For The Future We Share

The Practice of Informal Science Education & Professional Development of Instructors in China

为了我们共同的未来

中国青少年科技教育实践与教师专业发展支持



Basic information of students/teachers in China 中国学生/教师基本数据



145 million

Students in primary & junior high school 义务教育学生数

39.71 million

Students in high school 高中阶段学生

9.49 million

Teachers in primary & junior high school 义务教育教师数

2.61 million

Teachers in high school 高中阶段教师数

Overview of China's Education - Development of National Education in 2017, Ministry of Education, October 2018 《中国教育概况——2017年全国教育事业发展情况》

Science in 2011 Education Curriculum Reform in junior high school 基础教育课程改革—初中科学







Science curriculum was set up besides mathematics, physics, chemistry, biology, geography, etc. 专设初中科学课程标准

Integration and connection across different subjects, between science, technology, society and environment(STSE) 突出整合 Inquiry learning 倡导探究式学习





Science in 2017 Education Curriculum Reform in Primary School 基础教育课程改革—小学科学

Begin form first grade 从一年级开始设置科学课

Science, Technology, Society, Environment, STSE 科学、技术、社会、环境 Learning Progression 融入学习进程理念

Science、Technology、 Engineering、 Mathematics,STEM 科学、技术、工程、技术







4873 museums including 473 S & T Museums 4873家博物馆,473家科技馆

Education programs and activities 开展科学教育活动

87.1% open free **87.1%免费开放**

Government fund 国家财政专项经费











中国科协青少年科技中心

Children and Youth Science Center of CAST (CYSCC)

中国青少年科技辅导员协会

China Association of Children's Science Instructors (CACSI)

Goals 宗旨

- Bridge science and education
- 发挥机构网络优势,联合科学家、教育部门
- Encourage young talents 发现和培养拔尖创新后备人才
- Science for all 激发青少年科学兴趣、提升科学素养
- Promote professional development of science instructors 推动校内外科技教师专业发展

China Adolescents Science and Technology Innovation Contest (CASTIC)全国青少年科技创新大赛





from 1979

500+ Students学生

200 Teachers 教师 13 Science categories 学科类别

100+ Judges 评委 50 Countries and regions 国家和地区





China Adolescents Science and Technology Innovation Contest (CASTIC)全国青少年科技创新大赛



34th CASTIC in 2019, CAST President Award Charles Alexander Maddock from Sweden best international youth innovation project

2019年34届大赛中国科协主席奖 协主席奖 首次增加国际奖项,瑞典 Charles Alexander Maddock

Science Talent Program英才计划

- 5 subjects 5个基础学科
 Mathematics Physics Biology
 Chemistry Computer Science
- One-year program period 1年培养期





- Top 20 universities 20所著名高校
- 200 Scientists 200位导师
- 500 high school students 500名 高中生





World Adolescent Robot Contest (WARC) 国际青少年机器人邀请赛

Games of WARC 2019 includes:

2019年3个赛项:

•WRO Regular Category Theme: SMART Cities

Age Group: Elementary, Junior High

小学-初中

•MakeX Challenge Theme: Courageous Travelers Age Group: 11-18 初高中

•VEX IQ Challenge Theme: Next Level Age Group: 8-14 初高中 Each team is composed of up to 3 students and 1 adult coach.







AI for Youth 全国青少年人工智能科普活动



Scratch

Python

Arduino

micro: bit

- 1000+ pilot schools 示范学校
- courses on-line and off-line 线上线下学习
- teacher workshops 教师培训
- A National Creative Coding and Intelligence Design Contest 全国青少年创意编程与智能设计大赛





China Adolescents Science Video Festival 全国青少年科学影像节



- use multimedia video technology
- 运用多媒体技术
- record & show inquiry-based science activities
- 记录和展示科学探究过程





Adolescents Science Inquiry Activities 青少年科学调查体验活动

- Citizen science program
 公众科学项目
- 4 themes 4个主题 energy & resources environmental protection safe & health creative & innovation 能源资源、生态环境 安全健康、创新创意
- on-line & off-line education resources
- 线上线下资源







Belt and Road Teenager Maker Camp & Teacher Workshop "一带一路"青少年创客营与教师研讨活动



Promote Professional Development of Science Instructors 推动科技辅导员专业发展



Develop science education resources

开发科技教育资源

Science communicate activities 科技教育交流活动

Teacher training 教师培训

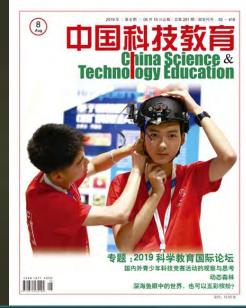
Professional Qualification 专业水平认证



Develop science education resources开发科技教育资源

- Develop resources together with university, research institutions, S&T museums
 - 与高校科研机构、科技馆、基金会、企业等共同开发
- Books, magazines, online courses,etc. 资源类型包括书籍、杂志、在线课程等。
- Life skills-based courses
 以生活技能为基础的校外教育课程
- STEM general STEM教育通识
- Nature of science 科学本质通识教育
- Courses for robots, AI, video festivals, and citizen science 机器人活动、人工智能活动、影像节、调查体验活动等。











