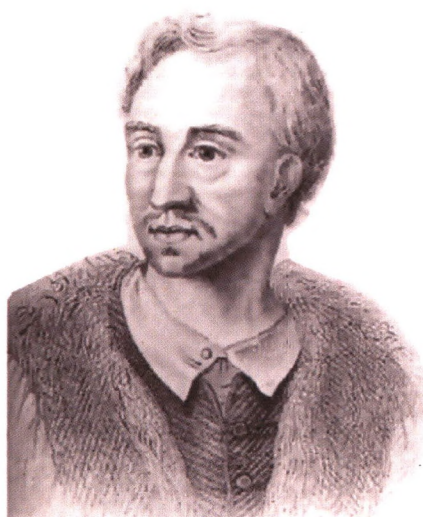


# 化学教育(中英文)

Chinese Journal of Chemical Education

2018年 第39卷 第23期 Vol.39 No.23



### 赫尔蒙特及其柳树实验

赫尔蒙特(Helmont, 1578-1644)从这一为时5年的实验中得出结论: 164磅树木与树根的质量来源于水

邮发代号: 2-106

ISSN 1003-3807



HUAXUE JIAOYU



主管: 中国科学技术协会  
主办: 中国化学会  
北京师范大学

## 课程·教材·评价

- 从化学核心素养角度探查我国高考化学考试 ..... 葛鲁攀 熊言林 (1)
- 立足核心素养培养学生的综合素质——2017年全国高考理综课标I卷化学卷评析与教学建议 .....  
..... 吴鑫德 熊娟 李佳 黄冠 韩小月 陈优 (5)
- 高中化学教科书表格呈现方式及其认知功能的研究 ..... 官丽红 梁万裕 (10)
- 日本初中理科教科书中“粒子的存在”内容组织与呈现特征 ..... 李婷婷 王秀红 李延龙 (14)
- 俄罗斯现行初中化学教材的分析与思考 ..... 江家发 葛秋霖 (19)

## 教学研究

- 指向“证据推理与模型认知”的教学设计——以“原子结构模型的演变”为例 ..... 周正祥 杨玉琴 (25)
- 基于“历史复演法”的化学教学设计研究——以“质量守恒定律”为例 ..... 孟献华 倪娟 (31)
- 发展学生化学学科核心素养的课例研究——以“离子反应”为例 ..... 朱鹏飞 陈敏 陈凯 (37)
- 发挥知识教育功能 提升学生核心素养——以“水的组成”为例 ..... 鲁向阳 (43)
- 凸显迁移的化学教学实践——以“溶液组成的表示”为例 ..... 陈广余 (47)
- 促进学生建立认识角度的化学课堂教学行为研究 ..... 李燕 胡久华 (51)

## 实验教学与教具研制

- 基于启发式科学写作策略的中学化学实验教学设计——以“碱性锌锰电池”为例 ..... 李梦雪 丁伟 (58)
- 基于逆向思维的化学实验创新研究 ..... 张兴涛 王澍 (62)
- 甲烷与氯气的取代反应实验研究 ..... 李琼 李永红 姜建文 (65)

## 调研报告

- 初中化学核心概念相异构想调查研究——以“酸、碱、盐”为例 ..... 孙杰英 严文法 (71)
- 贫困地区高中化学课堂教学行为现状调查——以甘肃省某中学为例 ..... 温云富 高汪军 窦学红 (75)

2019年《化学教育》订阅通知 ..... (9)

封面图片 ..... (34)

第十五届全国化学课程与教学论学术年会纪要 ..... (70)

本期责任编辑 张霄青

# CHINESE JOURNAL OF CHEMICAL EDUCATION

2018 Vol. 39 No. 23

Sponsored by Chinese Chemical Society and Beijing Normal University

## Curriculum-Teaching Materials-Assessment

- Analysis of College Entrance Chemistry Examination Based on Chemical Core Literacy ..... GE Lu-Pan XIONG Yan-Lin(1)  
Cultivating Students' Comprehensive Quality Based on Core Literacy; Analysis of Chemistry Paper of National College Entrance Examination 2017 and Teaching Suggestions ..... WU Xin-De XIONG Juan LI Jia HUANG Guan HAN Xiao-Yue CHEN You(5)  
Presentation and Cognitive Function of Tables in High School Chemistry Textbooks ..... GONG Li-Hong LIANG Wan-Yu(10)  
Organization and Presentation of "The Existence of Particles" Contents in Japanese Junior High School Science Textbooks ..... LI Ting-Ting WANG Xiu-Hong LI Yan-Long(14)  
Analysis and Reflection on Current Junior High School Chemistry Textbooks in Russia ..... JIANG Jia-Fa GE Qiu-Lin(19)

## Teaching Research

- "The Evolution of Atomic Structure Model" Teaching Design Aimed at Evidence-Based Reasoning and Model-Based Thinking ..... ZHOU Zheng-Xiang YANG Yu-Qin(25)  
Law of Conservation of Mass Teaching Design Based on "Historical Replay" ..... MENG Xian-Hua NI Juan(31)  
Ionic Reaction Lesson Study for Developing Students' Chemistry Discipline Core Literacy ..... ZHU Peng-Fei CHEN Min CHEN Kai(37)  
Develop Educational Functions of Knowledge and Improve Students' Core Literacy in Teaching of "The Composition of Water" ..... LU Xiang-Yang(43)  
Teaching Practice of "Representation of Solution Composition" Highlighting Learning Transfer ..... CHEN Guang-Yu(47)  
Classroom Teaching Behavior for Promoting Students' Epistemic Perspective Development ..... LI Yan HU Jiu-Hua(51)

