • Revisit fair test, and give more frequent opportunities for students to **form aims,** explain their methods and findings to the teacher and their peers to make connections and develop both their scientific thinking. • Give students questions with data to help enhance their data analysis skills. **Addressing Internal Assessment Gaps** • Gaps: Features of rocks (permeable and impermeable rocks), comparing soils, analysing data. • Revision plans after completion of topic / AFL to assess learning. • Extended time spent on gap topics identified.	Ongoing, September-December2019	http://geology.com/teacher/ http://www.e-learningforkids.org/science/lesson/center-of-the-ocean-the-sun-the-earth/ Observations and Diagnostic marking	greater understanding as evidenced by skilful questioning by students and teachers. ▪ Most students will be able to comprehend an analyse text and answer questions related to it. ▪ Most students will be able to use and apply their knowledge and enquiry skills to **write Aim and Prediction with reason independently** in their scientific enquiry write-up. Most students will be able to assess their learning through self-marking and peer marking.		Most students perform according to their potential in both internal and external assessments. Most students use AFL strategies to evaluate their findings. Self marking and peer marking to assess learning

Reviewed on 14th October 2019

Primary Action Plan-2019-20

1 STUDENTS ATTAINMENT AND PROGRESS: NATIONAL AGENDA PARAMETERS **To further raise attainment and progress in NAP**	**Leader: Head of Science** **SLT in charge: Ms. Sharmistha, HOP**

Year 4
Objectives

- To enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings
- To Form an aim, fair test, Interpreting data tables and graphs

Prioritised Objectives	Actions	Time Frame	Resources	Success Criteria	Monitoring & Evaluation	Comments
Year 4 ❖ **TIMSS 2019** • **Content Domain:** Addressing gaps in knowledge- Earth Science • **Cognitive Domain: Reasoning** To further enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings.	**Modification of curriculum:** ➢ lesson plans to include thorough practice and application of branching database (keys) **In lessons:** ➢ **Provision in lesson plan through starter/ mid-plenary/ plenary to enhance students' understanding and reasoning:** • Starter – Concept cartoon to provide question based enquiry • Mid plenary/ plenary – TIMSS style questions to gauge progress • Challenging students to create questions ➢ **Raise challenge through differentiated activities and effective questioning to enhance:** • Reasoning skills of the students by giving them appropriate Thinking Time • Critical thinking and application of concepts in real world scenarios	Ongoing Ongoing	▪ PD sessions/ Modelling by outstanding practitioners as needed. ▪ Reviewed SOW, rubrics, student IEPs, ILPs, revised lesson plans, data analysis, samples of student-work and self- or peer-marked rubric. ▪ Time for lesson observations and feedback ▪ Internal assessments ▪ Learning walks ▪ Home learning Useful links: http://www.rsc.org/learn-chemistry/resource/res00002190/science-ideas-web-the-romans?cmpid=CMP00007417	▪ Most students demonstrate competent levels of understanding of Earth Science concepts (the various physical features of Soil and resources available in Earth) as evidenced by their performance in ongoing assessments (AFL/ Summative) and evaluation in rubrics. ▪ Most students are able to apply their knowledge and understanding to explain phenomena in everyday and abstract contexts, using scientific terminology in their explanations.	Primary Science HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Students consistently make meaningful connections between areas of learning and use these to deepen their understanding of concepts, and demonstrate success in applying their skills to problems in real life situations, both familiar and unfamiliar.

Primary Action Plan-2019-20

❖ **Progress Test Science** • To raise PTS performance/ attainment in year 4 science. • **PTS Gaps identified:** Forming an aim, fair test, Interpreting data tables and graphs • **Internal Assessment results:** Address gaps identified in internal assessments	**Addressing PTS gaps:** • Regularly practice MCQ's/ questions and ensure content knowledge is secured through AFL strategies. • More practice questions on interpreting data tables and graphs. **Scientific Enquiry in lessons:** • Revisit fair test, and give more frequent opportunities for students to explain their methods and findings to the teacher and their peers to make connections and develop both their scientific thinking. • Give students questions with data and graphs to help enhance their data and graphical analysis skills. **Addressing Internal Assessment Gaps** • Gaps: Fair test, identifying variables, sound experiment. • Revision plans after completion of topic / AFL to assess learning. • Extended time spent on gap topics identified.		http://physics.tutorvista.com/scientific-methods/scientific-investigation	▪ Most students can confidently use keys to independently classify and derive information; large majority of students can create keys independently from real life scenarios. ▪ Most students demonstrate deep thinking and reasoning skills and greater understanding as evidenced by skilful questioning by students and teachers. ▪ Most students will be able to use and apply their knowledge and enquiry skills to write Aim and Prediction with reason and **record observations independently** in their scientific enquiry write-up. ▪ Most students will be able to **analyse data in tables and graphs** and draw conclusions.		Most of the students perform according to their potential in internal and external assessments.

