Internationella Engelska Skolan

IES Västerås

Science Rubric Criteria Year 7-9

Chemistry, Biology, and Physics

	Steg E	Steg C	Steg A
1C	Pupils can talk about and discuss questions concerning energy, the environment, health and society and differentiate facts from values, and formulate their views with **simple** reasoning, and also describe some possible consequences.	Pupils can talk about and discuss questions concerning energy, the environment health and society, and differentiate facts from values and formulate their views with **developed** reasoning and also describe some possible consequences.	Pupils can talk about and discuss questions concerning energy, the environment, health and society, and differentiate facts from values and formulate their views with **well developed** reasoning, and also describe some possible consequences.
1B	Pupils can talk about and discuss issues related to health, natural resource use and ecological sustainability, and differentiate facts from values, and formulate their views with **simple** reasoning and describe some of the possible consequences.	Pupils can talk about and discuss questions related to health, natural resource use and ecological sustainability, and differentiate facts from values, and formulate their views with **developed** reasoning and describe some of the possible consequences.	Pupils can talk about and discuss issues related to health, natural resource use and ecological sustainability, and differentiate facts from values, and formulate their views with **well developed** explanations and describe some of the possible consequences.
1P	Pupils can talk about and discuss questions concerning energy, technology, the environment and society, and differentiate facts from values, and formulate their views with simple reasoning, and also describe some possible consequences.	Pupils can talk about and discuss questions concerning energy, technology, the environment and society, and differentiate facts from values and formulate their views with **developed** reasoning and also describe some possible consequences.	Pupils can talk about and discuss questions concerning energy, technology, the environment and society, and differentiate facts from values and formulate their views with **well developed** reasoning, and also describe some possible consequences.
2	In discussions, pupils can put questions and put forward and respond to views and arguments in a way which **to some extent takes the discussions forward**	In the discussions, pupils put questions, put forward and respond to views and arguments in a way which **carries the discussions forward**	In their discussions, pupils put questions and put forward views and respond to views and arguments in a way which **takes the discussions forward and deepens or broadens them**.
3	Pupils can search for information on the natural sciences and use different sources and apply **simple and to some extent** informed reasoning to the credibility and relevance of their sources and information.	Pupils can search for information on the natural sciences and use different sources and apply **developed and relatively well** informed reasoning to the credibility and relevance of their sources and information.	Pupils can search for information about the natural sciences and use different sources and apply **well developed and well** informed reasoning about the credibility and relevance of their sources and information.
4	Pupils can use information in a **basically** functional way in discussions and create simple **texts** and other communications with **some** adaptation to purpose and target group.	Pupils can use the information in a **relatively well** functioning way in discussions and create **developed** texts and other communications with **relatively good** adaptation to purpose and target group.	Pupils can use the information in a **well** functioning way in discussions and create **well developed** texts and other communications with **good** adaptation to purpose and target group.
5	Pupils can carry out *(field and other)* studies based on given plans and also **contribute to formulating** simple questions and planning which can be systematically developed.	Pupils can carry out *(field and other)* studies based on their own planning and also **formulate** simple questions and planning which **after some reworking** can be systematically developed.	Pupils can carry out *(field and other)* studies based on given plans and also **formulate** simple questions and planning that can be **systematically developed.**
6	In their studies, pupils use equipment in a safe and **basically functional** way.	In their studies, pupils use equipment in a safe and **appropriate** way.	In their investigations, pupils use equipment in a safe, **appropriate and effective** way.
7	Pupils can compare results with their questions and draw **simple** conclusions with **some** connection to the models and theories of biology/chemistry/physics.	Pupils can compare the results with questions and draw **developed** conclusions with **relatively good** connection to the models and theories of biology/chemistry/physics.	Pupils can compare results with their questions and draw **well developed** conclusions with **good** connection to the models and theories of biology/chemistry/physics.
8	Pupils apply **simple** reasoning about the plausibility of their results and **contribute to making proposals** on how the studies can be improved.	Pupils apply **developed** reasoning about the plausibility of their results and **make proposals** on how the studies can be improved.	Pupils apply well developed reasoning concerning the plausibility of their results in relation to possible sources of error and make proposals on how the studies can be improved and identify new questions for further study.
9	In addition, pupils draw up **simple** documentation of their studies using tables, diagrams, pictures and written reports.	In addition, pupils draw up **developed** documentation of their studies using tables, diagrams, pictures and written reports.	In addition, pupils draw up well developed documentation on their studies using tables, diagrams, pictures and written reports.
10C	Pupils have **basic** knowledge of the structure of materials, their indestructibility and transformation, and other chemical contexts and show this by **giving examples and describing** them with **some** use of the concepts, models and theories of chemistry.	Pupils have **good** knowledge of the structure of materials, their indestructibility and transformations, and other chemical contexts and show this by **explaining** and **showing relationships between** these with **relatively good** use of the concepts, models and theories of chemistry.	Pupils have **very good** knowledge of the structure of materials, their indestructibility and transformations, and other chemical contexts and show this by **explaining** and **showing relationships between** these **and some general characteristics** with **good** use of the concepts, models and theories of chemistry.
