School holidays Teacher notes

Activity description

Pupils consider what factors might affect the choice of dates for school holidays, and use these to determine the holiday dates for an alternative school year.

They will need to identify constraints and find compromises between conflicting requirements.

Suitability

Pupils working in small groups

Time

1 hour upwards

AMP resources

Pupil stimulus

Equipment

Lists of term dates for school
Year planners and calendars
Internet access
Spreadsheets

Key mathematical language

Scheduling, data analysis, decision-making

Key processes

Representing Deciding what factors to take into account, identifying variables and associated constraints.
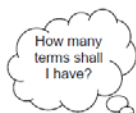
Analysing Working with times and dates, handling data.

Interpreting and evaluating Drawing together needs/preferences/findings to reach a solution.
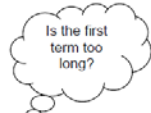
Communicating and reflecting Giving a clear summary of approach and conclusions; presenting solution clearly.
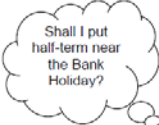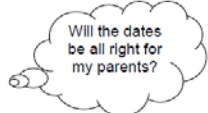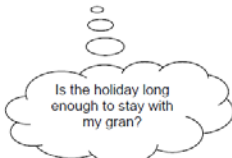
Teacher guidance

As this activity will involve consideration of climate, culture, religion, and life-style, it might be interesting to explore cross-curricular links with Geography, RS, and PSHE. You may need to be aware of sensitivities within the class.

The activity could be set up as a proposal for change to the school calendar, to be considered by the school council or senior management. Proposed holiday dates need to be justified mathematically. Pupils could present the information in a report, or as if for a website, or they could give a presentation.

Share both pages of the pupil stimulus with pupils. Explain that by law there must usually be a minimum of 190 days per school year in the UK, but there is considerable variation in how the days are scheduled.

Discuss with pupils why they think the dates of school years are as they are. What do they like about the current schedules? What do they think could be improved, and why?

Allow small group then whole class discussion about the holiday dates at your school and in the local area. This discussion could extend to national and international variations.

Encourage pupils to consider a variety of factors, such as parents' views, weather, heating costs, statutory bank holidays, examination times, staff preferences and so on.

During the activity

Throughout the activity, remind pupils to record their decisions and how they reached compromises between conflicting demands.

Interact with each group as they work, encouraging discussion, negotiation and compromise. Encourage pupils to consider the preferences of various groups, for example, teachers, parents and other pupils. Remind pupils that any data collected in surveys will need to be analysed and this must be recorded. You may need to ensure that pupils do not ask intrusive survey questions.

Encourage pupils to think about the most appropriate means of communicating their solution(s). Stress the need to present clear, accessible information for the public.

It might be helpful to discuss some of the mathematical techniques that can be employed in this activity, such as calculating the length of time intervals, analysis of any survey results, weighting of different requirements, identifying variables and conditions they must satisfy.

Probing questions and feedback

AMP activities are well suited to formative assessment, enabling pupils to discuss their understanding and decide how to move forward. See www.nuffieldfoundation.org/whyAMP for related reading.

- How did you ensure that the number of days of schooling in your solution is at least 190?

- What are the most important factors you are using to make decisions? Why?

- How much flexibility is there in your solution? Would it work in any academic year?

- How would you incorporate parents' views, or the views of other people within the community?

- How will you present your findings? How will the times when pupils are / are not at school be clear to someone else?

- What are the advantages and disadvantages of your proposals?

Extensions

- Comparing the number of school days per year in different countries.

- How would altering the distribution or number of working hours in the week, such as an extra hour at school each day, or Saturday morning school, affect the academic year?

Additional information

The sources of information for the material on the second page of the pupil stimulus are

http://news.bbc.co.uk/cbbcnews/hi/chat/your_comments/newsid_1715000/1715720.stm

http://en.wikipedia.org/wiki/Academic_term#New_Zealand

http://www.direct.gov.uk/en/Parents/Schoolslearninganddevelopment/SchoolLife/DG_4016103

http://www.westberks.gov.uk/index.aspx?articleid=4314

Progression table

The table below can be used to:

- share with pupils the aims of their work
- facilitate self- and peer-assessment
- help pupils review their work and improve on it

The table supports formative assessment but does not provide a procedure for summative assessment. It also does not address the rich overlap between the processes nor the interplay of processes and activity-specific content. Please edit it as necessary.

Representing	Analysing	Interpreting and evaluating	Communicating and reflecting
Choosing relevant factors that affect choice of dates	*Finding appropriate time intervals and accounting for given constraints*	*Drawing together findings to reach a solution; justifying one's choices*	*Clarity of approach and presentation*
Shows minimal understanding of the problem	Checks that the current school year satisfies requirements. Attempts to produce dates for school year with required number of school days	Takes more than one factor into account Considers implication of solution for different groups	Presents a list of dates Gives minimal summary of approach to problem
Indentifies several factors that could influence choice of term dates Models problem physically or visually Identifies limits on length of term time and holidays Recognises potential conflicts in requirements	Incorporates several requirements into school year and checks number of school days Attempts to balance conflicting constraints Finds time intervals during which certain holidays must occur	Takes several factors into account Checks validity of model using current school year Compares solutions Considers likelihood of disruption to chosen plan	Uses a timeline or other visual means of presenting solution systematically Comments on analysis
Brings together a range of factors that inform decision-making Represents constraints, needs, and preferences as criteria against which different solutions can be assessed	Gives an accurate solution based on analysis of constraints Produces a number of solutions for comparison	Modifies solution to accommodate additional requirements or to optimise length of holidays/terms	Presents solutions clearly, highlighting key dates and features, and communicates reasons for choices
Identifies a system of variables and associated constraints	Careful analysis of different factors leading to compromises Produces viable solution(s) to problem	Considers flexibility of year plan Contrasts different models	Chooses an efficient and effective means of presentation. Gives detailed explanations for choices

P R O G R E S S I O N

No sample responses are included in this version. We would be delighted to have and incorporate samples of your pupil work in future versions. Please contact us and/or look for updates at www.nuffieldfoundation.org/AMP.