Reviewed on 14th October 2019

Primary Action Plan-2019-20

1 STUDENTS ATTAINMENT AND PROGRESS: NATIONAL AGENDA PARAMETERS **To further raise attainment and progress in NAP**	**Leader: Head of Science** **SLT in charge: Ms. Sharmistha, HOP**

Year 5
To enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings
To interpret data tables and graphs

Prioritised Objectives	Actions	Time Frame	Resources	Success Criteria	Monitoring & Evaluation	Comments
Year 5 ❖ **TIMSS 2019** • **Content Domain:** Addressing gaps in knowledge- Life Science • **Cognitive Domain: Reasoning** To further enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings.	**Modification of curriculum:** Lesson plans to include thorough practice and application of life cycles of plants and animals. **In lessons:** ➢ **Provision in lesson plan through starter/ mid-plenary/ plenary to enhance students' understanding and reasoning:** • Starter – Concept cartoon to provide question based enquiry • Mid plenary/ plenary – TIMSS style questions to gauge progress • Challenging students to create questions ➢ **Raise challenge through differentiated activities and effective questioning to enhance:** • Reasoning skills of the students by giving them appropriate Thinking Time • Critical thinking and application of concepts in real world scenarios	Ongoing	▪ PD sessions/ Modelling by outstanding practitioners as needed. ▪ Reviewed SOW, rubrics, student IEPs, ILPs, revised lesson plans, data analysis, samples of student-work and self- or peer-marked rubric. ▪ Time for lesson observations and feedback ▪ Internal assessments ▪ Learning walks ▪ Home learning Useful links: http://www.ducksters.com/science/biology/non-flowering_plants.php http://study.com/academy/practice/quiz-worksheet-flowering-nonflowering-plants-facts-for-kids.html	▪ Most students demonstrate competent levels of understanding of flowering and non-flowering plants, and life cycles of plants and animals, as evidenced by their performance in ongoing assessments (AFL/ Summative) and evaluation in rubrics. ▪ Most students will be able to comprehend an analyse text and answer questions related to it.	Primary Science HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Students consistently make meaningful connections between areas of learning and use these to deepen their understanding of concepts, and demonstrate success in applying their skills to problems in real life situations, both familiar and unfamiliar.

Primary Action Plan-2019-20

❖ **Progress Test Science** • To maintain high PTS performance/ attainment in year 5 science. • **PTS Gaps identified:** Checking and increasing reliability of data, interpreting data tables and graphs • **Internal Assessment results:** Address gaps identified in internal assessments	**Addressing PTS gaps:** • Regularly practice MCQ's/ questions and ensure content knowledge is secured through AFL strategies. • More practice questions on interpreting data tables and graphs. • Get students to repeat experiments and how to ensure reliability of data. **Scientific Enquiry in lessons:** • Encourage students use of higher order scientific vocabulary, for instance, experimental variables, sources of error, etc. • Give students questions with data and graphs to help enhance their data and graphical analysis skills. • Embed students' higher order scientific enquiry skills of evaluation. **Addressing Internal Assessment Gaps** • Gaps: Data analysis, graphing, drawing trends • Revision plans after completion of topic / AFL to assess learning. • Extended time spent on gap topics identified.	Ongoing Termly Monitoring frame – Sept to Dec 2019		▪ Most students **analyse data, draw conclusions and come up with a generalization (trend) based on observations collected**. ▪ Students will be able to use and apply their knowledge and enquiry skills to **identify variables, decide the scientific method and write a detailed conclusion independently**, as evidenced by their work samples and evaluation of rubrics (AFL). ▪ Most students demonstrate the ability to **interpret results from tables and graphs, reason and draw conclusions from descriptions and diagrams, and evaluate and support an argument**.		Most of the students perform according to their potential in internal and external assessments.