## Experiment Teaching and Teaching Aid Development

- Experiment Teaching Design of Alkaline Zinc-Manganese Battery Based on Science Writing Heuristic Strategy ..... LI Meng-Xue DING Wei(58)  
Chemistry Experiment Innovation Based on Reverse Thinking ..... ZHANG Xing-Tao WANG Shu(62)  
Experimental Study on Substitution Reaction of Methane and Chlorine ..... LI Qiong LI Yong-Hong JIANG Jian-Wen(65)

## Investigation Report

- Investigation on Alternative Framework of Core Concepts "Acid, Alkali and Salt" in Junior High School Chemistry ..... SUN Jie-Ying YAN Wen-Fa(71)  
Status of Senior High School Chemistry Classroom Teaching Behavior in Poor Areas; High School in Gansu Province as Example ..... WEN Yun-Fu GAO Wang-Jun DOU Xue-Hong(75)

## 化学教育(中英文)

(半月刊·1980年创中文刊·2017年变更为中英文刊)

2018年 第39卷 第23期 12月2日出版

主管单位	中国科学技术协会	顾问	刘知新
主办单位	中国化学会 北京师范大学	主编	刘正平
编辑出版	《化学教育(中英文)》编辑部	副主编	李艳梅 孙世刚 王磊 王祖浩
编辑部地址	北京师范大学化学楼217室		杨屹 杨振忠 郑长龙 朱玉军(专职)
邮政编码	100875	刊名题字	戴安邦
电话(传真)	010-58807875	印刷装订	保定华泰印刷有限公司
咨询信箱	hxjy-jce@263.net	总发行处	中国邮政集团公司北京市报刊发行局
投稿网址	http://www.hxjy.org	订 阅	全国各地邮局

刊号 ISSN 1003-3807  
CN 10-1515/O6

国内邮发代号 2-106

国外发行代号 M3070

定价 16.00元

# CHINESE JOURNAL OF CHEMICAL EDUCATION

2018 Vol. 39 No. 23

Sponsored by Chinese Chemical Society and Beijing Normal University

## Curriculum-Teaching Materials-Assessment

- Analysis of College Entrance Chemistry Examination Based on Chemical Core Literacy ..... GE Lu-Pan XIONG Yan-Lin(1)  
Cultivating Students' Comprehensive Quality Based on Core Literacy; Analysis of Chemistry Paper of National College Entrance Examination 2017 and Teaching Suggestions ..... WU Xin-De XIONG Juan LI Jia HUANG Guan HAN Xiao-Yue CHEN You(5)  
Presentation and Cognitive Function of Tables in High School Chemistry Textbooks ..... GONG Li-Hong LIANG Wan-Yu(10)  
Organization and Presentation of "The Existence of Particles" Contents in Japanese Junior High School Science Textbooks ..... LI Ting-Ting WANG Xiu-Hong LI Yan-Long(14)  
Analysis and Reflection on Current Junior High School Chemistry Textbooks in Russia ..... JIANG Jia-Fa GE Qiu-Lin(19)

## Teaching Research

- "The Evolution of Atomic Structure Model" Teaching Design Aimed at Evidence-Based Reasoning and Model-Based Thinking ..... ZHOU Zheng-Xiang YANG Yu-Qin(25)  
Law of Conservation of Mass Teaching Design Based on "Historical Replay" ..... MENG Xian-Hua NI Juan(31)  
Ionic Reaction Lesson Study for Developing Students' Chemistry Discipline Core Literacy ..... ZHU Peng-Fei CHEN Min CHEN Kai(37)  
Develop Educational Functions of Knowledge and Improve Students' Core Literacy in Teaching of "The Composition of Water" ..... LU Xiang-Yang(43)  
Teaching Practice of "Representation of Solution Composition" Highlighting Learning Transfer ..... CHEN Guang-Yu(47)  
Classroom Teaching Behavior for Promoting Students' Epistemic Perspective Development ..... LI Yan HU Jiu-Hua(51)

## Experiment Teaching and Teaching Aid Development

- Experiment Teaching Design of Alkaline Zinc-Manganese Battery Based on Science Writing Heuristic Strategy ..... LI Meng-Xue DING Wei(58)  
Chemistry Experiment Innovation Based on Reverse Thinking ..... ZHANG Xing-Tao WANG Shu(62)  
Experimental Study on Substitution Reaction of Methane and Chlorine ..... LI Qiong LI Yong-Hong JIANG Jian-Wen(65)

## Investigation Report

- Investigation on Alternative Framework of Core Concepts "Acid, Alkali and Salt" in Junior High School Chemistry ..... SUN Jie-Ying YAN Wen-Fa(71)  
Status of Senior High School Chemistry Classroom Teaching Behavior in Poor Areas; High School in Gansu Province as Example ..... WEN Yun-Fu GAO Wang-Jun DOU Xue-Hong(75)

## 化学教育(中英文)

(半月刊·1980年创中文刊·2017年变更为中英文刊)

2018年 第39卷 第23期 12月2日出版

主管单位	中国科学技术协会	顾问	刘知新
主办单位	中国化学会 北京师范大学	主编	刘正平
编辑出版	《化学教育(中英文)》编辑部	副主编	李艳梅 孙世刚 王磊 王祖浩
编辑部地址	北京师范大学化学楼 217 室		杨屹 杨振忠 郑长龙 朱玉军(专职)
邮政编码	100875	刊名题字	戴安邦
电话(传真)	010-58807875	印刷装订	保定华泰印刷有限公司
咨询信箱	hxjy-jce@263.net	总发行处	中国邮政集团公司北京市报刊发行局
投稿网址	http://www.hxjy.org	订 阅	全国各地邮局

刊号 ISSN 1003-3807  
CN 10-1515/O6

国内邮发代号 2-106

国外发行代号 M3070

定价 16.00 元