Science communicate activities 科技教育交流活动

- International Forum on Science Education
- 国际科学教育论坛

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National Competition of Preservice Science Teachers 科学教育师范生素质大赛





Professional Qualification 专业水平认证

2 years

9 pilot provinces 试点地区 1000+ participants 辅导员参与

3 levels 3个等级



minimum training hours are required 初级和中级有参加培训学时要求

Ability to training the trainers developing science training course 需具备开展骨干教师培训能力 研发培训课程能力





Teacher training 教师培训



40,000 participants 参训者







科技辅导员在线学习中心 Online learning center for science teachers





Sciclass.cn is an online learning platform for science teachers.

All courses and online resources are free.



中国科协青少年科技中心

科技学堂概况 Platform Statistics

Launched on June 1st ,2016 2016年6月1日上线

√ Website

√ Mobile site

√ Mobile APP

√ WeChat mini program {

网站访问

手机网站

手机应用

微信小程序





50312

Enrollments 注册教师用户 130k

Monthly visits 月均访问量 1000+

online videos 在线视频课程 33

CACSI certification courses 青辅协认证课程





课程覆盖领域 Subject Areas

STEM教育基础 STEM Education Basics

Mathematics Talents

科普与科学传播 Science Communication 机器人 Robotics 计算机科学与编程 Computer Science & Coding 创客技术 Maker Technology

数学英才

青少年科技竞赛 Science & Technology Contests 科技教学方法 Science Teaching Skills

创客 动手做 ★二明 2019年青少年 科学调查体验活动 (第一期)







配套课程-Micro:bit 课程



第19届

课程由青辅协资助开发,或由教育机构、企业捐赠。 Courses were funded by CACSI or provided by Education organizations or companies for free.



慕课学习计划 Learning Program

课前准备 Program Preparation

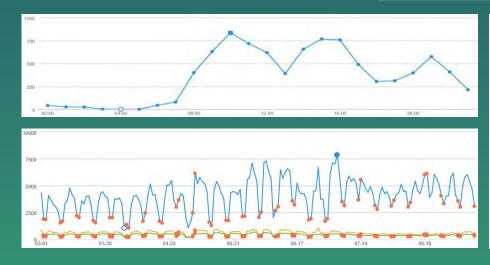
- 开课宣讲 Course Opening
- 建立学习群 Online Learning Group
- 开课通知 Course Notifications

学习辅助 Program Assistance

- 导师在线答疑 online Tutor Q&A
- 课程要点回顾 Key Concepts Review
- 课程及作业提醒 Assignments reminder
- 学员进展统计 Statistics monitoring

考核结业 Program Completion

- 结业考试 Take exam
- 证书发放 Issue certificate
- 毕业典礼 Graduation
- 开课回顾 Program review





- 积极学员奖品 Peak Learner Award
- 硬件共享计划 Equipment Sharing Plan





围绕课程的更多分享内容 More contents to read and share





















贴合老师们工作中的实际需求,科技学堂还分享了大量的案例制作、项目设计、概念科普内容,并且结合国家大事、传统文化等主题提供教学设计范例,帮助老师们做教学提升。 In order to meet teachers needs in daily works, we provide a large number of project design and case studying, and also provide specific projects about national events or traditional culture for teaching and learning.



鼓励老师们展示风采,为做科技辅导员而自豪 Be the best advocate for science teachers







通过社团助手和学习群分享 交流,展示工作成果 Based on learning, SciClass is becoming the social network for 为科技教师定制的专属文化用品作为学习奖励,支持老师们彰显个性。

Exclusively designed gifts for science teachers, encourage teachers to advocate for science education.

science teachers.



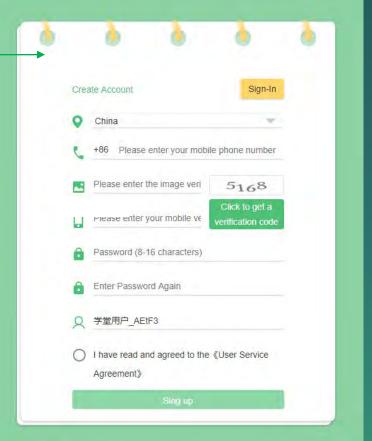
英文站已上线 English Site Available Now!

Welcome to sign up! http://en.sciclass.cn (!)



Mobile phone number signing-up (All countries supported)





期望各国的教师们共同学习,共同成长 Let all teachers grow up together

5 courses with English subtitle











Welcome to share and collaborate!

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