Reviewed on 14th October 2019

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1 STUDENTS ATTAINMENT AND PROGRESS: NATIONAL AGENDA PARAMETERS **To further raise attainment and progress in NAP**	**Leader: Head of Science** **SLT in charge: Ms. Sharmistha, HOP**

Year 6

- To use of line graphs, interpreting graphs, thermal insulators, reversible and irreversible changes
- To organise laboratory tasks that require students to effectively communicate their scientific findings

Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
Year 6 ❖ **TIMSS 2019** • **Content Domain:** Addressing gaps in knowledge- Life Science • **Cognitive Domain: Reasoning** To further enhance the students' inductive reasoning skills and systematic thinking to explain scientific phenomena in real life settings.	**Modification of curriculum:** ➢ **Modify SOW to integrate:** Transmission, symptoms and prevention of common communicable diseases, along with in-depth student-led activities and thorough discussions in lessons. ➢ Lesson plans to include thorough practice and application of forces. **In lessons:** ➢ **Provision in lesson plan through starter/ mid-plenary/ plenary to enhance students' understanding and reasoning:** • Starter – Concept cartoon to provide question based enquiry • Mid plenary/ plenary – TIMSS style questions to gauge progress • Challenging students to create questions ➢ **Raise challenge through differentiated activities and effective questioning to enhance:** • Reasoning skills of the students by giving them appropriate Thinking Time ➢ **Scientific Literacy:** • Reading tasks/ resources to extract information	Ongoing	▪ PD sessions/ Modelling by outstanding practitioners as needed. ▪ Reviewed SOW, rubrics, student IEPs, ILPs, revised lesson plans, data analysis, samples of student-work and self- or peer-marked rubric. ▪ Time for lesson observations and feedback ▪ Internal assessments ▪ Learning walks ▪ Home learning Useful links: http://www.learnhive.net/learn/icse-grade-6/physics/force https://sites.google.com/a/yarmouthschools.org/testingsteam/grade-6	▪ Most students demonstrate competent levels of understanding of communicable diseases as evidenced by their performance in ongoing assessments (AFL/ Summative) and evaluation in rubrics. ▪ Most students demonstrate the ability to interpret results, reason and draw conclusions from descriptions and diagrams, and **evaluate and support an argument, including evaluating sources of error and if their investigation was a fair test**.	Primary Science HOD, HOKS, HOP monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action	Students consistently make meaningful connections between areas of learning and use these to deepen their understanding of concepts, and demonstrate success in applying their skills to problems in real life situations, both familiar and unfamiliar.

❖ **Progress Test Science** • To maintain high PTS performance/ attainment in year 6 science. • **PTS Gaps identified:** Line graphs, use of line graphs, interpreting graphs, thermal insulators, reversible and irreversible changes • **Internal Assessment results:** Address gaps identified in internal assessments	• Greater use of scientific vocabulary • Interpreting and evaluation of data scientifically **Addressing PTS gaps:** • Ensure all teachers' subject knowledge and delivery of concepts is secure for the above-mentioned gap topics. • Regularly practice MCQ's/ questions and ensure content knowledge is secured through AFL strategies. • More practice questions on drawing line graphs with appropriate scales, and analysing where line graphs are the better choice to represent data. • Include more examples and practice of interpreting graphs. **Scientific Enquiry in lessons:** • Encourage students use of higher order scientific vocabulary, for instance, experimental variables, sources of error, etc. • Embed students' higher order scientific enquiry skills of evaluation. **Addressing Internal Assessment Gaps** • Gaps: Data analysis, graphing, drawing trends • Give students questions with data and graphs to help enhance their data and graphical analysis skills. • Revision plans after completion of topic / AFL to assess learning.	Ongoing Termly Monitoring frame – Sept to Dec 2019	https://www.pinterest.com/jhallrodabaugh/steam-force-and-motion/	▪ Most students will be able to comprehend an analyse text and answer questions related to it. ▪ Most students will be able to represent data accurately through appropriate graphs (line graphs). ▪ Most students will be able to demonstrate secure levels of understanding of the concepts of thermal insulators, reversible and irreversible changes. ▪ Most students **analyse data and graphs, draw conclusions and detect causal relationships and trends based on**		Most of the students perform according to their potential in internal and external assessments.

❖ **CAT4** • To analyse and continue using CAT 4 data to provide support, challenge through early intervention. • To personalise lesson plans using student implications and plan next steps. • Enhance reasoning skills and critical thinking skills.	**Personalization using CAT 4 data** Use CAT4 data especially for G&T and low achievers to personalize strategies in lessons to support low achievers to meet/surpass potential, and to enrich, enhance and accelerate the progress of G&T students. **Enhancing verbal skills** Use of visual media such as videos, concept cartoons, think pair share, group discussions To utilize PBL in helping decipher text (comprehension) and apply the knowledge **Enhancing reasoning skills** Give students opportunities to create critical thinking questions using Bloom's taxonomy, thinking time, concept cartoons			**observations collected**. ▪ Lower achievers will make increased progress, narrowing their gaps in the assessments. ▪ High achievers and G&T pupils will show accelerated progress and greater depth.		