10B	Pupils have **basic** knowledge of the theory of evolution and other biological contexts, and show this by **giving examples and describing** these with **some** use of the concepts, models and theories of biology.	Pupils have **good** knowledge of the theory of evolution and other biological contexts and show this by **explaining** and **showing relationships between** these with **relatively good** use of the concepts, models and theories of biology.	Pupils have **very good** knowledge of the theory of evolution and other biological contexts and show this by **explaining** and **showing relationships between** them **and some general characteristics** with **good** use of the concepts, models and theories of biology.
10P	Pupils have **basic** knowledge of energy, matter, the structure and development of the universe and other physics contexts and show this by **giving examples and** describing these with **some** use of the concepts, models and theories of physics.	Pupils have **good** knowledge of energy, matter, structure of the universe and its development and other physics contexts and show this by **explaining** and **showing relationships between** these with **relatively good** use of the concepts, models and theories of physics.	Pupils have **very good** knowledge of energy, matter, structure of the universe and its development, and other physical contexts, and show this by **explaining** and **showing relationships between** them **and some general characteristics** with **good** use of the concepts, models and theories of physics.
11C	Pupils can carry out **simple and to some extent** informed reasoning about chemical processes in living organisms, the ground, air and water, and show **easily identifiable** chemical relationships in nature.	Pupils can apply **developed and relatively well** informed reasoning about chemical processes in living organisms, the ground, air and water, and show **relatively complex** chemical relationships in nature.	Pupils can apply well developed and well informed reasoning about chemical processes in living organisms, the ground, air and water, and show complex chemical relationships in nature.
11B	Pupils can apply **simple and to some extent** informed reasoning about health, sickness, sexuality and heredity, and show **easily identifiable** relationships involving the structure and functions of the human body.	Pupils can apply **developed and relatively well** informed reasoning about health, sickness, sexuality and heredity, and show **relatively complex** relationships involving the structure and functions of the human body.	Pupils can apply **well developed and well** informed reasoning about health, sickness, sexuality and heredity, and show **complex** relationships involving the structure and functions of the human body.
11P	Pupils can apply **simple and to some extent** informed reasoning where phenomena in daily life and society are linked together with forces, movement, leverage, light, sound and electricity, and show **easily identifiable** relationships in physics.	Pupils can apply **developed and relatively well** informed reasoning where phenomena in daily life and society are linked together with forces, motion, leverage, light, sound and electricity, and show **relatively complex** physics relationships.	Pupils can apply **well developed and well** informed reasoning where phenomena in daily life and society are linked together with forces, motion, leverage, light, sound and electricity and show **complex** physics relationships.
12C	Pupils study how some chemicals and chemical processes are used in everyday life and society, and describe **simple identifiable** chemical relationships and **give examples of** energy transformation and the recycling of materials.	Pupils study how some chemicals and chemical processes are used in everyday life and society, and describe **relatively complex** chemical relationships and **explain** and **show relationships between** energy transformation and recycling of materials.	Pupils study how some chemicals and chemical processes are used in everyday life and society, and describe **complex** chemical relationships and **explain** and **make generalisations about** energy transformation and the recycling of materials.
12B	Pupils study the impact of different factors on ecosystems and populations and describe **easily identifiable** ecological relationships and **give examples of** energy flows and ecocycles.	Pupils study the impact of different factors on ecosystems and populations and describe **relatively complex** ecological relationships and **explain** and **show relationships between** energy flows and ecocycles.	Pupils study the impact of different factors on ecosystems and populations and describe **complex** ecological relationships and **explain** and **make generalisations** concerning the flow of energy and ecocycles.
12P	Pupils use the models of physics in a **basically** functional way to **describe** and **give examples of** particles and radiation.	Pupils use the models of physics in a **relatively well** functioning way to **explain** and **show relationships regarding** particles and radiation.	Pupils use the models of physics in a **well** functioning way in order to **explain** and **make generalisations about** particles and radiation.
13	In addition, pupils carry out **simple and to some extent** informed reasoning about how people and technology	In addition, pupils apply **developed and relatively well** informed reasoning about how people and technology affect	In addition, pupils apply **well developed and well** informed reasoning about how people and technology affect the environment

	influence the environment and **show** some measures that can contribute to sustainable development.	the environment and **show the advantages and limitations of** some measures that can contribute to sustainable development.	and **show from different perspectives the advantages and limitations of** some measures that can contribute to sustainable development.
14	Pupils can **give examples of** and **describe** some of the main scientific discoveries and their importance for people's living conditions	Pupils can **explain** and **show relationships** between some main scientific discoveries and their importance for people's living conditions.	Pupils can **explain** and **generalise about** some main scientific discoveries and their importance for people's living conditions