Primary Action Plan-2019-20

TEACHING AND ASSESSMENT **Improve the quality of Teaching and Assessments in Primary Science**				**Leader: Head of Science** **Line Manager: Ms.Sharmistha, HOP**		
Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
FS Improve the accuracy of assessments of higher levels of learning, especially in FS To improve the consistency of Teaching and Assessments in Science through: ▪ Effective use of time and resources in lesson to maximise learning ▪ Impactful AFL and use of data for	▪ Embed assessment for learning securely in FS to accurately assess higher levels of learning ▪ PD and monitoring to ensure skilful questioning and challenge to assess and build depth of students' understanding ▪ **AFL in lessons:** Ensure most lesson are planned and resourced appropriately based on accurate use of data and as well as AFL opportunities (including online AFL resources, rubrics) to identify and seek learning and extend it from their starting points, with emphasis on plenary to recognise lesson-by-lesson learning gains.	Ongoing Monthly, Termly Ongoing	Monitoring forms, IPPs, modelling, lesson observations, peer observation, team teaching. PD sessions on effective use of data for impactful personalization. Regular and rigorous data analysis. PD and sharing best practices on effective personalization and appropriate challenge IEPs, TLPs, ILPs, Minutes of meetings **Student notebook work samples, peer- and self-marked rubric samples.** **Lesson observations, learning walks**	▪ Most teachers confidently and consistently deliver Very Good with Outstanding features or better lessons with enhanced personalization and challenge based on effective use of all data enabling excellent progress for all groups of students from their starting point in Science. ▪ Almost all teachers made progress and achieved their targets identified in IPP and rigorous support in place. ▪ All groups of students make outstanding	Most FS teachers skilfully look for learning, question and challenge to build and assess depth of students' understanding and provide appropriate next step and targets HODS and HOKS HOS, LAB members monitor and review provision (lesson observation, Book look, SOW, lesson plans, data) termly with prompt action. SENDCo, HODs, HOK, and HOS monitor the provision through lesson	All teachers will complete paired observation with either senior or middle leader by end of term1. Very positive feedback on a deeper understanding of good or better lessons and how to look for and ensure learning in the lesson. Understanding of all data is getting deeper, however, the use of data to personalize is variable and support is being put in place promptly. Ongoing monitoring and support. SEND and G&T lists under review again

personalisation leading to adjustment of teaching strategies to ensure students of all abilities make the best possible progress ▪ Embed students mastery skills to enable them to securely attain above curriculum standards	▪ **Time in lessons:** Ensure teachers adjust teaching strategies and **pace** of lessons to skilfully elicit, conclude, assess, consolidate and maximise learning for all groups of students within the appropriate time frame in large majority of lessons. ▪ **Provision for all groups:** Teachers to consistently personalize Science lesson plans by triangulation of data (CAT4, PTS, internal data). Ensure consistency in provision for all groups of students including SEND and G&T in lessons. ▪ **Mastery skills:** Embed students' mastery skills through scaffolded reflection and discussion time in lessons with varied opportunities for students to effectively communicate their learning with reasoned arguments. ▪ **Sharing best practices:** Embed systems to share outstanding teaching practices to build consistency in high standards of T&L through peer observations, team teaching, modelling of lessons. Strong practitioners to share outstanding practices through videos, work samples, mentoring. Rigorous, regular	Ongoing		progress in most lessons due to personalised support and stretched challenge to maximize their potential across all phases. ▪ All G&T students identified with rigorous and effective use of data and lesson observations. ▪ Almost all G&T students are effectively engaged and challenged in lessons and make progress from their starting points.	observations, Book looks, personalized lesson plans, IEPs -termly with prompt action HODs, HOKS, DHOS and VP to accurately identify and monitor the provision for G&T through lesson observations, Book looks, personalized lesson plans, ALPs, TLPs- termly with prompt action	after CAT4 assessments and 6 weeks of induction for all students.

	cross-phase observations across the school to ensure sharing of outstanding practices to raise teacher performance and student learning. This is to be rigorously and regularly tracked by Science HOD. ▪ **Professional Development**: PD sessions to share outstanding AFL strategies followed by constructive feedback, to set clear targets for all group of students. This will be followed up by HODs and SID (lesson observations).					

Primary Action Plan-2019-20

TEACHING AND ASSESSMENT (Assessment) **To accurately assess the depth of students' learning**				**Leader: Heads of Schools, MSO, H&S officer and Vice Principal** **Line Manager: Principal**		
Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
Primary ▪ To accurately assess the depth of students' learning.	• Moderation of all assessments and marking across phases for progression, depth and differentiated challenge Effective use of time and resources in most lessons to maximize learning To Lessons include impactful AFL with teachers confidently using data to personalize, adjusting teaching strategies so all ability make the best possible progress and embed mastery skills ▪ **<u>Use of data:</u>** Ensure all teachers understand and use data to establish students' starting points, characters, make a connect to reach out and personalise and engage with parents from start of year and maintain highly effective communication. Secure the use and implementation of data analysis by teachers. Teachers to consistently personalize Science lesson plans by triangulation of data (CAT4, PTS, internal	Ongoing Termly evaluation and discussions of effective AFL strategies used	Professional Developments Programmes- internal and External Online AFL tools to measure progress Professional Developments Programmes- internal and External	Most of the students making outstanding progress Most of the students attaining grades which are above curriculum in all lessons and EOY	HODS and SIDS HOS, through lesson observations, learning walk, book look, Teachers trackers Data Analysis	Effective AFL is a key feature in all lessons. Teachers establish their starting point . Students used rubrics effectively to assess and set targets for themselves

	data). The provisions made for students based on data analysis needs to be clearly evident in notebooks. ▪ **Quality of Assessments:** Embed the use of highly effective formative and summative assessment methods aligned to higher curriculum standard outcomes by all teachers to maximise the potential of all groups of students. ▪ **Learning Skills:** Ensure most students evaluate their learning with the help of rubrics and follow up on the diagnostic feedback to achieve their targets.		Online AFL tools to measure progress			

Primary Action Plan-2019-20

LEADERSHIP AND MANAGEMENT Improve the effectiveness of leadership through clear communication of expectations, rigorous monitoring and moderation in Science.				**Leader: Head of Science** **SLT: Ms.Sharmistha, HOP**		
Prioritised Objectives	**Actions**	**Time Frame**	**Resources**	**Success Criteria**	**Monitoring & Evaluation**	**Comments**
▪ To improve leaders' strategic Primary Science overview by increasing the effectiveness of monitoring in the self-evaluation process	**<u>Monitoring:</u>** ➢ **<u>Observations:</u>** Ensure rigour in monitoring procedures and consistency in effective implementation of evaluation procedures by leaders at all levels to achieve school priorities. Ensure systematic and rigorous monitoring of Science lessons by HOD (with support from HOYs and HOKs). ➢ **<u>Tracking and Follow Up:</u>** Ensure the accuracy of self-evaluation and lesson observation judgements, with meaningful recording giving specific details needed for improvement and ensure HOD follows up to achieve success. ➢ **<u>Support:</u>** Provide consistent support through IPPs, modelling and facilitating peer observations which are meticulously tracked and followed up. **<u>Moderation:</u>** ➢ Build further clarity in expectations of standards for Science leaders through triangulation and quality assurance of all monitoring documents. ➢ Ensure internal assessment systems are standardised, moderated and accurately analysed within phase ,	Monthly Monthly Paired book looks and lesson observations to build accuracy and consistency. Monthly	Lesson observations, Online tracker, Book looks Lesson Observations, Book looks , Monitoring logs, Work Samples Paired Observation, cross phase observations, Peer observations, and LAB review with parent observations, GEMS review with paired observations. PD support for identified leaders Sharing outstanding samples of SEF and action plans Triangulation of monitoring data , work samples, moderation forms	▪ Rigorous Monitoring – paired observations and impact evaluation by leaders at all levels enabling improved student outcomes across Primary Science. ▪ Continued improvement in attainment and progress over time and improving trends of PTS results. ▪ Leaders at all levels are highly effective in implementing school priorities. ▪ School evaluation of quality of provision is consistent, secure well recorded.	SLT and MLs (HOD, HOKS) Monthly review by leaders at all levels Monthly review by ML Pop ins and formal observations by SLT Termly reviews by LAB members and learners champs Annual GEMS review	Strategic actions like paired observations, Individual progress Plan are ongoing and rigour in monitoring impact and prompt support is enabled.

Reviewed on 14th October 2019

	cross phases and triangulated with other external assessment data ➢ The internal teacher assessment entries in the online tracker to be moderated by Science HODs with evidences from lesson observations, book looks, formative and summative assessments.					